



# European GNSS (Galileo) Open Service

## Signal In Space Interface Control Document

Ref : OS SIS ICD, Issue 1



***Europe Direct is a service to help you find answers to your questions about the European Union***

**Freephone number (\*):**

**00 800 6 7 8 9 10 11**

(\*) Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

More information on the European Union is available on the Internet (<http://europa.eu>).

Cataloguing data can be found at the end of this publication.

Luxembourg: Publications Office of the European Union, 2010

ISBN 978-92-79-13759-4

doi:10.2768/1968

© European Union, 2010

Reproduction is authorised provided the source is acknowledged.

*Printed in Luxembourg*

PRINTED ON WHITE CHLORINE-FREE PAPER

# TERMS OF USE AND DISCLAIMERS

## 1. Authorised Use and Scope of Use

Note the name “Galileo” shall mean the system established under the Galileo programme.

The European GNSS (Galileo) Open Service Signal In Space Interface Control Document Issue 1 (hereinafter referred to as OS SIS ICD) and the information contained herein is made available to the public by the European Union (hereinafter referred to as Publishing Authority) for information, standardization, research and development and commercial purposes for the benefit and the promotion of the European Global Navigation Satellite Systems programmes (European GNSS Programmes) and according to terms and conditions specified thereafter.

## 2. General Disclaimer of Liability as to Use

With respect to the OS SIS ICD and any information contained in the OS SIS ICD, neither the Publishing Authority nor the copyright holders nor the generator of such information make any warranty, express or implied, including the warranty of fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information hereby disclosed or for any product developed based on this information, or represents that the use of this information would not cause damages or would not infringe any intellectual property rights. No liability is hereby assumed for any direct, indirect, incidental, special or consequential damages, including but not limited to, damages for interruption of business, loss of profits, goodwill or other intangible losses, resulting from the use of the OS SIS ICD or of the information contained herein. Liability is excluded as well for consequences of the use and / or abuse of the OS SIS ICD or the information contained herein.

## 3. Disclaimers as to Intellectual Property Rights

The information contained in the OS SIS ICD, including its Annexes, is subject to intellectual property rights (hereinafter referred to as IPR).

### Copyright

The OS SIS ICD is protected by copyright. Any alteration or translation in any language of the OS SIS ICD as a whole or parts of it is prohibited unless the Publishing Authority provides a specific written prior permission. The OS SIS ICD may only be partly or wholly reproduced and/or transmitted to a third party for non profit purposes, in accordance with the herein described permitted use and under following condition:

- the present “Terms of Use and Disclaimers” are accepted, reproduced and transmitted entirely and unmodified together with the reproduced and/or transmitted information;

### IPR licence for research and development, including standardization purposes

The use of the information contained in the OS SIS ICD, including the spreading codes which are subject to IPR, is hereby allowed for research and development and/or standardisation purposes according to the terms and conditions of the license agreement attached hereto as Annex D.

Such licences will be provided on a non-discriminatory, basis in accordance with European Union rules and international commitments taken within the framework of the European GNSS Programmes.

Any interested party should contact: oss-icd[AT]ec.europa.eu

#### **IPR licence for commercial use**

The use of the information contained in the OS SIS ICD, including the spreading codes which are subject to IPR, is hereby allowed for manufacturing, distribution, commercialisation, sale of electronic devices (e.g. chipsets and receivers) and supply of Value Added Services according to the terms and conditions of the license agreement attached hereto as Annex E.

Such licences will be provided on a non-discriminatory, basis in accordance with European Union rules and international commitments taken within the framework of the European GNSS Programmes.

Any interested party should contact: oss-icd[AT]ec.europa.eu

#### **4. Miscellaneous**

The publication or provision of the OS SIS ICD or the information contained herein shall not be construed as granting any implied IPR licence.

No failure or delay in exercising any right in relation to the OS SIS ICD or the information contained therein shall operate as a waiver thereof, nor shall any single or partial exercise preclude any other or further exercise of such rights.

The disclaimers contained in this document apply to the extent permitted by applicable law.

#### **5. Updates**

The OS SIS ICD in its current version could be subject to modification, update, and variations.

The publication of updates will be subject to the same terms as stated herein unless otherwise evidenced.

Although the Publishing Authority will deploy its efforts to give notice to the public for further updates of OS SIS ICD, it does not assume any obligation to advise on further developments and updates of the OS SIS ICD, nor to take into account any inputs, comments proposed by interested persons or entities, involved in the updating process.

## Document Change Record

Reason for change	Issue	Revision	Date
First issue	Draft	0	19/05/2006
CBOC Modulation added, 'lossless atmosphere' assumption removed from Tx power definition (issue under study), SAR data, update of the bit allocations of some F/NAV and I/NAV pages, editorial corrections etc.	Draft	1	14/02/2008
<p>Update of the 'Terms of Use and Disclaimers' section and namely the licensing policy for R&amp;D and standardization purposes as well as commercial purposes.</p> <p>Assignment of the primary and secondary codes to satellites in section in section 3.6.</p> <p>More details on the I/NAV alert page content in section 4.3.2.3.</p> <p>Clarification of the power sharing between the different Galileo signal components in section 2.7.1.</p> <p>Addition of Galileo E1 subcarriers plots in section 2.3.3</p> <p>Clarification that Galileo E5a and E5b signals can be processed as QPSK signals in section 2.3.1.2.</p> <p>Update of the acronym list with QPSK in annex A.</p> <p>In section 4.2.4, for Page Type 6, parameter 'i' has been replaced by <math>\omega</math>, the argument of perigee.</p> <p>In section 5.1.2, Time of Week an entire week from 0 to 604799 seconds, not up to 604800.</p>	Issue 1	0	February 2010

# Table of Contents

<b>1. Introduction .....</b>	<b>1</b>
1.1. Document Scope .....	1
1.2. Document Overview .....	1
1.3. Galileo System Overview .....	1
<b>2. Galileo Signal Characteristics .....</b>	<b>2</b>
2.1. Frequency Plan .....	2
2.1.1. Frequency Bands .....	2
2.1.2. Carrier Frequencies .....	2
2.1.3. Receiver Reference Bandwidths .....	3
2.2. Signal Polarization .....	3
2.3. Modulation .....	3
2.3.1. E5 Signal .....	4
2.3.1.1. Modulation Scheme .....	4
2.3.1.2. Modulation Type .....	5
2.3.1.3. Equivalent Modulation Type .....	6
2.3.2. E6 Signal .....	7
2.3.3. E1 Signal .....	8
2.4. Logic Levels .....	10
2.5. Transmitted Signal Phase Noise .....	10
2.6. Transmitted Signals Code/Data Coherency .....	10
2.7. Received Power Levels on Ground .....	10
2.7.1. Minimum Levels .....	10
2.7.2. Maximum Levels .....	10
2.8. Payload and Component Reception Losses .....	11
<b>3. Galileo Spreading Codes Characteristics .....</b>	<b>12</b>
3.1. Code Lengths .....	12
3.2. Tiered Codes Generation .....	12
3.3. Primary Codes Generation .....	13
3.4. Primary Codes Definition .....	13
3.4.1. E5 Primary Codes .....	13
3.4.1.1. Base Register 2 Start Value for E5a-I .....	14
3.4.1.2. Base Register 2 Start Value for E5a-Q .....	15
3.4.1.3. Base Register 2 Start Value for E5b-I .....	16
3.4.1.4. Base Register 2 Start Value for E5b-Q .....	17
3.4.2. E1-B and E1-C Primary Codes .....	18
3.5. Secondary Codes .....	18
3.5.1. Definition of Secondary Codes .....	18
3.5.2. Secondary Codes Assignment .....	21
3.6. Code Assignments to Satellites .....	22
3.6.1. Primary code assignment to satellites .....	22
3.6.2. Secondary code assignment to satellites .....	24
<b>4. Galileo Message Structure .....</b>	<b>26</b>
4.1. General Message Format Specification .....	26
4.1.1. General Navigation Message Content .....	26
4.1.2. General Navigation Message Structure .....	26

4.1.3. Bit and Byte Ordering Criteria .....	26
4.1.4. FEC Coding and Interleaving Parameters .....	27
4.1.4.1. FEC Encoding .....	27
4.1.4.2. Interleaving .....	27
4.1.5. Frame and Page Timing.....	27
<b>4.2. F/NAV Message Description .....</b>	<b>28</b>
4.2.1. General Description of the F/NAV Message .....	28
4.2.2. F/NAV Page Layout.....	28
4.2.2.1. Synchronisation Pattern.....	28
4.2.2.2. Tail Bits.....	28
4.2.2.3. F/NAV Word .....	28
4.2.3. F/NAV Frame Layout.....	29
4.2.4. F/NAV Page Contents.....	31
4.2.5. F/NAV Dummy Page Definition.....	32
<b>4.3. I/NAV Message Description .....</b>	<b>32</b>
4.3.1. General Description of the I/NAV Message.....	32
4.3.2. I/NAV Page Layout.....	33
4.3.2.1. Synchronisation Pattern.....	33
4.3.2.2. Tail Bits.....	34
4.3.2.3. I/NAV Page Part.....	34
4.3.3. I/NAV Nominal Sub-Frame Layout.....	35
4.3.4. I/NAV Nominal Frame Layout.....	37
4.3.5. I/NAV Word Types.....	38
4.3.6. I/NAV Dummy Message Layout.....	40
4.3.7. SAR Field Structure .....	41
<b>5. Message Data Contents.....</b>	<b>44</b>
<b>5.1. Navigation Data.....</b>	<b>44</b>
5.1.1. Ephemeris.....	44
5.1.2. Galileo System Time (GST) .....	46
5.1.3. Clock Correction Parameters .....	47
5.1.4. Satellite Time Correction Algorithm.....	47
5.1.5. Broadcast Group Delay.....	48
5.1.6. Ionospheric Correction .....	49
5.1.7. GST-UTC Conversion Algorithm and Parameters.....	50
5.1.8. GPS to Galileo System Time Conversion and Parameters.....	51
5.1.9. Service Parameters.....	52
5.1.9.1. Satellite ID.....	52
5.1.9.2. Issue Of Data .....	52
5.1.9.3. Navigation Data Validity and Signal Health Status .....	52
5.1.9.4. Checksum .....	53
5.1.10. Almanac .....	54
5.1.11. Signal In Space Accuracy .....	55
<b>5.2. SAR Data .....</b>	<b>55</b>
<b>6. Annex A - List of Acronyms .....</b>	<b>56</b>
<b>7. Annex B - Definitions and Nomenclature .....</b>	<b>57</b>
<b>8. Annex C - Galileo E1 and E5 Memory Codes .....</b>	<b>58</b>
<b>C.1. Introduction.....</b>	<b>58</b>
<b>C.2. Hexadecimal Coding Convention .....</b>	<b>58</b>

C.3. Primary Codes for the E5a-I Component.....	59
C.4. Primary Codes for the E5a-Q Component.....	84
C.5. Primary Codes for the E5b-I Component .....	109
C.6. Primary Codes for the E5b-Q Component.....	134
C.7. Primary Codes for the E1-B Component.....	159
C.8. Primary Codes for the E1-C Component.....	171
 9. Annex D - Licence Agreement for Research and Development, Including Standardisation Purposes.....	183
Annex D1 to the Agreement n° JRC.BXL.EA.xxxxxx-xxxx - List of OS SIS ICD Intellectual Property Rights.....	192
Annex D2 to the Agreement n° JRC.BXL.EA.xxxxxx-xxxx - Licensee's Research and Development Plan .....	194
 10. Annex E - Licence Agreement For Commercial Use .....	195
Annex E1 to the Agreement n° .BXL.EA.xxxxxx-xxxx - List of OS SIS ICD-related Intellectual Property Rights.....	204
Annex E2 to the Agreement n° .BXL.EA.xxxxxx-xxxx - Licensee's Development Plan .....	206

## List of Figures

Figure 1.	Space Vehicle/Navigation User Interface.....	1
Figure 2.	Galileo Frequency Plan.....	2
Figure 3.	Modulation Scheme for the E5 Signal .....	4
Figure 4.	One Period of the Two Subcarrier Functions Involved in AltBOC Modulation.....	6
Figure 5.	8-PSK Phase-State Diagram of E5 AltBOC Signal .....	6
Figure 6.	Modulation Scheme for the E6 Signal.....	7
Figure 7.	Modulation Scheme for the E1 CBOC Signal .....	8
Figure 8.	One period of the CBOC sub-carrier for a) the L1-B signal component, and b) the L1-C signal component .....	9
Figure 9.	Tiered Codes Generation.....	12
Figure 10.	LFSR Based Code Generator for Truncated and Combined M-sequences.....	13
Figure 11.	Code Register Feedback Taps Representation (example for E5a-l).....	14
Figure 12.	Start Value Representation for Base Register 2 (first code of E5a-l).....	14
Figure 13.	Convolutional Coding Scheme.....	27
Figure 14.	F/NAV Message Structure.....	28
Figure 15.	I/NAV Message Structure in the Nominal Mode.....	33

## List of Tables

Table 1.	Carrier Frequency per Signal.....	2
Table 2.	Galileo Signals Receiver Reference Bandwidths.....	3
Table 3.	Signal Description Parameters.....	4
Table 4.	E5 Chip Rates and Symbol Rates.....	5
Table 5.	AltBOC Subcarrier Coefficients.....	6
Table 6.	Look-up Table for AltBOC Phase States .....	7
Table 7.	E6 Chip Rates and Symbol Rates.....	8
Table 8.	E1 SoL CBOC Chip- and Sub-carrier Rates .....	9
Table 9.	E1 SoL Symbol Rates .....	9
Table 10.	Logic to Signal Level Assignment .....	10
Table 11.	Received Minimum Power Levels on Ground.....	10
Table 12.	Additional Losses due to Receiver Filtering .....	11
Table 13.	Code Lengths.....	12
Table 14.	E5 Primary Codes Specifications.....	14
Table 15.	Base Register 2 start Values and First Code Chip for E5a-I .....	15
Table 16.	Base Register 2 Start Values and First Code Chip for E5a-Q.....	16
Table 17.	Base Register 2 Start Values and First Code Chip for E5b-I .....	17
Table 18.	Base Register 2 Start Values and First Code Chip for E5b-Q.....	18
Table 19.	Secondary Code Sequences (Part 1) .....	20
Table 20.	Secondary Code Sequences (Part 2) .....	21
Table 21.	Secondary Code Assignment.....	22
Table 22.	Allocation of E5a-I, E5a-Q, E5b-I and E5b-Q primary codes to SVIDs.....	23
Table 23.	Allocation of L1-B and L1-C primary codes to SVIDs .....	24
Table 24.	Allocation of E5a-I, E5a-Q, E5b-I and E5b-Q secondary codes to SVIDs .....	25
Table 25.	Allocation of L1-C secondary codes to SVIDs .....	25
Table 26.	Message Allocation and General Data Content .....	26
Table 27.	Data Coding Parameters.....	27
Table 28.	Interleaving Parameters .....	27
Table 29.	F/NAV Page Layout.....	28
Table 30.	F/NAV Frame Layout.....	31
Table 31.	Bits Allocation for F/NAV Page Type 1 .....	31
Table 32.	Bits Allocation for F/NAV Page Type 2 .....	31
Table 33.	Bits Allocation for F/NAV Page Type 3 .....	31
Table 34.	Bits Allocation for F/NAV Page Type 4 .....	32
Table 35.	Bits Allocation for F/NAV Page Type 5 .....	32
Table 36.	Bits Allocation for F/NAV Page Type 6 .....	32
Table 37.	Bits Allocation for F/NAV Dummy Page .....	32
Table 38.	I/NAV Page Part Layout .....	33
Table 39.	I/NAV Nominal Page with Bits Allocation.....	34
Table 40.	I/NAV Alert Page with Bits Allocation.....	35
Table 41.	I/Nav Nominal Sub-Frame Structure .....	36
Table 42.	I/NAV Sub-Frame Sequencing .....	38
Table 43.	Bits Allocation for I/NAV Word Type 1 .....	38
Table 44.	Bits Allocation for I/NAV Word Type 2 .....	38
Table 45.	Bits Allocation for I/NAV Word Type 3 .....	39
Table 46.	Bits Allocation for I/NAV Word Type 4 .....	39
Table 47.	Bits Allocation for I/NAV Word Type 5 .....	39
Table 48.	Bits Allocation for I/NAV Word Type 6 .....	39
Table 49.	Bits Allocation for I/NAV Word Type 7 .....	39
Table 50.	Bits Allocation for I/NAV Word Type 8 .....	40

Table 51.	Bits Allocation for I/NAV Word Type 9 .....	40
Table 52.	Bits Allocation for I/NAV Word Type 10 .....	40
Table 53.	Bits Allocation for Spare Word .....	40
Table 54.	I/NAV Dummy Page with Bits Allocation .....	41
Table 55.	Dummy Word with Bits Allocation .....	41
Table 56.	SAR Field Bit Structure .....	42
Table 57.	RLM Identifier Description.....	42
Table 58.	SAR Short RLM.....	42
Table 59.	SAR Long RLM .....	43
Table 60.	Spare SAR Data.....	43
Table 61.	Ephemeris Parameters .....	45
Table 62.	User Algorithm for Ephemeris Determination.....	46
Table 63.	GST Parameters .....	46
Table 64.	Galileo Clock Correction Parameters.....	47
Table 65.	Galileo Clock Correction Data.....	47
Table 66.	BGD Parameters.....	49
Table 67.	BGD Values Mapping on Messages and Services.....	49
Table 68.	Ionospheric Correction Parameters .....	49
Table 69.	Parameters for the GST-UTC Conversion .....	51
Table 70.	Parameters for the GPS Time to GST Offset Computation.....	51
Table 71.	Satellite ID.....	52
Table 72.	IOD Values Mapping on Data Type.....	52
Table 73.	Data Validity Satellite Status (transmitted on E5a).....	52
Table 74.	Data Validity Satellite Status (transmitted on E5b and E1-B).....	53
Table 75.	Data validity Status Bit Values .....	53
Table 76.	Signal Health Status for E5a (transmitted on E5a) .....	53
Table 77.	Signal Health Status for E5b and E1 (transmitted on E5b and E1-B).....	53
Table 78.	Signal Health Status Bit Values (definitions are tbc) .....	53
Table 79.	Almanac Parameters.....	55
Table 80.	Example for the Translation of Logical (binary) Spreading Code into Hexadecimal Representation.....	58
Table 81.	Primary Code-Length and Hexadecimal Representation Characteristics for the Galileo Signal Components.....	59





# 1. Introduction

## 1.1. Document Scope

The name “Galileo” shall mean the system established under the Galileo programme.

The present European GNSS (Galileo) Open Service Signal In Space Interface Control Document (OS SIS ICD) Issue 1 contains the publicly available information on the Galileo Signal In Space. It is intended for use by the Galileo user community and it specifies the interface between the Galileo Space Segment, and the Galileo User Segment. The present document is subject to evolution, and the information contained in it may change. It is therefore recommended that a reconfigurable approach for the Galileo receivers be adopted by the manufacturers, in order to easily adapt the receivers’ architecture to the possible changes which might occur in the future.

## 1.2. Document Overview

The present document is organised as follows:

- Chapter 1 is this introduction which provides the scope of the document and an overview of the Galileo system
- Chapter 2 provides the signal-in-space radio frequency characteristics
- Chapter 3 provides the characteristics of the spreading codes
- Chapter 4 provides the message structures
- Chapter 5 provides the characteristics of the navigation message data contents

## 1.3. Galileo System Overview

Galileo is the European global navigation satellite system providing a highly accurate, guaranteed and global positioning service under civilian control. It is inter-operable with GPS and GLONASS, the two other current global satellite navigation systems.

The fully deployed Galileo system consists of 30 satellites (27 operational and 3 spares), positioned in three circular Medium Earth Orbit planes at a nominal average orbit semi-major axis of 29601.297 Km, and at an inclination of the orbital planes of 56 degrees with reference to the equatorial plane.

Galileo provides enhanced distress localisation and call features for the provision of a Search and Rescue (SAR) service interoperable with the COSPAS-SARSAT system.

Figure 1 specifies the radio-frequency air interface between the space and user segments. Three independent CDMA signals, named E5, E6 and E1, are permanently transmitted by all Galileo satellites. The E5 signal is further sub-divided into two signals denoted E5a and E5b.

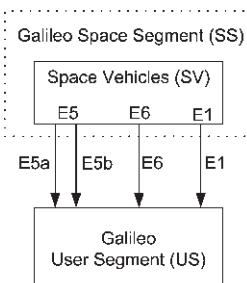


Figure 1. Space Vehicle/Navigation User Interface

## 2. Galileo Signal Characteristics

### 2.1. Frequency Plan

#### 2.1.1. Frequency Bands

The Galileo navigation Signals are transmitted in the four frequency bands indicated in Figure 2. These four frequency bands are the E5a, E5b, E6 and E1 bands. They provide a wide bandwidth for the transmission of the Galileo Signals.

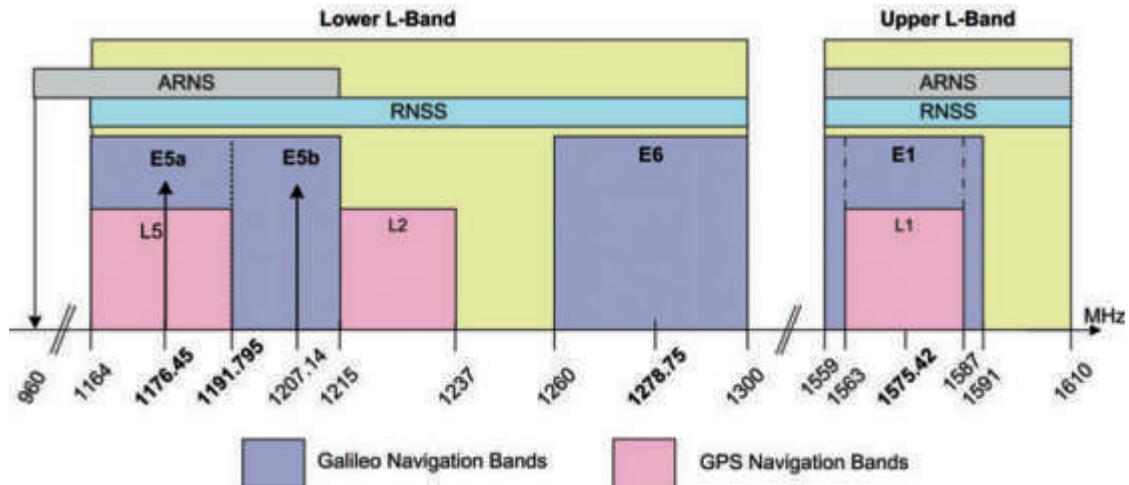


Figure 2. Galileo Frequency Plan

The Galileo frequency bands have been selected in the allocated spectrum for Radio Navigation Satellite Services (RNSS) and in addition to that, E5a, E5b and E1 bands are included in the allocated spectrum for Aeronautical Radio Navigation Services (ARNS), employed by Civil-Aviation users, and allowing dedicated safety-critical applications.

#### 2.1.2. Carrier Frequencies

Galileo carrier frequencies are shown in Table 1. The names of the Galileo signals are the same than the corresponding carrier frequencies. Note that E5a and E5b signals are part of the E5 signal in its full bandwidth.

Signal	Carrier Frequency (MHz)
E1	1575.420
E6	1278.750
E5	1191.795
E5a	1176.450
E5b	1207.140

Table 1. Carrier Frequency per Signal

### 2.1.3. Receiver Reference Bandwidths

The receiver reference bandwidths centred on the carrier frequencies of Table 1 are specified in Table 2. Those reference bandwidths are considered when computing the correlation losses provided in paragraph 2.8.

Signal	Receiver Reference Bandwidth (MHz)
E1	24.552
E6	40.920
E5	51.150
E5a	20.460
E5b	20.460

Table 2. Galileo Signals Receiver Reference Bandwidths

## 2.2. Signal Polarization

The transmitted signals are Right-Hand Circularly Polarized (RHCP).

## 2.3. Modulation

In the following sections, modulation expressions are given for the power normalized complex envelope (i.e. base-band version)  $s_X(t)$  of a modulated (band-pass) signal  $SX(t)$ . Both are described in terms of their in-phase  $s_{X-I}(t)$  and quadrature  $s_{X-Q}(t)$  components by the following generic expressions in Eq. 1.

$$S_X(t) = \sqrt{2 P_X} [s_{X-I}(t) \cos(2\pi f_X t) - s_{X-Q}(t) \sin(2\pi f_X t)] \quad \text{Eq. 1}$$

$$s_X(t) = s_{X-I}(t) + j s_{X-Q}(t)$$

Table 3 defines the signal parameters used in this chapter, with the indices:

- ‘X’ accounting for the respective carrier (E5, E5a, E5b, E6 or E1) and
- ‘Y’ accounting for the respective signal component (B, C, I or Q) within the signal ‘X’.

Parameter	Explanation	Unit
$f_X$	Carrier frequency	Hz
$P_X$	RF-Signal power	W
$L_{X-Y}$	Ranging code repetition period	chips
$T_{C,X-Y}$	Ranging code chip length	s
$T_{S,X}$	Sub-carrier period	s
$T_{S,X-Y}$	Subcarrier period	s
$T_{D,X-Y}$	Navigation message symbol duration	s
$R_{C,X-Y}$	= $1/T_{C,X-Y}$ code chip rate	Hz
$R_{S,X}$	= $1/T_{S,X}$ sub-carrier frequency	Hz
$R_{S,X-Y}$	= $1/T_{S,X-Y}$ subcarrier frequency	Hz
$R_{D,X-Y}$	= $1/T_{D,X-Y}$ navigation message symbol rate	Hz
$S_X(t)$	Signal pass-band representation	N/A
$C_{X-Y}(t)$	Binary (NRZ modulated) ranging code	N/A
$D_{X-Y}(t)$	Binary (NRZ modulated) navigation message signal	N/A

Parameter	Explanation	Unit
$sc_{X-Y}(t)$	Binary (NRZ modulated) subcarrier	N/A
$e_{X-Y}(t)$	Binary NRZ modulated navigation signal component including code, sub-carrier (if available) and navigation message data (if available); ( $= c_{X-Y}(t) sc_{X-Y}(t) D_{X-Y}(t)$ )	N/A
$s_X(t)$	Normalised (unit mean power) baseband signal $= s_{X-I}(t) + j s_{X-Q}(t)$	N/A
$c_{X-Y,k}$	$k^{\text{th}}$ chip of the ranging code	N/A
$d_{X-Y,k}$	$k^{\text{th}}$ symbol of the navigation message	N/A
$DC_{X-Y}$	$= T_{D,X}^Y / T_{C,X}^Y$ number of code chips per symbol	N/A
$ i _L$	$i$ modulo $L$	N/A
$[i]_{DC}$	Integer part of $i/DC$	N/A
$\text{rect}_T(t)$	Function “rectangle” which is equal to 1 for $0 < t < T$ and equal to 0 elsewhere	N/A

Table 3. Signal Description Parameters

### 2.3.1. E5 Signal

#### 2.3.1.1. Modulation Scheme

The diagram in Figure 3 provides a generic view of the E5 signal AltBOC modulation generation.

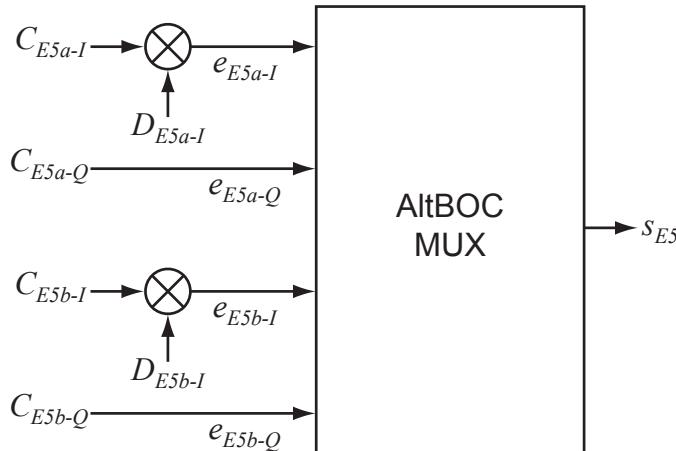


Figure 3. Modulation Scheme for the E5 Signal

The E5 signal components are generated according to the following:

- $e_{E5a-I}$  from the F/NAV navigation data stream  $D_{E5a-I}$  modulated with the unencrypted ranging code  $C_{E5a-I}$
- $e_{E5a-Q}$  (pilot component) from the unencrypted ranging code  $C_{E5a-Q}$
- $e_{E5b-I}$  from the I/NAV navigation data stream  $D_{E5b-I}$  modulated with the unencrypted ranging code  $C_{E5b-I}$
- $e_{E5b-Q}$  (pilot component) from the unencrypted ranging code  $C_{E5b-Q}$

The respective definitions are following (Eq. 2):

$$\begin{aligned}
e_{E5a-I}(t) &= \sum_{i=-\infty}^{+\infty} \left[ c_{E5a-I,|i|_{L_{E5a-I}}} d_{E5a-I,[i]_{DC_{E5a-I}}} \text{rect}_{T_{C,E5a-I}}(t - i T_{C,E5a-I}) \right] \\
e_{E5a-Q}(t) &= \sum_{i=-\infty}^{+\infty} \left[ c_{E5a-Q,|i|_{L_{E5a-Q}}} d_{E5a-Q,[i]_{DC_{E5a-Q}}} \text{rect}_{T_{C,E5a-Q}}(t - i T_{C,E5a-Q}) \right] \\
e_{E5b-I}(t) &= \sum_{i=-\infty}^{+\infty} \left[ c_{E5b-I,|i|_{L_{E5b-I}}} d_{E5b-I,[i]_{DC_{E5b-I}}} \text{rect}_{T_{C,E5b-I}}(t - i T_{C,E5b-I}) \right] \\
e_{E5b-Q}(t) &= \sum_{i=-\infty}^{+\infty} \left[ c_{E5b-Q,|i|_{L_{E5b-Q}}} d_{E5b-Q,[i]_{DC_{E5b-Q}}} \text{rect}_{T_{C,E5b-Q}}(t - i T_{C,E5b-Q}) \right]
\end{aligned} \tag{Eq. 2}$$

The Galileo satellites transmit the E5 signal components with the ranging codes chip rates and symbol rates stated in Table 4.

Signal (Parameter X)	Component (Parameter Y)	Ranging Code Chip-Rate RC,X-Y (Mchip/s)	Symbol-Rate RD,X-Y (symbols/s)
E5a	I	10.230	50
	Q	10.230	No data ('pilot component')
E5b	I	10.230	250
	Q	10.230	No data ('pilot component')

Table 4. E5 Chip Rates and Symbol Rates

### 2.3.1.2. Modulation Type

The wideband E5 signal is generated with the AltBOC modulation of side-band sub-carrier rate  $R_{S,E5} = 1/T_{S,E5} = 15.345$  MHz ( $15 \times 1.023$  MHz) according to the expression in Eq. 3 with the binary signal components  $e_{E5a-I}$ ,  $e_{E5a-Q}$ ,  $e_{E5b-I}$  and  $e_{E5b-Q}$  as defined in Eq. 2. Note that E5a and E5b signals can be processed independently by the user receiver as though they were two separate QPSK signals with a carrier frequency of 1176.45 MHz and 1207.14 MHz respectively.

$$\begin{aligned}
s_{E5}(t) &= \frac{1}{2\sqrt{2}} (e_{E5a-I}(t) + j e_{E5a-Q}(t)) [s c_{E5-S}(t) - j s c_{E5-S}(t - T_{s,E5}/4)] + \\
&\quad \frac{1}{2\sqrt{2}} (e_{E5b-I}(t) + j e_{E5b-Q}(t)) [s c_{E5-S}(t) + j s c_{E5-S}(t - T_{s,E5}/4)] + \\
&\quad \frac{1}{2\sqrt{2}} (\bar{e}_{E5a-I}(t) + j \bar{e}_{E5a-Q}(t)) [s c_{E5-P}(t) - j s c_{E5-P}(t - T_{s,E5}/4)] + \\
&\quad \frac{1}{2\sqrt{2}} (\bar{e}_{E5b-I}(t) + j \bar{e}_{E5b-Q}(t)) [s c_{E5-P}(t) + j s c_{E5-P}(t - T_{s,E5}/4)]
\end{aligned} \tag{Eq. 3}$$

The respective dashed signal components  $\bar{e}_{E5a-I}$ ,  $\bar{e}_{E5a-Q}$ ,  $\bar{e}_{E5b-I}$  and  $\bar{e}_{E5b-Q}$  represent product signals according to Eq. 4:

$$\begin{aligned}
\bar{e}_{E5a-I} &= e_{E5a-Q} e_{E5b-I} e_{E5b-Q} & \bar{e}_{E5b-I} &= e_{E5b-Q} e_{E5a-I} e_{E5a-Q} \\
\bar{e}_{E5a-Q} &= e_{E5a-I} e_{E5b-I} e_{E5b-Q} & \bar{e}_{E5b-Q} &= e_{E5b-I} e_{E5a-I} e_{E5a-Q}
\end{aligned} \tag{Eq. 4}$$

The parameters  $s c_{E5-S}$  and  $s c_{E5-P}$  represent the four-valued sub-carrier functions for the single signals and the product signals respectively:

$$s c_{E5-S}(t) = \sum_{i=-\infty}^{\infty} A S_{|i|_8} \operatorname{rect}_{T_{s,E5}/8}(t - i T_{s,E5}/8) \quad \text{Eq. 5}$$

$$s c_{E5-P}(t) = \sum_{i=-\infty}^{\infty} A P_{|i|_8} \operatorname{rect}_{T_{s,E5}/8}(t - i T_{s,E5}/8)$$

The coefficients  $A S_i$  and  $A P_i$  are according to Table 5.

i	0	1	2	3	4	5	6	7
$2 A S_i$	$\sqrt{2} + 1$	1	-1	$-\sqrt{2} - 1$	$-\sqrt{2} - 1$	-1	1	$\sqrt{2} + 1$
$2 A P_i$	$-\sqrt{2} + 1$	1	-1	$\sqrt{2} - 1$	$\sqrt{2} - 1$	-1	1	$-\sqrt{2} + 1$

Table 5. AltBOC Subcarrier Coefficients

One period of the sub-carrier functions  $s c_{E5-S}$  and  $s c_{E5-P}$  is shown in Figure 4.

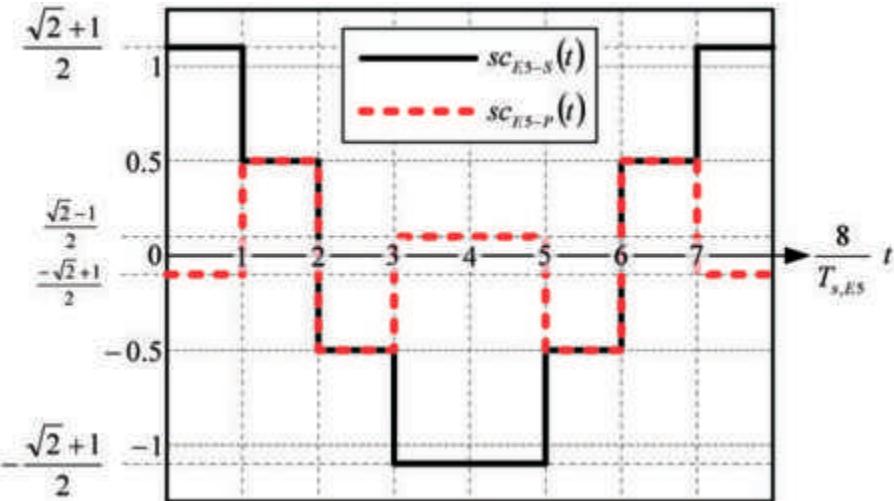


Figure 4. One Period of the Two Subcarrier Functions Involved in AltBOC Modulation

#### 2.3.1.3. Equivalent Modulation Type

Equivalently, the AltBOC complex baseband signal  $s_{E5}(t)$  can be described as an 8-PSK signal according to Eq. 6. The corresponding phase states are illustrated in Figure 5.

$$s_{E5}(t) = \exp\left(j \frac{\pi}{4} k(t)\right) \quad \text{with} \quad k(t) \in \{1, 2, 3, 4, 5, 6, 7, 8\}, \quad \text{Eq. 6}$$

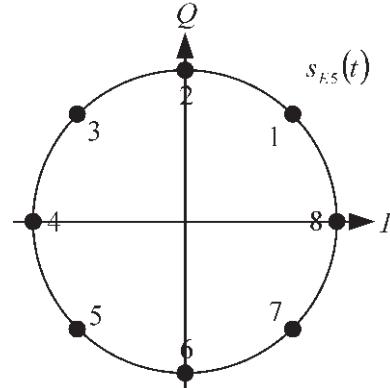


Figure 5. 8-PSK Phase-State Diagram of E5 AltBOC Signal

The relation of the 8 phase states to the 16 different possible states of the quadruple  $e_{E5a-I}(t)$ ,  $e_{E5a-Q}(t)$ ,  $e_{E5b-I}(t)$ , and  $e_{E5b-Q}(t)$  depends also on time. Therefore, time is partitioned first in sub-carrier intervals  $T_{s,E5}$  and further sub-divided in 8 equal sub-periods. The index  $i_{Ts}$  of the actual sub-period is given by Eq. 7 and determines which relation between input quadruple and phase states has to be used.

$$i_{Ts} = \text{integer part} \left[ \frac{8}{T_{s,E5}} (t \text{ modulo } T_{s,E5}) \right] \quad \text{with} \quad i_{Ts} \in \{0, 1, 2, 3, 4, 5, 6, 7\} \quad \text{Eq. 7}$$

The dependency of phase-states from input-quadruples and time is given in Table 6.

		Input Quadruples															
		-1	-1	-1	-1	-1	-1	-1	1	1	1	1	1	1	1	1	1
eE5a-I		-1	-1	-1	-1	1	1	1	-1	-1	-1	-1	1	1	1	1	1
eE5b-I		-1	-1	-1	-1	1	1	1	-1	-1	-1	-1	-1	1	1	1	1
eE5a-Q		-1	-1	1	1	-1	-1	1	-1	-1	1	1	-1	-1	1	1	1
eE5b-Q		-1	1	-1	1	-1	1	-1	1	-1	1	-1	1	-1	1	-1	1
$t' = t \text{ modulo } T_{s,E5}$		$k$ according to $s_{E5}(t) = \exp(jk\pi/4)$															
$i_{Ts}$	$t'$	5	4	4	3	6	3	1	2	6	5	7	2	7	8	8	1
0	$[0, T_{s,E5}/8[$	5	4	4	3	6	3	1	2	6	5	7	2	7	8	8	1
1	$[T_{s,E5}/8, 2 T_{s,E5}/8[$	5	4	8	3	2	3	1	2	6	5	7	6	7	4	8	1
2	$[2 T_{s,E5}/8, 3 T_{s,E5}/8[$	1	4	8	7	2	3	1	2	6	5	7	6	3	4	8	5
3	$[3 T_{s,E5}/8, 4 T_{s,E5}/8[$	1	8	8	7	2	3	1	6	2	5	7	6	3	4	4	5
4	$[4 T_{s,E5}/8, 5 T_{s,E5}/8[$	1	8	8	7	2	7	5	6	2	1	3	6	3	4	4	5
5	$[5 T_{s,E5}/8, 6 T_{s,E5}/8[$	1	8	4	7	6	7	5	6	2	1	3	2	3	8	4	5
6	$[6 T_{s,E5}/8, 7 T_{s,E5}/8[$	5	8	4	3	6	7	5	6	2	1	3	2	7	8	4	1
7	$[7 T_{s,E5}/8, T_{s,E5}[$	5	4	4	3	6	7	5	2	6	1	3	2	7	8	8	1

Table 6. Look-up Table for AltBOC Phase States

### 2.3.2. E6 Signal

Figure 6 provides a generic view of the E6 signal generation.

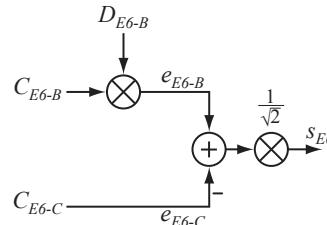


Figure 6. Modulation Scheme for the E6 Signal

The E6 signal B and C components are generated according to the following

- $e_{E6-B}$  from the C/NAV navigation data stream  $D_{E6-B}$  modulated with the encrypted ranging code  $C_{E6-B}$
- $e_{E6-C}$  (pilot component) from the ranging code  $C_{E6-C}$

Equation 8 provides their mathematical description.

$$e_{E6-B}(t) = \sum_{i=-\infty}^{+\infty} c_{E6-B,|i|_{E6-B}} d_{E6-B,[i]_{D_{E6-B}}} \text{rect}_{T_{C,E6-B}}(t - iT_{C,E6-B}) \quad \text{Eq. 8}$$

$$e_{E6-C}(t) = \sum_{i=-\infty}^{+\infty} c_{E6-C,|i|_{E6-C}} \text{rect}_{T_{C,E6-C}}(t - iT_{C,E6-C})$$

The Galileo satellites transmit the E6 signal components with the ranging codes chip rates and symbol rates stated in Table 7.

Component (Parameter Y)	Ranging code chip Rate $R_{C,E6-Y}$ (MChip/s)	Symbol Rate $R_{D,E6-Y}$ (symbols/s)
B	5.115	1000
C	5.115	No data ('pilot component')

Table 7. E6 Chip Rates and Symbol Rates

The E6 signal is generated according to Eq. 9, with the binary signal components  $e_{E6-B}(t)$  and  $e_{E6-C}(t)$ . Note that both pilot and data components are combined on the same carrier component, with a power sharing of 50 percent.

$$s_{E6}(t) = \frac{1}{\sqrt{2}} [e_{E6-B}(t) - e_{E6-C}(t)] \quad \text{Eq. 9}$$

### 2.3.3. E1 Signal

Figure 7 provides a generic view of the E1 CBOC signal generation.

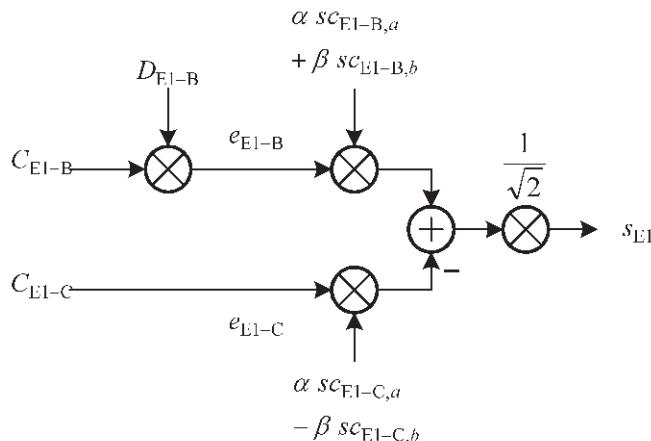


Figure 7. Modulation Scheme for the E1 CBOC Signal

The E1 CBOC signal components are generated as follows:

- $e_{E1-B}$  from the I/NAV navigation data stream  $D_{E1-B}$  and the ranging code  $C_{E1-B}$ , then modulated with the sub-carriers  $sc_{E1-B,a}$  and  $sc_{E1-B,b}$
- $e_{E1-C}$  (pilot component) from the ranging code  $C_{E1-C}$  including its secondary code, then modulated with the sub-carriers  $sc_{E1-C,a}$  and  $sc_{E1-C,b}$

Equation 10 provides the mathematical description of these components.

$$\begin{aligned} e_{E1-B}(t) &= \sum_{i=-\infty}^{+\infty} \left[ c_{E1-B,i} |_{L_{E1-B}} D_{E1-B,[i]} |_{D_{C_{E1-B}}} rect_{T_{c,E1-B}}(t - iT_{c,E1-B}) \right] \\ e_{E1-C}(t) &= \sum_{i=-\infty}^{+\infty} \left[ c_{E1-C,i} |_{L_{E1-C}} rect_{T_{c,E1-C}}(t - iT_{c,E1-C}) \right] \end{aligned} \quad \text{Eq.10}$$

Galileo satellites transmit ranging signals for the E1 signal with the chip rates and sub-carrier rates defined in the following Table 8.

Component (Parameter Y)	Sub-carrier Type	Sub-carrier Rate		Ranging Code Chip- Rate $R_{C,E1-Y}$ (Mcps)
		$R_{S,E1-Y,a}$ (MHz)	$R_{S,E1-Y,b}$ (MHz)	
B	CBOC, in-phase	1.023	6.138	1.023
C	CBOC, anti-phase	1.023	6.138	1.023

Table 8. E1 SoL CBOC Chip- and Sub-carrier Rates

The navigation data message stream, after channel encoding, is transmitted with the symbol rate as stated in Table 9.

Component (Parameter Y)	Symbol Rate $R_{D,E1-Y}$ (symbols/s)
B	250
C	No data ('pilot component')

Table 9. E1 SoL Symbol Rates

The E1 SoL composite signal is then generated according to equation Eq. 11 below, with the binary signal components  $e_{E1-B}(t)$  and  $e_{E1-C}(t)$ . Note that as for E6, both pilot and data components are modulated onto the same carrier component, with a power sharing of 50 percent.

$$s_{E1}(t) = \frac{1}{\sqrt{2}} (e_{E1-B}(t)(\alpha s c_{E1-B,a}(t) + \beta s c_{E1-B,b}(t)) - e_{E1-C}(t)(\alpha s c_{E1-C,a}(t) - \beta s c_{E1-C,b}(t))) \quad \text{Eq. 11}$$

with  $s c_X(t) = \text{sgn}(\sin(2\pi R_{s,X} t))$

The parameters  $\alpha$  and  $\beta$  are chosen such as that the combined power of the  $s c_{E1-B,b}$  and the  $s c_{E1-C,b}$  sub carrier components equals 1/11 of the total power of  $e_{E1-B}$  plus  $e_{E1-C}$ , before application of any bandwidth limitation. This yields:

$$\alpha = \sqrt{\frac{10}{11}} \quad \text{and} \quad \beta = \sqrt{\frac{1}{11}}$$

One period of the sub-carrier function  $\alpha s c_{E1-B,a}(t) + \beta s c_{E1-B,b}(t)$  for the E1-B signal component and one period of the sub-carrier function  $\alpha s c_{E1-C,a}(t) - \beta s c_{E1-C,b}(t)$  for the E1-C signal component are shown in the following figure

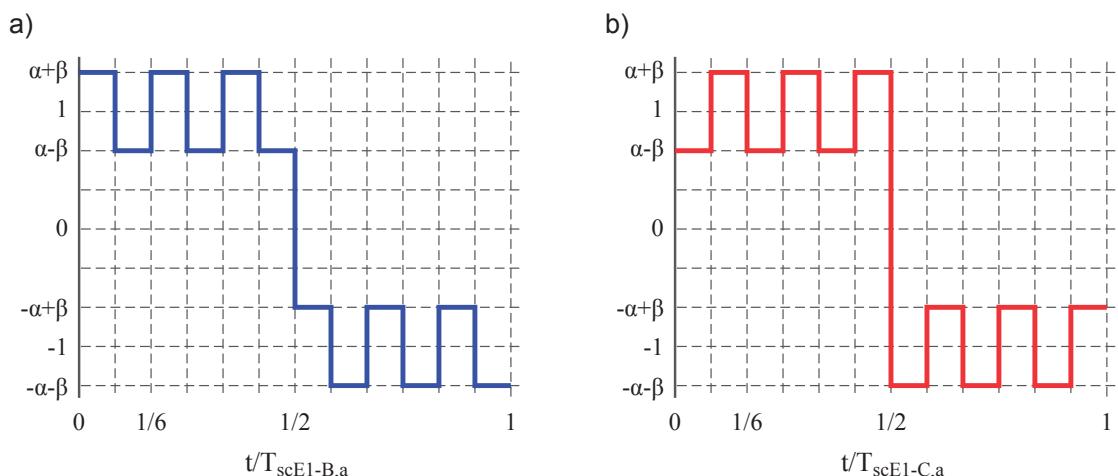


Figure 8. One period of the CBOC sub-carrier for a) the L1-B signal component, and b) the L1-C signal component

## 2.4. Logic Levels

The correspondence between the logic level code bits used to modulate the signal and the signal level is according to the values stated in Table 10.

Logic Level	Signal Level
1	-1.0
0	+1.0

Table 10. Logic to Signal Level Assignment

## 2.5. Transmitted Signal Phase Noise

The phase noise spectral density of the un-modulated carrier will allow a second-order phase locked loop with 10 Hz one-sided noise bandwidth to track the carrier to an accuracy of 0.04 radians RMS.

## 2.6. Transmitted Signals Code/Data Coherency

The edge of each data symbol coincides with the edge of a code chip. Periodic spreading codes start coincides with the start of a data symbol.

The edge of each secondary code chip coincides with the edge of a primary code chip. Primary code start coincides with the start of a secondary code chip.

## 2.7. Received Power Levels on Ground

### 2.7.1. Minimum Levels

The Galileo satellites will provide Galileo E5, E6 and E1 signals strength in order to meet the minimum levels specified in 0. The minimum received power on ground is measured at the output of an ideally matched RHCP 0 dBi polarized user receiving antenna when the SV elevation angle is higher than 10 degrees.

Signal	Signal Component	Total Received Minimum Power (dBW)
E5	E5a (total I+Q) (50/50% I/Q power sharing)	-155
	E5b (total I+Q) (50/50% I/Q power sharing)	-155
E6	E6 CS (total B+C) (50/50% E6-B/E6-C power sharing)	-155
E1	E1 OS/SoL (total B+C) (50/50% E1-B/E1-C power sharing)	-157

Table 11. Received Minimum Power Levels on Ground

For a 5 degree user elevation angle, the user minimum received power will typically be 0.25 dB lower than specified in Table 11 above.

### 2.7.2. Maximum Levels

The Galileo terrestrial user's maximum received signal power level is, using the same assumptions as for the minimum received power, not expected to exceed 3 dB above the corresponding minimum received power.

For purposes of establishing user receiver dynamic range for receiver design and test, the maximum received signal power level is not expected to exceed 7 dB above the corresponding minimum received power.

## ***2.8. Payload and Component Reception Losses***

The correlation loss due to payload distortions will be below 0.6 dB.

For the reference receiver bandwidths defined in section 2.1.3, additional losses due to receiver filtering are to be considered, as shown in Table 12.

Signal	Loss (dB)
E1	0.1
E6	0.0
E5	0.4
E5a	0.6
E5b	0.6

Table 12. Additional Losses due to Receiver Filtering

### 3. Galileo Spreading Codes Characteristics

#### 3.1. Code Lengths

The ranging codes are built from so-called primary and secondary codes by using a tiered codes construction described in paragraph 3.2. The code lengths to be used for each signal component are stated in Table 13. Note that the E6 ranging codes are not subject of this SIS ICD.

Signal Component	Tiered Code Period (ms)	Code Length (chips)	
		Primary	Secondary
E5a-I	20	10230	20
E5a-Q	100	10230	100
E5b-I	4	10230	4
E5b-Q	100	10230	100
E1-B	4	4092	N/A
E1-C	100	4092	25

Table 13. Code Lengths

#### 3.2. Tiered Codes Generation

Long spreading codes are generated by a tiered code construction, whereby a secondary code sequence is used to modify successive repetitions of a primary code periods, as shown in Figure 9 for a primary code of length  $N$  and chip rate  $f_c$ , and a secondary code of length  $N_s$  and chip rate  $f_{cs} = f_c/N$ . The duration of  $N$  chips is also called a primary code epoch in Figure 9. In logical representation, the secondary code chips are sequentially exclusive-ored with the primary code, always one chip of the secondary code per period of the primary code.

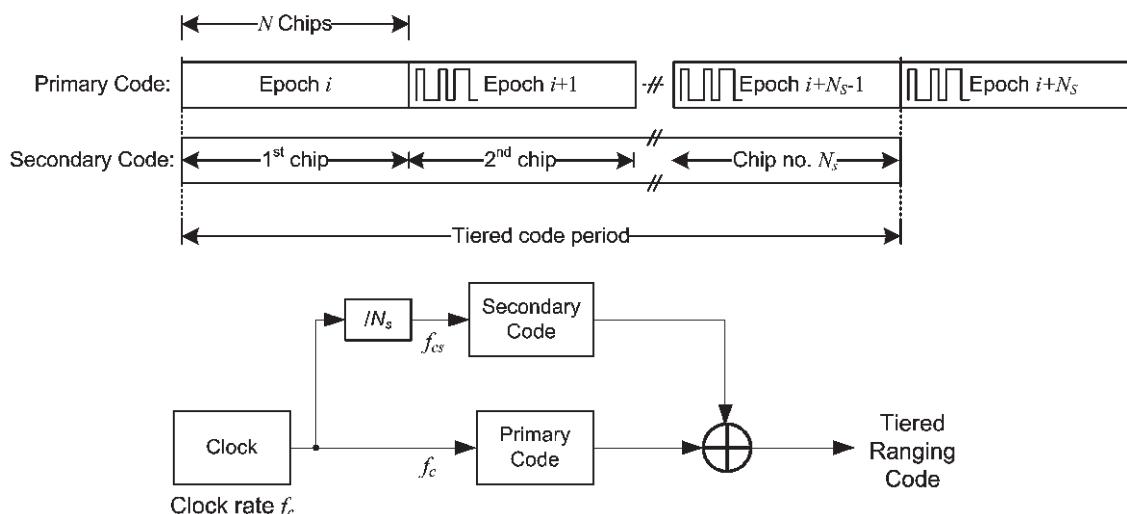


Figure 9. Tiered Codes Generation

### 3.3. Primary Codes Generation

The primary spreading codes can be either

- Linear feedback shift register-based pseudo-noise sequences, or
- Optimized pseudo-noise sequences

Optimized codes need to be stored in memory and therefore are often called ‘memory codes’. Register based codes used in Galileo are generated as combinations of two M-sequences, being truncated to the appropriate length. These codes can be generated either with pairs of LFSR or might be also stored in memory.

Figure 10 shows an example standard implementation of the LFSR method for the generation of truncated and combined M sequences. Two parallel shift registers are used: base register 1 and base register 2. The primary code output sequence is the exclusive OR of base register 1 and 2 output sequences, the shift between these two sequences is zero. Each shift register  $i$  ( $i=1$  for base register 1 and  $i = 2$  base register 2) of length  $R$  is fed back with a particular set of feedback taps  $\{a_{i,j}\}_{j=1 \dots R} = [a_{i,1}, a_{i,2}, \dots, a_{i,R}]$  and its content is represented by a vector  $\{c_{i,j}\}_{j=1 \dots R} = [c_{i,1}, c_{i,2}, \dots, c_{i,R}]$ . For truncation to primary code length  $N$ , the content of the two shift registers is reinitialised (reset) after  $N$  cycles with the so-called start-values  $\{s_{i,j}\}_{j=1 \dots R} = [s_{i,1}, s_{i,2}, \dots, s_{i,R}]$ .

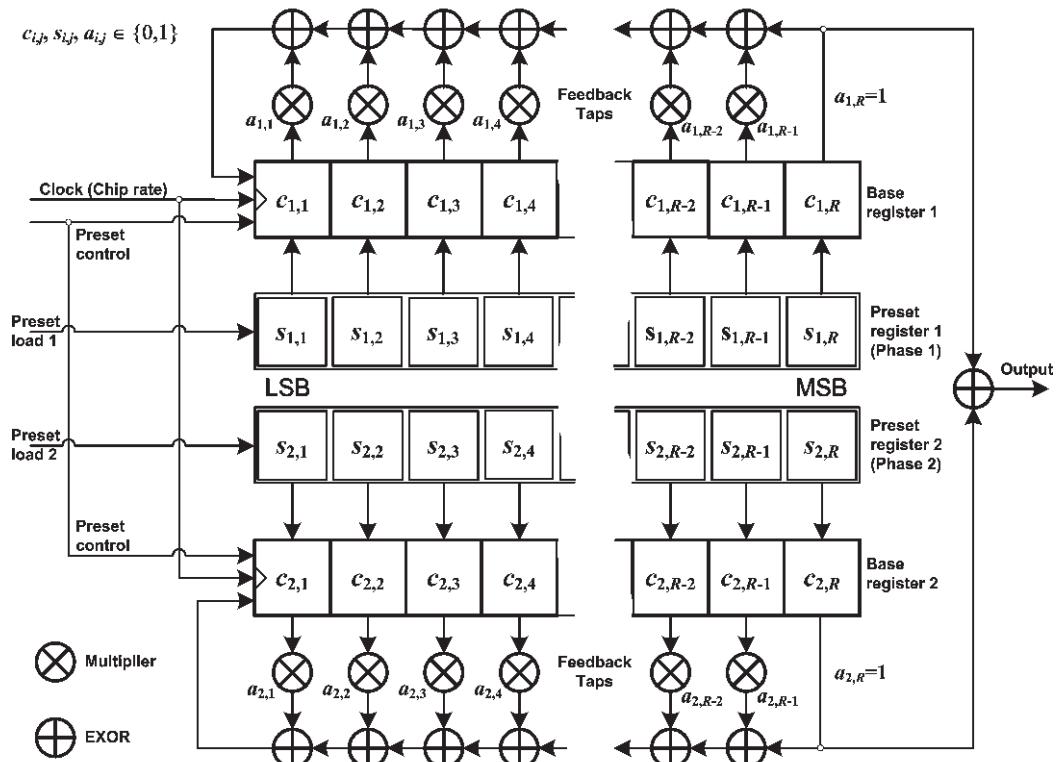


Figure 10. LFSR Based Code Generator for Truncated and Combined M-sequences

### 3.4. Primary Codes Definition

#### 3.4.1. E5 Primary Codes

In case of memory codes, the E5a-I, E5a-Q, E5b-I and E5b-Q primary codes are according to the representation provided in Annex C. In case of generation via LFSR, those primary codes use the principle defined in paragraph 3.3, using the parameters defined in Table 14. Note that each set of codes for each signal component comprises 50 members.

Component	Shift Register Length (polynomial order)	Feedback Taps (octal)	
		Register 1	Register 2
E5a-I	14	40503	50661
E5a-Q	14	40503	50661
E5b-I	14	64021	51445
E5b-Q	14	64021	43143

Table 14. E5 Primary Codes Specifications

The transformation between the octal notation and the vector description  $\{a_{i,j}\}$  for the feedback tap positions is defined as follows and is illustrated with an example (Register 1 for E5a-I in Table 14) in Figure 11. After transferring the octal vector notation into binary notation, the bits are counted right to left starting with  $j = 0$  from the LSB and ending with  $j = R$  at the MSB, where  $R$  is the code register length. Then the  $j$ th bit applies for the feedback tap  $a_{i,j}$  for  $j = 1, \dots, R$ , as shown in Figure 10. Note,  $a_{i,R}$  is always one and  $a_{i,0}$  is not considered in the register feedback tap.

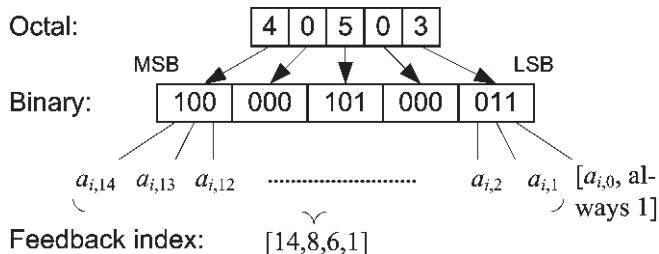


Figure 11. Code Register Feedback Taps Representation (example for E5a-I)

The start values for all base register 1 cells, in logic level notation, are '1' for all codes of E5a-I, E5a-Q, E5b-I and E5b-Q. The start values of base register 2 are provided in the subsequent sections. The transformation between the octal notation and the vector description  $\{s_{i,j}\}$  for the register start values is defined as follows and is illustrated with an example in Figure 12 (code number 1 of E5a-I in Table 15). After transferring the octal notation in binary notation, the bits are counted right to left starting with  $j=1$  (note the different start value compared to the feedback taps definition) from the LSB and ending with  $j=R$  at the MSB, where  $R$  is the code register length. Then the  $j$ th bit applies to the start value  $s_{i,j}$  for  $j = 1, \dots, R$ , as shown in Figure 10. Note in this example the MSB is zero in order to complete the 14-bits binary value sequence to fit into a sequence of octal symbols.

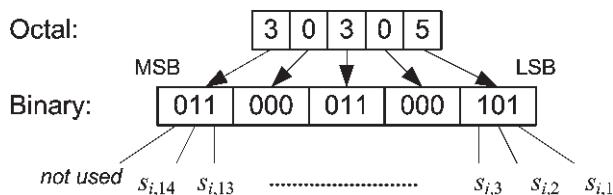


Figure 12. Start Value Representation for Base Register 2 (first code of E5a-I)

#### 3.4.1.1. Base Register 2 Start Value for E5a-I

The octal format base register 2 start value with the convention defined in paragraph 3.4.1 is as defined in Table 15 for each primary E5a-I code. In addition, the conventional hexadecimal format of the first 24 code chips of the E5a-I primary codes is given in the table. For example, the first 24 chips of the E5a-I primary code N°1 in Table 15 are 0 0 1 1 1 1 0 0 1 1 1 0 1 0 1 0 1 0 0 1 1 1 0 1, the first binary value corresponding to the first primary code chip in time.

Code No	Start Value	Initial Sequence	Code No	Start Value	Initial Sequence
1	30305	3CEA9D	26	14401	9BFAC7
2	14234	9D8CF1	27	34727	18A25B
3	27213	45D1C8	28	22627	69A39F
4	20577	7A0133	29	30623	39B27D
5	23312	64D423	30	27256	454598
6	33463	23300D	31	01520	F2BC62
7	15614	91CEF2	32	14211	9DDBC6
8	12537	AA82DC	33	31465	332827
9	01527	F2A17D	34	22164	6E2FCA
10	30236	3D84AE	35	33516	22C6D5
11	27344	446D38	36	02737	E881D9
12	07272	C514F2	37	21316	74C4DB
13	36377	0C0184	38	35425	13AB03
14	17046	8767E0	39	35633	119323
15	06434	CB8EFF	40	24655	594886
16	15405	93EBCD	41	14054	9F4D89
17	24252	5D55CE	42	27027	47A3C0
18	11631	B19B7C	43	06604	C9ED53
19	24776	5805FC	44	31455	334994
20	00630	F99EA1	45	34465	1B2A30
21	11560	B23CE5	46	25273	5513F3
22	17272	8515E8	47	20763	7831C1
23	27445	436822	48	31721	30B93A
24	31702	30F77B	49	17312	84D5B4
25	13012	A7D629	50	13277	A5029C

Table 15. Base Register 2 start Values and First Code Chip for E5a-I

#### 3.4.1.2. Base Register 2 Start Value for E5a-Q

The octal format base register 2 start value with the convention defined in paragraph 3.4.1 is as defined in Table 16 for each E5a-Q primary code. The hexadecimal format of the first 24 code chips with the convention defined in paragraph 3.4.1.1 is also given.

Code No	Start Value	Initial Sequence	Code No	Start Value	Initial Sequence
1	25652	515537	26	20606	79E450
2	05142	D67539	27	11162	B63460
3	24723	58B2E5	28	22252	6D562B
4	31751	305914	29	30533	3A9010

Code No	Start Value	Initial Sequence	Code No	Start Value	Initial Sequence
5	27366	442710	30	24614	59CD72
6	24660	593CF8	31	07767	C0211A
7	33655	214AD7	32	32705	28EB96
8	27450	435EA6	33	05052	D7554B
9	07626	C1A7D5	34	27553	425126
10	01705	F0E94A	35	03711	E0DAFB
11	12717	A8C239	36	02041	EF79F2
12	32122	2EB63B	37	34775	18085D
13	16075	8F0A46	38	05274	D50CD8
14	16644	896DD4	39	37356	0447B9
15	37556	0245F1	40	16205	8DE877
16	02477	EB0160	41	36270	0D1FA0
17	02265	ED28B3	42	06600	C9FCF7
18	06430	CB9F5B	43	26773	48116D
19	25046	576592	44	17375	840BCC
20	12735	A88811	45	35267	152004
21	04262	DD3649	46	36255	0D4897
22	11230	B59F42	47	12044	AF6D25
23	00037	FF81F6	48	26442	4B7593
24	06137	CE8128	49	21621	71BB1B
25	04312	DCD55C	50	25411	53DA0E

Table 16. Base Register 2 Start Values and First Code Chip for E5a-Q

#### 3.4.1.3. Base Register 2 Start Value for E5b-I

The octal format base register 2 start value with the conventions defined in paragraph 3.4.1 is as defined in Table 17 for each E5b-I primary code. The hexadecimal format of the first 24 code chips with the conventions defined in paragraph 3.4.1.1 is also given.

Code No	Start Value	Initial Sequence	Code No	Start Value	Initial Sequence
1	07220	C5BEA1	26	25664	512FA9
2	26047	4F6248	27	21403	73F36B
3	00252	FD5488	28	32253	2D5317
4	17166	86277B	29	02337	EC8390
5	14161	9E39D5	30	30777	380374
6	02540	EA7EDE	31	27122	46B4DE
7	01537	F28321	32	22377	6C01D9
8	26023	4FB0C9	33	36175	0E0BB6
9	01725	F0AB64	34	33075	2708C7

Code No	Start Value	Initial Sequence	Code No	Start Value	Initial Sequence
10	20637	79833B	35	33151	265B55
11	02364	EC2D91	36	13134	A68E1C
12	27731	409B11	37	07433	C3916E
13	30640	397E16	38	10216	BDC595
14	34174	1E0FCD	39	35466	1327D0
15	06464	CB2F5A	40	02533	EA921F
16	07676	C1079A	41	05351	D45869
17	32231	2D9BC6	42	30121	3EB98A
18	10353	BC5146	43	14010	9FDE16
19	00755	F848B0	44	32576	2A04CA
20	26077	4F01E8	45	30326	3CA56F
21	11644	B16C9B	46	37433	03928A
22	11537	B2827D	47	26022	4FB5B9
23	35115	16C809	48	35770	101EC7
24	20452	7B570F	49	06670	C91D4F
25	34645	1969C0	50	12017	AFC22B

Table 17. Base Register 2 Start Values and First Code Chip for E5b-I

#### 3.4.1.4. Base Register 2 Start Value for E5b-Q

The octal format base register 2 start value with the conventions defined in paragraph 3.4.1 is as defined in Table 18 for each E5b-Q primary code. The hexadecimal format of the first 24 code chips with the conventions defined in paragraph 3.4.1.1 is also given.

Code No	Start Value	Initial Sequence	Code No	Start Value	Initial Sequence
1	03331	E49AF0	26	20134	7E8CFB
2	06143	CE701F	27	11262	B536C3
3	25322	54B709	28	10706	B8E68C
4	23371	641AB1	29	34143	1E7272
5	00413	FBD0AE	30	11051	B75B69
6	36235	0D8BC9	31	25460	533F65
7	17750	805FA5	32	17665	812B41
8	04745	D86BA0	33	32354	2C4DE1
9	13005	A7E921	34	21230	759E2C
10	37140	067E55	35	20146	7E6434
11	30155	3E4B58	36	11362	B43640
12	20237	7D82FB	37	37246	05671B
13	03461	E33BC2	38	16344	8C6FE0
14	31662	31372C	39	15034	978D4E
15	27146	46676F	40	25471	5319BF

Code No	Start Value	Initial Sequence	Code No	Start Value	Initial Sequence
16	05547	D2613E	41	25646	516499
17	02456	EB443C	42	22157	6E4292
18	30013	3FD0B1	43	04336	DC86A3
19	00322	FCB7CF	44	16356	8C46BE
20	10761	B83815	45	04075	DF0B03
21	26767	48224A	46	02626	E9A5B2
22	36004	0FEE25	47	11706	B0E553
23	30713	38D33B	48	37011	07DBAC
24	07662	C135B9	49	27041	4778E4
25	21610	71DE13	50	31024	37AF4F

Table 18. Base Register 2 Start Values and First Code Chip for E5b-Q

### 3.4.2. E1-B and E1-C Primary Codes

The E1-B and E1-C primary codes are pseudo-random memory code sequences according to the hexadecimal representation provided in Annex C. Note that each set of codes for each signal component comprises 50 members.

## 3.5. Secondary Codes

### 3.5.1. Definition of Secondary Codes

The secondary codes are fixed sequences as defined in hexadecimal notation in Table 19 and Table 20, following again the convention used in paragraph 3.4.1.1. For secondary codes whose length is not dividable by four (case of CS25<sub>1</sub> only), the last (most right-hand) hexadecimal symbol is obtained by filling up the last group of code chips with zeros at the end in time (to the right), to reach a final length of 4 binary symbols. Those two tables provide as well the code identifiers together with the code lengths, the number of hexadecimal symbols and the number of filled zeros.

For example, the CS251 secondary code in Table 19 corresponds to the binary sequence '0 0 1 1 1 0 0 0 0 0 0 1 0 1 0 1 1 0 1 1 0 0 1 0', the first binary value corresponding to the first secondary code chip in time.

Code Identifier	Code Length	No. of Hexadec. Symbols	Number of Filled up Zeros	Code Sequence
CS4 <sub>1</sub>	4	1	0	E
CS20 <sub>1</sub>	20	5	0	842E9
CS25 <sub>1</sub>	25	7	3	380AD90
CS100 <sub>1</sub>	100	25	0	83F6F69D8F6E15411FB8C9B1C
CS100 <sub>2</sub>	100	25	0	66558BD3CE0C7792E83350525
CS100 <sub>3</sub>	100	25	0	59A025A9C1AF0651B779A8381
CS100 <sub>4</sub>	100	25	0	D3A32640782F7B18E4DF754B7
CS100 <sub>5</sub>	100	25	0	B91FCAD7760C218FA59348A93

<b>Code Identifier</b>	<b>Code Length</b>	<b>No. of Hexadec. Symbols</b>	<b>Number of Filled up Zeros</b>	<b>Code Sequence</b>
CS100 <sub>6</sub>	100	25	0	BAC77E933A779140F094FBF98
CS100 <sub>7</sub>	100	25	0	537785DE280927C6B58BA6776
CS100 <sub>8</sub>	100	25	0	EFCAB4B65F38531ECA22257E2
CS100 <sub>9</sub>	100	25	0	79F8CAE838475EA5584BEFC9B
CS100 <sub>10</sub>	100	25	0	CA5170FEA3A810EC606B66494
CS100 <sub>11</sub>	100	25	0	1FC32410652A2C49BD845E567
CS100 <sub>12</sub>	100	25	0	FE0A9A7AFDAC44E42CB95D261
CS100 <sub>13</sub>	100	25	0	B03062DC2B71995D5AD8B7DBE
CS100 <sub>14</sub>	100	25	0	F6C398993F598E2DF4235D3D5
CS100 <sub>15</sub>	100	25	0	1BB2FB8B5BF24395C2EF3C5A1
CS100 <sub>16</sub>	100	25	0	2F920687D238CC7046EF6AFC9
CS100 <sub>17</sub>	100	25	0	34163886FC4ED7F2A92EFDBB8
CS100 <sub>18</sub>	100	25	0	66A872CE47833FB2DFD5625AD
CS100 <sub>19</sub>	100	25	0	99D5A70162C920A4BB9DE1CA8
CS100 <sub>20</sub>	100	25	0	81D71BD6E069A7ACCBEDC66CA
CS100 <sub>21</sub>	100	25	0	A654524074A9E6780DB9D3EC6
CS100 <sub>22</sub>	100	25	0	C3396A101BEDAF623CFC5BB37
CS100 <sub>23</sub>	100	25	0	C3D4AB211DF36F2111F2141CD
CS100 <sub>24</sub>	100	25	0	3DFF25EAE761739265AF145C1
CS100 <sub>25</sub>	100	25	0	994909E0757D70CDE389102B5
CS100 <sub>26</sub>	100	25	0	B938535522D119F40C25FDAEC
CS100 <sub>27</sub>	100	25	0	C71AB549C0491537026B390B7
CS100 <sub>28</sub>	100	25	0	0CDB8C9E7B53F55F5B0A0597B
CS100 <sub>29</sub>	100	25	0	61C5FA252F1AF81144766494F
CS100 <sub>30</sub>	100	25	0	626027778FD3C6BB4BAA7A59D
CS100 <sub>31</sub>	100	25	0	E745412FF53DEBD03F1C9A633
CS100 <sub>32</sub>	100	25	0	3592AC083F3175FA724639098
CS100 <sub>33</sub>	100	25	0	52284D941C3DCAF2721DDB1FD
CS100 <sub>34</sub>	100	25	0	73B3D8F0AD55DF4FE814ED890
CS100 <sub>35</sub>	100	25	0	94BF16C83BD7462F6498E0282
CS100 <sub>36</sub>	100	25	0	A8C3DE1AC668089B0B45B3579
CS100 <sub>40</sub>	100	25	0	22D6E2A768E5F35FFC8E01796
CS100 <sub>41</sub>	100	25	0	25310A06675EB271F2A09EA1D
CS100 <sub>42</sub>	100	25	0	9F7993C621D4BEC81A0535703
CS100 <sub>43</sub>	100	25	0	D62999EACF1C99083C0B4A417
CS100 <sub>44</sub>	100	25	0	F665A7EA441BAA4EA0D01078C

<b>Code Identifier</b>	<b>Code Length</b>	<b>No. of Hexadec. Symbols</b>	<b>Number of Filled up Zeros</b>	<b>Code Sequence</b>
CS100 <sub>45</sub>	100	25	0	46F3D3043F24CDEABD6F79543
CS100 <sub>46</sub>	100	25	0	E2E3E8254616BD96CEFCA651A
CS100 <sub>47</sub>	100	25	0	E548231A82F9A01A19DB5E1B2
CS100 <sub>48</sub>	100	25	0	265C7F90A16F49EDE2AA706C8
CS100 <sub>49</sub>	100	25	0	364A3A9EB0F0481DA0199D7EA
CS100 <sub>50</sub>	100	25	0	9810A7A898961263A0F749F56

Table 19. Secondary Code Sequences (Part 1)

<b>Code Identifier</b>	<b>Code Length</b>	<b>No. of Hexadec. Symbols</b>	<b>Number of Filled up Zeros</b>	<b>Code Sequence</b>
CS100 <sub>51</sub>	100	25	0	CFF914EE3C6126A49FD5E5C94
CS100 <sub>52</sub>	100	25	0	FC317C9A9BF8C6038B5CADAB3
CS100 <sub>53</sub>	100	25	0	A2EAD74B6F9866E414393F239
CS100 <sub>54</sub>	100	25	0	72F2B1180FA6B802CB84DF997
CS100 <sub>55</sub>	100	25	0	13E3AE93BC52391D09E84A982
CS100 <sub>56</sub>	100	25	0	77C04202B91B22C6D3469768E
CS100 <sub>57</sub>	100	25	0	FEBC592DD7C69AB103D0BB29C
CS100 <sub>58</sub>	100	25	0	0B494077E7C66FB6C51942A77
CS100 <sub>59</sub>	100	25	0	DD0E321837A3D52169B7B577C
CS100 <sub>60</sub>	100	25	0	43DEA90EA6C483E7990C3223F
CS100 <sub>61</sub>	100	25	0	0366AB33F0167B6FA979DAE18
CS100 <sub>62</sub>	100	25	0	99CCBBFAB1242CBE31E1BD52D
CS100 <sub>63</sub>	100	25	0	A3466923CEFDF451EC0FCED22
CS100 <sub>64</sub>	100	25	0	1A5271F22A6F9A8D76E79B7F0
CS100 <sub>65</sub>	100	25	0	3204A6BB91B49D1A2D3857960
CS100 <sub>66</sub>	100	25	0	32F83ADD43B599CBFB8628E5B
CS100 <sub>67</sub>	100	25	0	3871FB0D89DB77553EB613CC1
CS100 <sub>68</sub>	100	25	0	6A3CBDFF2D64D17E02773C645
CS100 <sub>69</sub>	100	25	0	2BCD09889A1D7FC219F2EDE3B
CS100 <sub>70</sub>	100	25	0	3E49467F4D4280B9942CD6F8C
CS100 <sub>71</sub>	100	25	0	658E336DCFD9809F86D54A501
CS100 <sub>72</sub>	100	25	0	ED4284F345170CF77268C8584
CS100 <sub>73</sub>	100	25	0	29ECCE910D832CAF15E3DF5D1
CS100 <sub>74</sub>	100	25	0	456CCF7FE9353D50E87A708FA
CS100 <sub>75</sub>	100	25	0	FB757CC9E18CBC02BF1B84B9A
CS100 <sub>76</sub>	100	25	0	5686229A8D98224BC426BC7FC
CS100 <sub>77</sub>	100	25	0	700A2D325EA14C4B7B7AA8338

Code Identifier	Code Length	No. of Hexadec. Symbols	Number of Filled up Zeros	Code Sequence
CS100 <sub>78</sub>	100	25	0	1210A330B4D3B507D854CBA3F
CS100 <sub>79</sub>	100	25	0	438EE410BD2F7DBCDD85565BA
CS100 <sub>80</sub>	100	25	0	4B9764CC455AE1F61F7DA432B
CS100 <sub>81</sub>	100	25	0	BF1F45FDDA3594ACF3C4CC806
CS100 <sub>82</sub>	100	25	0	DA425440FE8F6E2C11B8EC1A4
CS100 <sub>83</sub>	100	25	0	EE2C8057A7C16999AFA33FED1
CS100 <sub>84</sub>	100	25	0	2C8BD7D8395C61DFA96243491
CS100 <sub>85</sub>	100	25	0	391E4BB6BC43E98150CDDCADA
CS100 <sub>86</sub>	100	25	0	399F72A9EADB42C90C3ECF7F0
CS100 <sub>87</sub>	100	25	0	93031FDEA588F88E83951270C
CS100 <sub>88</sub>	100	25	0	BA8061462D873705E95D5CB37
CS100 <sub>89</sub>	100	25	0	D24188F88544EB121E963FD34
CS100 <sub>90</sub>	100	25	0	D5F6A8BB081D8F383825A4DCA
CS100 <sub>91</sub>	100	25	0	0FA4A205F0D76088D08EAF267
CS100 <sub>92</sub>	100	25	0	272E909FAEBC65215E263E258
CS100 <sub>93</sub>	100	25	0	3370F35A674922828465FC816
CS100 <sub>94</sub>	100	25	0	54EF96116D4A0C8DB0E07101F
CS100 <sub>95</sub>	100	25	0	DE347C7B27FADC48EF1826A2B
CS100 <sub>96</sub>	100	25	0	01B16ECA6FC343AE08C5B8944
CS100 <sub>97</sub>	100	25	0	1854DB743500EE94D8FC768ED
CS100 <sub>98</sub>	100	25	0	28E40C684C87370CD0597FAB4
CS100 <sub>99</sub>	100	25	0	5E42C19717093353BCAAF4033
CS100 <sub>100</sub>	100	25	0	64310BAD8EB5B36E38646AF01

Table 20. Secondary Code Sequences (Part 2)

### 3.5.2. Secondary Codes Assignment

The assignment of the secondary codes of paragraph 3.5.1 to the signal components is according to Table 21. For the 4, 20 and 25 bit secondary codes the same code is used for all associated primary codes. For the 100 bit codes, an independent secondary code is assigned for each primary code.

Component	Secondary Code Assignment
E5a-I	CS20 <sub>1</sub>
E5a-Q	CS100 <sub>1-50</sub>
E5b-I	CS4 <sub>1</sub>
E5b-Q	CS100 <sub>51-100</sub>
E6-B	N/A

Component	Secondary Code Assignment
E6-C	CS100 <sub>1-50</sub>
E1-B	N/A
E1-C	CS25 <sub>1</sub>

Table 21. Secondary Code Assignment

### 3.6. Code Assignments to Satellites

#### 3.6.1. Primary code assignment to satellites

The families of primary codes as well as their assignment to satellites as given below are provisional.

The E5a-I, E5a-Q, E5b-I, E5b-Q, L1-B, and L1-C primary codes (defined in Annex C) will be allocated to the space vehicle IDs (SVID) as given in the tables below

SVID	E5a-I	E5a-Q	E5b-I	E5b-Q
1	E5a-I code No 1	E5a-Q code No 1	E5b-I code No 1	E5b-Q code No 1
2	E5a-I code No 2	E5a-Q code No 2	E5b-I code No 2	E5b-Q code No 2
3	E5a-I code No 3	E5a-Q code No 3	E5b-I code No 3	E5b-Q code No 3
4	E5a-I code No 4	E5a-Q code No 4	E5b-I code No 4	E5b-Q code No 4
5	E5a-I code No 5	E5a-Q code No 5	E5b-I code No 5	E5b-Q code No 5
6	E5a-I code No 6	E5a-Q code No 6	E5b-I code No 6	E5b-Q code No 6
7	E5a-I code No 7	E5a-Q code No 7	E5b-I code No 7	E5b-Q code No 7
8	E5a-I code No 8	E5a-Q code No 8	E5b-I code No 8	E5b-Q code No 8
9	E5a-I code No 9	E5a-Q code No 9	E5b-I code No 9	E5b-Q code No 9
10	E5a-I code No 10	E5a-Q code No 10	E5b-I code No 10	E5b-Q code No 10
11	E5a-I code No 11	E5a-Q code No 11	E5b-I code No 11	E5b-Q code No 11
12	E5a-I code No 12	E5a-Q code No 12	E5b-I code No 12	E5b-Q code No 12
13	E5a-I code No 13	E5a-Q code No 13	E5b-I code No 13	E5b-Q code No 13
14	E5a-I code No 14	E5a-Q code No 14	E5b-I code No 14	E5b-Q code No 14
15	E5a-I code No 15	E5a-Q code No 15	E5b-I code No 15	E5b-Q code No 15
16	E5a-I code No 16	E5a-Q code No 16	E5b-I code No 16	E5b-Q code No 16
17	E5a-I code No 17	E5a-Q code No 17	E5b-I code No 17	E5b-Q code No 17
18	E5a-I code No 18	E5a-Q code No 18	E5b-I code No 18	E5b-Q code No 18
19	E5a-I code No 19	E5a-Q code No 19	E5b-I code No 19	E5b-Q code No 19
20	E5a-I code No 20	E5a-Q code No 20	E5b-I code No 20	E5b-Q code No 20
21	E5a-I code No 21	E5a-Q code No 21	E5b-I code No 21	E5b-Q code No 21
22	E5a-I code No 22	E5a-Q code No 22	E5b-I code No 22	E5b-Q code No 22
23	E5a-I code No 23	E5a-Q code No 23	E5b-I code No 23	E5b-Q code No 23
24	E5a-I code No 24	E5a-Q code No 24	E5b-I code No 24	E5b-Q code No 24
25	E5a-I code No 25	E5a-Q code No 25	E5b-I code No 25	E5b-Q code No 25
26	E5a-I code No 26	E5a-Q code No 26	E5b-I code No 26	E5b-Q code No 26

<b>SVID</b>	<b>E5a-I</b>	<b>E5a-Q</b>	<b>E5b-I</b>	<b>E5b-Q</b>
27	E5a-I code No 27	E5a-Q code No 27	E5b-I code No 27	E5b-Q code No 27
28	E5a-I code No 28	E5a-Q code No 28	E5b-I code No 28	E5b-Q code No 28
29	E5a-I code No 29	E5a-Q code No 29	E5b-I code No 29	E5b-Q code No 29
30	E5a-I code No 30	E5a-Q code No 30	E5b-I code No 30	E5b-Q code No 30
31	E5a-I code No 31	E5a-Q code No 31	E5b-I code No 31	E5b-Q code No 31
32	E5a-I code No 32	E5a-Q code No 32	E5b-I code No 32	E5b-Q code No 32
33	E5a-I code No 33	E5a-Q code No 33	E5b-I code No 33	E5b-Q code No 33
34	E5a-I code No 34	E5a-Q code No 34	E5b-I code No 34	E5b-Q code No 34
35	E5a-I code No 35	E5a-Q code No 35	E5b-I code No 35	E5b-Q code No 35
36	E5a-I code No 36	E5a-Q code No 36	E5b-I code No 36	E5b-Q code No 36

Table 22. Allocation of E5a-I, E5a-Q, E5b-I and E5b-Q primary codes to SVIDs

<b>SVID</b>	<b>L1-B</b>	<b>L1-C</b>
1	L1-B code No 1	L1-C code No 1
2	L1-B code No 2	L1-C code No 2
3	L1-B code No 3	L1-C code No 3
4	L1-B code No 4	L1-C code No 4
5	L1-B code No 5	L1-C code No 5
6	L1-B code No 6	L1-C code No 6
7	L1-B code No 7	L1-C code No 7
8	L1-B code No 8	L1-C code No 8
9	L1-B code No 9	L1-C code No 9
10	L1-B code No 10	L1-C code No 10
11	L1-B code No 11	L1-C code No 11
12	L1-B code No 12	L1-C code No 12
13	L1-B code No 13	L1-C code No 13
14	L1-B code No 14	L1-C code No 14
15	L1-B code No 15	L1-C code No 15
16	L1-B code No 16	L1-C code No 16
17	L1-B code No 17	L1-C code No 17
18	L1-B code No 18	L1-C code No 18
19	L1-B code No 19	L1-C code No 19
20	L1-B code No 20	L1-C code No 20
21	L1-B code No 21	L1-C code No 21
22	L1-B code No 22	L1-C code No 22
23	L1-B code No 23	L1-C code No 23
24	L1-B code No 24	L1-C code No 24
25	L1-B code No 25	L1-C code No 25

SVID	L1-B	L1-C
26	L1-B code No 26	L1-C code No 26
27	L1-B code No 27	L1-C code No 27
28	L1-B code No 28	L1-C code No 28
29	L1-B code No 29	L1-C code No 29
30	L1-B code No 30	L1-C code No 30
31	L1-B code No 31	L1-C code No 31
32	L1-B code No 32	L1-C code No 32
33	L1-B code No 33	L1-C code No 33
34	L1-B code No 34	L1-C code No 34
35	L1-B code No 35	L1-C code No 35
36	L1-B code No 36	L1-C code No 36

Table 23. Allocation of L1-B and L1-C primary codes to SVIDs

### 3.6.2. Secondary code assignment to satellites

The code families as well as their assignment to satellites as given below are provisional.

The E5a-I, E5a-Q, E5b-I, E5b-Q, and L1-C secondary codes (defined in Annex C) shall be allocated to the space vehicle IDs (SVID) as given in the tables below.

SVID	E5a-I	E5a-Q	E5b-I	E5b-Q
1	CS20 <sub>1</sub>	CSI00 <sub>1</sub>	CS4 <sub>1</sub>	CSI00 <sub>51</sub>
2	CS20 <sub>1</sub>	CS100 <sub>2</sub>	CS4 <sub>1</sub>	CSI00 <sub>52</sub>
3	CS20 <sub>1</sub>	CS100 <sub>3</sub>	CS4 <sub>1</sub>	CSI00 <sub>53</sub>
4	CS20 <sub>1</sub>	CS100 <sub>4</sub>	CS4 <sub>1</sub>	CSI00 <sub>54</sub>
5	CS20 <sub>1</sub>	CS100 <sub>5</sub>	CS4 <sub>1</sub>	CSI00 <sub>55</sub>
6	CS20 <sub>1</sub>	CSI00 <sub>6</sub>	CS4 <sub>1</sub>	CSI00 <sub>56</sub>
7	CS20 <sub>1</sub>	CSI00 <sub>7</sub>	CS4 <sub>1</sub>	CSI00 <sub>57</sub>
8	CS20 <sub>1</sub>	CS100 <sub>8</sub>	CS4 <sub>1</sub>	CSI00 <sub>58</sub>
9	CS20 <sub>1</sub>	CSI00 <sub>9</sub>	CS4 <sub>1</sub>	CSI00 <sub>59</sub>
10	CS20 <sub>1</sub>	CS100 <sub>10</sub>	CS4 <sub>1</sub>	CSI00 <sub>60</sub>
11	CS20 <sub>1</sub>	CS100 <sub>11</sub>	CS4 <sub>1</sub>	CS100 <sub>61</sub>
12	CS20 <sub>1</sub>	CSI00 <sub>12</sub>	CS4 <sub>1</sub>	CS100 <sub>62</sub>
13	CS20 <sub>1</sub>	CSI00 <sub>13</sub>	CS4 <sub>1</sub>	CS100 <sub>63</sub>
14	CS20 <sub>1</sub>	CSI00 <sub>14</sub>	CS4 <sub>1</sub>	CS100 <sub>64</sub>
15	CS20 <sub>1</sub>	CSI00 <sub>15</sub>	CS4 <sub>1</sub>	CS100 <sub>65</sub>
16	CS20 <sub>1</sub>	CS100 <sub>16</sub>	CS4 <sub>1</sub>	CS100 <sub>66</sub>
17	CS20 <sub>1</sub>	CS100 <sub>17</sub>	CS4 <sub>1</sub>	CS100 <sub>67</sub>
18	CS20 <sub>1</sub>	CS100 <sub>18</sub>	CS4 <sub>1</sub>	CS100 <sub>68</sub>
19	CS20 <sub>1</sub>	CSI00 <sub>19</sub>	CS4 <sub>1</sub>	CSI00 <sub>69</sub>
20	CS20 <sub>1</sub>	CS100 <sub>20</sub>	CS4 <sub>1</sub>	CSI00 <sub>70</sub>

<b>SVID</b>	<b>E5a-I</b>	<b>E5a-Q</b>	<b>E5b-I</b>	<b>E5b-Q</b>
21	CS20 <sub>1</sub>	CS100 <sub>21</sub>	CS4 <sub>1</sub>	CS100 <sub>71</sub>
22	CS20 <sub>1</sub>	CS100 <sub>22</sub>	CS4 <sub>1</sub>	CS100 <sub>72</sub>
23	CS20 <sub>1</sub>	CS100 <sub>23</sub>	CS4 <sub>1</sub>	CS100 <sub>73</sub>
24	CS20 <sub>1</sub>	CS100 <sub>24</sub>	CS4 <sub>1</sub>	CS100 <sub>74</sub>
25	CS20 <sub>1</sub>	CS100 <sub>25</sub>	CS4 <sub>1</sub>	CS100 <sub>75</sub>
26	CS20 <sub>1</sub>	CS100 <sub>26</sub>	CS4 <sub>1</sub>	CS100 <sub>76</sub>
27	CS20 <sub>1</sub>	CS100 <sub>27</sub>	CS4 <sub>1</sub>	CS100 <sub>77</sub>
28	CS20 <sub>1</sub>	CS100 <sub>28</sub>	CS4 <sub>1</sub>	CS100 <sub>78</sub>
29	CS20 <sub>1</sub>	CS100 <sub>29</sub>	CS4 <sub>1</sub>	CS100 <sub>79</sub>
30	CS20 <sub>1</sub>	CS100 <sub>30</sub>	CS4 <sub>1</sub>	CS100 <sub>80</sub>
31	CS20 <sub>1</sub>	CS100 <sub>31</sub>	CS4 <sub>1</sub>	CS100 <sub>81</sub>
32	CS20 <sub>1</sub>	CS100 <sub>32</sub>	CS4 <sub>1</sub>	CS100 <sub>82</sub>
33	CS20 <sub>1</sub>	CS100 <sub>33</sub>	CS4 <sub>1</sub>	CS100 <sub>83</sub>
34	CS20 <sub>1</sub>	CS100 <sub>34</sub>	CS4 <sub>1</sub>	CS100 <sub>84</sub>
35	CS20 <sub>1</sub>	CS100 <sub>35</sub>	CS4 <sub>1</sub>	CS100 <sub>85</sub>
36	CS20 <sub>1</sub>	CS100 <sub>36</sub>	CS4 <sub>1</sub>	CS100 <sub>86</sub>

Table 24. Allocation of E5a-I, E5a-Q, E5b-I and E5b-Q secondary codes to SVIDs

<b>SVID</b>	<b>L1-C</b>	<b>SVID</b>	<b>L1-C</b>
1	CS25 <sub>1</sub>	19	CS25 <sub>1</sub>
2	CS25 <sub>1</sub>	20	CS25 <sub>1</sub>
3	CS25 <sub>1</sub>	21	CS25 <sub>1</sub>
4	CS25 <sub>1</sub>	22	CS25 <sub>1</sub>
5	CS25 <sub>1</sub>	23	CS25 <sub>1</sub>
6	CS25 <sub>1</sub>	24	CS25 <sub>1</sub>
7	CS25 <sub>1</sub>	25	CS25 <sub>1</sub>
8	CS25 <sub>1</sub>	26	CS25 <sub>1</sub>
9	CS25 <sub>1</sub>	27	CS25 <sub>1</sub>
10	CS25 <sub>1</sub>	28	CS25 <sub>1</sub>
11	CS25 <sub>1</sub>	29	CS25 <sub>1</sub>
12	CS25 <sub>1</sub>	30	CS25 <sub>1</sub>
13	CS25 <sub>1</sub>	31	CS25 <sub>1</sub>
14	CS25 <sub>1</sub>	32	CS25 <sub>1</sub>
15	CS25 <sub>1</sub>	33	CS25 <sub>1</sub>
16	CS25 <sub>1</sub>	34	CS25 <sub>1</sub>
17	CS25 <sub>1</sub>	35	CS25 <sub>1</sub>
18	CS25 <sub>1</sub>	36	CS25 <sub>1</sub>

Table 25. Allocation of L1-C secondary codes to SVIDs

## 4. Galileo Message Structure

### 4.1. General Message Format Specification

#### 4.1.1. General Navigation Message Content

The Galileo signal-in-space data channels transmit different message types according to the general contents identified in Table 26 below. The F/NAV types of message correspond to the OS and the I/NAV types of message correspond to the SoL. Note that the C/NAV message format is not subject of this SIS ICD.

Message Type	Services	Component
F/NAV	OS	E5a-I
I/NAV	OS/CS/SoL	E5b-I and E1-B
C/NAV	CS	E6-B

Table 26. Message Allocation and General Data Content

#### 4.1.2. General Navigation Message Structure

The complete navigation message data are transmitted on each data component as a sequence of frames. A frame is composed of several sub-frames, and a sub-frame in turn is composed of several pages. The page is the basic structure for building the navigation message. This arrangement allows accomplishing the three different main categories of data to be transmitted, which are repeated at fast (for urgent data, such as integrity), medium (like data required for warm start TTF) and slow rates (like data required for cold start TTF).

For all message types, only the message pages as the smallest unit of data are equipped with a ‘type’ marker to identify the content of each page received by the user. There is no management data transmitted within the navigation message to indicate subframe and frame structures, and indeed these higher level structures are to be considered as typical flow of pages reflecting an instantaneous Galileo navigation message design, and may evolve together with future evolutions of Galileo. This evolution may involve also the inclusion of additional new page types beyond the types defined in this version of the Galileo OS SISICD. A user receiver is expected to be able to recognize page types and to react properly and well controlled to page types unknown to its software as well as to variations in the flow of the received pages.

#### 4.1.3. Bit and Byte Ordering Criteria

All data values are encoded using the following bit and byte ordering criteria:

- For numbering, the most significant bit/byte is numbered as bit/byte 0
- For bit/byte ordering, the most significant bit/byte is transmitted first

## 4.1.4. FEC Coding and Interleaving Parameters

### 4.1.4.1. FEC Encoding

The convolutional encoding for all data pages on all signal components is performed according to the parameters given in Table 27.

Code Parameter	Value
Coding Rate	$\frac{1}{2}$
Coding Scheme	Convolutional
Constraint Length	7
Generator Polynomials	$G1=171o$ $G2=133o$
Encoding Sequence	$G1$ then $G2$

Table 27. Data Coding Parameters

Figure 13 depicts this convolutional coding scheme. Decoding can be implemented using a standard Viterbi decoder.

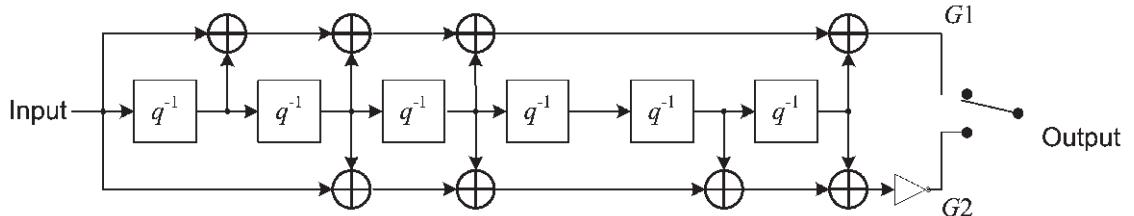


Figure 13. Convolutional Coding Scheme

### 4.1.4.2. Interleaving

For each message type, the FEC encoded page is interleaved using a block interleaver with  $n$  columns (where data is written) and  $k$  rows (where data is read), as shown in Table 28.

Parameters	Message Type	
	F/NAV	I/NAV
Block interleaver size (Symbols)	488	240
Block interleaver dimensions ( $n$ columns x $k$ rows)	61 x 8	30 x 8

Table 28. Interleaving Parameters

## 4.1.5. Frame and Page Timing

Time stamps are inserted in the navigation message at regular intervals by the broadcasting satellite to identify absolute Galileo System Time (GST) in multiples of the shortest page period of 1 second. The exact timing of the page frame boundaries is used to identify fractional GST timing (less than one frame period). This is measured relative to the leading edge of the first chip of the first code sequence of the first page symbol of the page containing the TOW. The transmission timing of the navigation message provided through the TOW is synchronised to each satellite's version of GST.

## 4.2. F/NAV Message Description

### 4.2.1. General Description of the F/NAV Message

The F/NAV message structure is presented in Figure 14, where the duration of each entity is indicated.

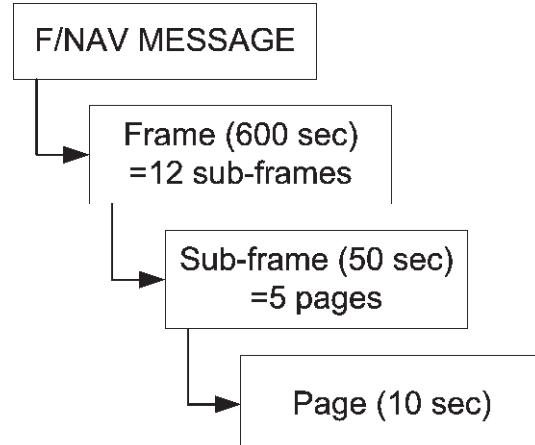


Figure 14. F/NAV Message Structure

### 4.2.2. F/NAV Page Layout

The page layout for the F/NAV message type is according to Table 29 where the symbols allocation and bits allocation are shown separately. The different fields composing this layout are defined in the sections below.

Sync.	F/NAV Symbols			Total (symb)
12	488			500
Page type	Navigation Data	CRC	Tail	Total (bits)
6	208	24	6	244

Table 29. F/NAV Page Layout

#### 4.2.2.1. Synchronisation Pattern

The synchronization pattern allows the receiver to achieve synchronisation to the page boundary. Note the synchronisation pattern is not encoded. The F/NAV synchronisation pattern is 101101110000

#### 4.2.2.2. Tail Bits

The tail bits field consists of 6 zero-value bits enabling completion of the FEC decoding of each page's information content in the user receiver.

#### 4.2.2.3. F/NAV Word

The useful data are contained in the F/NAV word composed of

- A page type field (6 bits) enabling to identify the page content as defined in paragraph 4.2.4
- A navigation data field (208 bits) whose structure is presented in paragraph 4.2.4
- A CRC (24 bits) to detect potential bit errors, according to paragraph 5.1.9.4. The CRC is computed on the Page Type and Navigation Data fields.

### 4.2.3. F/NAV Frame Layout

The F/NAV E5a-I message data packet transmission sequence is according to Table 30 where a whole frame is shown. Note that the odd numbered sub-frames contain the page type 5 and the even numbered sub-frames contain the page type 6. This allows the transmission of the almanacs for three satellites within two successive sub-frames (100 seconds). Thus the almanacs of the entire Galileo constellation (nominal 30 satellites, almanac transmission capacity within the standard message structure of 36 satellites) are transmitted within 20 minutes (two frames with appropriate k). The parameter k is transparent for the user. It is set by the Galileo system for each of the active satellites, such as to improve almanac transport time by exploiting source diversity.

	Page Type	Page Content
Subframe 1	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	5	Almanac for satellite k and almanac for satellite (k+1) part 1
Subframe 2	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	6	Almanac for satellite (k+1) part 2 and almanac for satellite (k+2)
Subframe 3	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	5	Almanac for satellite (k+3) and almanac for satellite (k+4) part 1
Subframe 4	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	6	Almanac for satellite (k+4) part 2 and almanac for satellite (k+5)
Subframe 5	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	5	Almanac for satellite (k+6) and almanac for satellite (k+7) part 1

	Page Type	Page Content
Subframe 6	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	6	Almanac for satellite (k+7) part 2 and almanac for satellite (k+8)
Subframe 7	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	5	Almanac for satellite (k+9) and almanac for satellite (k+10) part 1
Subframe 8	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	6	Almanac for satellite (k+10) part 2 and almanac for satellite (k+11)
Subframe 9	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	5	Almanac for satellite (k+12) and almanac for satellite (k+13) part 1
Subframe 10	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	6	Almanac for satellite (k+13) part 2 and almanac for satellite (k+14)
Subframe 11	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	5	Almanac for satellite (k+15) and almanac for satellite (k+16) part 1

	Page Type	Page Content
Subframe 12	1	SVID, clock correction, SISA, Ionospheric correction, BGD, Signal health status, GST and Data validity status
	2	Ephemeris (1/3) and GST
	3	Ephemeris (2/3) and GST
	4	Ephemeris (3/3), GST-UTC conversion, GST-GPS Conversion and TOW
	6	Almanac for satellite (k+16) part 2 and almanac for satellite (k+17)

Table 30. F/NAV Frame Layout

#### 4.2.4. F/NAV Page Contents

The following tables specify the contents of the F/NAV pages above allocated (see Chapter 5 for a description of the F/NAV pages contents).

Page Type 1: SVID, Clock correction, SISA, Ionospheric correction, BGD, GST, Signal health and Data validity status

Type=1	SV_ID	IODnav	Clock correction				SISA	Ionospheric correction					GST	Total (bits)	
			$t_{0c}$	$a_{f0}$	$a_{f1}$	$a_{f2}$		Az	Ionospheric disturbance flag						
6	6	10	14	31	21	6	8	11	11	14	1	1	1	1	244

Table 31. Bits Allocation for F/NAV Page Type 1

Page Type 2: Ephemeris (1/3) and GST

Type=2	IODnav	Ephemeris (1/3)						GST			Total (bits)
		$M_0$	$\bullet \Omega$	$e$	$a^{1/2}$	$\Omega_0$	$\bullet i$	$WN$	$TOW$		
6	10	32	24	32	32	32	14	12	20	24	6

Table 32. Bits Allocation for F/NAV Page Type 2

Page Type 3: Ephemeris (2/3) and GST

Type=3	IODnav	Ephemeris (2/3)								GST			Total (bits)
		$i_0$	$\omega$	$\Delta n$	$C_{uc}$	$C_{us}$	$C_{rc}$	$C_{rs}$	$t_{0e}$	$WN$	$TOW$	Spare	
6	10	32	32	16	16	16	16	16	14	12	20	8	244

Table 33. Bits Allocation for F/NAV Page Type 3

Page Type 4: Ephemeris (3/3), GST-UTC conversion, GST-GPS conversion and TOW.  
Note that the clock is repeated in this page type

		Type=4	IODnav	Ephemeris (3/3)			GST-UTC Conversion						GST-GPS Conversion			Total (bits)					
		$C_{ic}$		$C_{is}$	$A_0$	$A_I$	$\Delta t_{LS}$	$t_{ot}$	$WN_{ot}$	$WN_{LSF}$	$DN$	$\Delta t_{SF}$	$t_{0G}$	$A_{0G}$	$A_{IG}$	$WN_{0G}$					
6	10	16	16	32	24	8	8	8	8	8	3	8	8	16	12	6	20	5	24	6	244

Table 34. Bits Allocation for F/NAV Page Type 4

Page Type 5: Almanac (SVID1 and SVID2(1/2)), Week Number and almanac reference time

		Type=5	$IOD_a$	$WN_a$	$t_{0a}$	SV <sub>SVID1</sub>						SV <sub>SVID2(1/2)</sub>						Total (bits)						
		$SVID1$				$\Delta(a^{1/2})$	$e$	$\omega$	$\delta_i$	$\Omega_0$	$\bullet\Omega$	$M_0$	$a_{j0}$	$a_{jl}$	$E5a_{HS}$	$SVID2$	$\Delta(A^{1/2})$	$e$	$\omega$	$\delta_i$	$\Omega_0^{(1/2)}$	$CRC$	Tail	
6	4	2	10	6	13	11	16	11	16	11	16	16	16	13	2	6	13	11	16	11	4	24	6	244

Table 35. Bits Allocation for F/NAV Page Type 5

Page Type 6: Almanac (SVID2(2/2) and SVID3)

		Type=6	$IOD_a$	$\Omega_{(2/2)}^2$	SV <sub>SVID2(2/2)</sub>						SV <sub>SVID3</sub>						Total (bits)							
		$SVID3$			$\Delta(A^{1/2})$	$e$	$\omega$	$\delta_i$	$\Omega_0$	$\bullet\Omega$	$M_0$	$a_{j0}$	$a_{jl}$	$E5a_{HS}$	$SVID2$	$\Delta(A^{1/2})$	$e$	$\omega$	$\delta_i$	$\Omega_0^{(1/2)}$	$CRC$	Tail		
6	4	12	11	16	16	16	13	2	6	13	11	16	11	16	11	16	11	16	13	2	3	24	6	244

Table 36. Bits Allocation for F/NAV Page Type 6

#### 4.2.5. F/NAV Dummy Page Definition

In case no valid F/NAV data is to be transmitted, the satellite generates and downlinks the dummy pages (Page Type 63) replacing the pages in the nominal sequencing, according to the format in Table 37. CRC is computed on the Page Type and Dummy sequence fields.

		Type=63	Dummy sequence																Total (bits)		
		6	208																CRC	Tail	
																			24	6	244

Table 37. Bits Allocation for F/NAV Dummy Page

### 4.3. I/NAV Message Description

#### 4.3.1. General Description of the I/NAV Message

The I/NAV message structure is presented in Figure 15, where the duration of each entity is indicated.

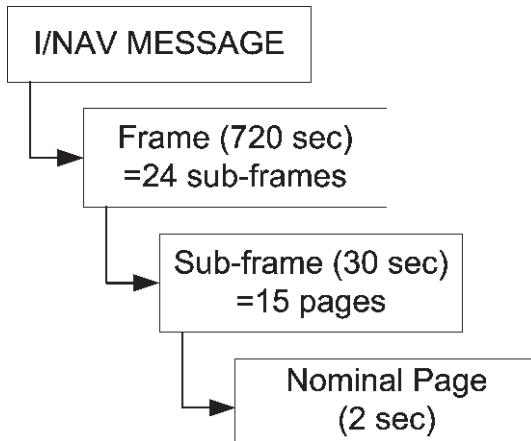


Figure 15. I/NAV Message Structure in the Nominal Mode

The I/NAV message structures for the E5b-I and E1-B signals use the same page layout since the service provided on these frequencies is a dual frequency service, using frequency diversity. Only page sequencing is different, with page swapping between both components in order to allow a fast reception of data by a dual frequency receiver. Nevertheless, the frame is designed to allow receivers to work also with a single frequency.

#### 4.3.2. I/NAV Page Layout

Two types of I/NAV pages are defined

- Nominal pages having a duration of 2 seconds transmitted sequentially in time in two parts of duration 1 second each on each of the E5b-I and E1-B components according to Table 39. The first part of a page is denoted ‘even’ and the second one is denoted ‘odd’.
- Alert pages having a duration of 1 second transmitted in two parts of duration 1 second each at the same epoch over the E5b-I and E1-B components according to Table 40. Again, the first part of a page is denoted ‘even’ and the second one is denoted ‘odd’. This transmission is repeated at the next epoch but switching the two parts between the components.

The I/NAV page part (even or odd) layout is defined in Table 38 for both nominal and alert page types. This table shows the symbols allocation and bits allocation separately. The different fields composing this layout are defined in the sections below.

Sync.	I/NAV Page Part (even or odd) Symbols	Total (symb)
10	240	250
I/NAV Page Part (even or odd) Bits		Total (bits)
	114	6

Table 38. I/NAV Page Part Layout

##### 4.3.2.1. Synchronisation Pattern

The synchronization pattern allows the receiver to achieve synchronisation to the page boundary. Note the synchronisation pattern is not encoded. The I/NAV synchronisation pattern is 0101100000

#### 4.3.2.2. Tail Bits

The tail bits field consists of 6 zero-value bits enabling completion of the FEC decoding of each page's information content in the user receiver.

#### 4.3.2.3. I/NAV Page Part

The structure of the nominal I/NAV even and odd page parts on E5b-I and E1-B are defined in Table 39. A nominal page is composed by the two page parts (even and odd) transmitted sequentially over the same frequency (“vertical page”).

E5b-I								E1-B									
Even/odd=0	Page Type	Data i (1/2)				Tail	Total (bits)	Even/odd=1	Page Type	Data j (2/2)	Reserved 1	SAR	Spare	CRC <sub>j</sub>	Reserved 2	Tail	Total (bits)
1	1	112				6	120	1	1	16	40	22	2	24	8	6	120
Even/odd=1	Page Type	Data i (2/2)	Reserved 1	CRC <sub>i</sub>	Reserved 2	Tail	Total (bits)	Even/odd=0	Page Type	Data k (1/2)				Tail	Total (bits)		
1	1	16	64	24	8	6	120	1	1	112				6	120		

Table 39. I/NAV Nominal Page with Bits Allocation

The parameters for the nominal page have the following meaning and related values:

- Even/Odd field (1 bit) to indicate the part of the page (0=even/1=odd) that is broadcast
- Page Type (1 bit) equal to 0 to indicate the nominal page type
- Data field composed of a nominal word (described in 4.3.5) of 128 bits (112 bits + 16 bits)
- The reserved fields will be published in a future update of this ICD
- SAR data (22 bits) composed of SAR RLM data on E1-B only as defined in 4.3.7
- CRC (24 bits) computed on the Even/Odd fields, Page Type fields, Data fields (1/2 and 2/2), Spare field, SAR (on E1-B only) and reserved fields (Reserved 1 for E5b-I and Reserved 1 for E1-B). In nominal mode the CRC is computed for the Even and Odd parts of a page of the same frequency (“vertical CRC”) and is always broadcast on the second part of the “vertical page”. Note the Reserved 2 field on E5b-I and the Reserved 2 field on E1-B are not protected by the CRC.
- Tail bits (2\*6 bits) as defined in 4.3.2.2. These fields are not protected by the CRC

The structure of the alert I/NAV even and odd page parts on E5b-I and E1-B are defined in Table 40. An alert page is composed by the two page parts (even and odd) transmitted at the same epoch over E5b-I and E1-B (“horizontal page”).

E5b-I							E1-B													
Even/odd=0	Page Type	Reserved 1 (1/2)				Tail	Total (bits)	Even/odd=1	Page Type	Reserved 1 (2/2)				CRC	Reserved 2	Tail	Total (bits)			
1	1	112				6	120	1	1	80				24	8	6	120			
Even/odd=1	Page Type	Reserved 1 (2/2)				CRC	Reserved 2	Reserved 1 (1/2)				Tail	Total (bits)	Even/odd=0	Page Type	Reserved 1 (1/2)				Total (bits)
1	1	80		24	8	6	120	1	1	112				6	120					

Table 40. I/NAV Alert Page with Bits Allocation

The parameters for the alert page have the following meaning and related values:

- Even/Odd field to indicate the part of the page (0=even/1=odd) that is broadcast
- Page Type (1 bit) equal to 1 to indicate the alert page type
- CRC (24 bits) computed on the Page Type, Even/Odd field and on Reserved 1 (1/2 and 2/2). In alert mode the CRC is computed for the Even/ Odd pages of both frequencies E5b and E1-B (“horizontal CRC”).
- The Reserved 1 and Reserved 2 fields will be published in a future update of this ICD. Note that the reserved 2 fields are not protected by CRC.
- Tail bits (2\*6 bits) as defined in 4.3.2.2.

#### 4.3.3. I/NAV Nominal Sub-Frame Layout

In the nominal mode, the page sequence for I/NAV E5b-I and I/NAV E1-B components in every sub-frame is according to Table 41 where  $T_0$  is synchronized with GST origin modulo 30 seconds.

$T_0$ (GST $T_0$ sync.) (s)	E5b Sub frame ID	E5b-I Page	E5b-I Content					E1-B Content					E1-B Page	E1B Sub frame ID		
			Word 1 (1/2)	Word 1 (2/2)	Res	CRC	Res	Word 2 (1/2)	Word 2 (2/2)	Res	SAR	Spare	CRC	Res		
0	N	Even	Word 1 (1/2)					Word 2 (1/2)					Odd	N-1		
1	N	Odd	Word 1 (2/2)	Res	CRC	Res	Word 3 (1/2)					Even	N			
2	N	Even	Word 3 (1/2)					Word 4 (1/2)					Odd	N		
3	N	Odd	Word 3 (2/2)	Res	CRC	Res	Word 5 (1/2)					Even	N			
4	N	Even	Word 5 (1/2)					Word 6 (1/2)					Odd	N		
5	N	Odd	Word 5 (2/2)	Res	CRC	Res	Word 6 (1/2)					Even	N			

$T_0$ (GST <sub>0</sub> sync.) (s)	E5b Sub frame ID	E5b-I Page	E5b-I Content				E1-B Content						E1-B Page	E1B Sub frame ID
6	N	Even	Word 7 or 9 (1/2)				Word 6 (2/2)	Res	SAR	Spare	CRC	Res	Odd	N
7	N	Odd	Word 7 or 9 (2/2)	Res	CRC	Res	Word 7 or 9 (1/2)						Even	N
8	N	Even	Word 8 or 10 (1/2)				Word 7 or 9 (2/2)	Res	SAR	Spare	CRC	Res	Odd	N
9	N	Odd	Word 8 or 10 (2/2)	Res	CRC	Res	Word 8 or 10 (1/2)						Even	N
10	N	Even	Reserved (1/2)				Word 8 or 10 (2/2)	Res	SAR	Spare	CRC	Res	Odd	N
11	N	Odd	Reserved (2/2)		CRC	Res	Reserved (1/2)						Even	N
12	N	Even	Reserved (1/2)				Reserved (2/2)	SAR	Spare	CRC	Res	Odd	N	
13	N	Odd	Reserved (2/2)		CRC	Res	Reserved (1/2)						Even	N
14	N	Even	Reserved (1/2)				Reserved (2/2)	SAR	Spare	CRC	Res	Odd	N	
15	N	Odd	Reserved (2/2)		CRC	Res	Reserved (1/2)						Even	N
16	N	Even	Reserved (1/2)				Reserved (2/2)	SAR	Spare	CRC	Res	Odd	N	
17	N	Odd	Reserved (2/2)		CRC	Res	Reserved (1/2)						Even	N
18	N	Even	Reserved (1/2)				Reserved (2/2)	SAR	Spare	CRC	Res	Odd	N	
19	N	Odd	Reserved (2/2)		CRC	Res	Reserved (1/2)						Even	N
20	N	Even	Word 2 (1/2)				Reserved (2/2)	SAR	Spare	CRC	Res	Odd	N	
21	N	Odd	Word 2 (2/2)	Res	CRC	Res	Word 1 (1/2)						Even	N
22	N	Even	Word 4 (1/2)				Word 1 (2/2)	Res	SAR	Spare	CRC	Res	Odd	N
23	N	Odd	Word 4 (2/2)	Res	CRC	Res	Word 3 (1/2)						Even	N
24	N	Even	Word 6 (1/2)				Word 3 (2/2)	Res	SAR	Spare	CRC	Res	Odd	N
25	N	Odd	Word 6 (2/2)	Res	CRC	Res	Word 5 (1/2)						Even	N
26	N	Even	Spare Word (1/2)				Word 5 (2/2)	Res	SAR	Spare	CRC	Res	Odd	N
27	N	Odd	Word (2/2)	Res	CRC	Res	Spare Word (1/2)						Even	N
28	N	Even	Spare Word (1/2)				Spare Word (2/2)	Res	SAR	Spare	CRC	Res	Odd	N
29	N	Odd	Spare Word (2/2)	Res	CRC	Res	Spare Word (1/2)						Even	N
30	N+1	Even	Word (1/2)				Spare Word (2/2)	Res	SAR	Spare	CRC	Res	Odd	N

Table 41. I/Nav Nominal Sub-Frame Structure

#### 4.3.4. I/NAV Nominal Frame Layout

The I/NAV sub-frames containing almanac data are sequenced in a nominal frame according to Table 42.

<b>T<sub>0</sub> (s)</b>	<b>Sub-frame ID</b>	<b>E5b</b>	<b>E1B</b>
0	1	Word 7: Almanac SV 1 (1/2)	Word 7: Almanac SV 19 (1/2)
		Word 8: Almanac SV 1 (2/2) + almanac SV 2 (1/2)	Word 8: Almanac SV 19 (2/2) + almanac SV 20 (1/2)
30	2	Word 9: Almanac SV 2 (2/2) + almanac SV 3 (1/2)	Word 9: Almanac SV 20 (2/2) + almanac SV 21 (1/2)
		Word 10: Almanac SV 3 (2/2)	Word 10: Almanac SV 21 (2/2)
60	3	Word 7: Almanac SV 4 (1/2)	Word 7: Almanac SV 22 (1/2)
		Word 8: Almanac SV 4 (2/2) + almanac SV 5 (1/2)	Word 8: Almanac SV 22 (2/2) + almanac SV 23 (1/2)
90	4	Word 9: Almanac SV 5 (2/2) + almanac SV 6 (1/2)	Word 9: Almanac SV 23 (2/2) + almanac SV 24 (1/2)
		Word 10: Almanac SV 6 (2/2)	Word 10: Almanac SV 24 (2/2)
120	5	Word 7: Almanac SV 7 (1/2)	Word 7: Almanac SV 25 (1/2)
		Word 8: Almanac SV 7 (2/2) + almanac SV 8 (1/2)	Word 8: Almanac SV 25 (2/2) + almanac SV 26 (1/2)
150	6	Word 9: Almanac SV 8 (2/2) + almanac SV 9 (1/2)	Word 9: Almanac SV 26 (2/2) + almanac SV 27 (1/2)
		Word 10: Almanac SV 9 (2/2)	Word 10: Almanac SV 27 (2/2)
180	7	Word 7: Almanac SV 10 (1/2)	Word 7: Almanac SV 28 (1/2)
		Word 8: Almanac SV 10 (2/2) + almanac SV 11 (1/2)	Word 8: Almanac SV 28 (2/2) + almanac SV 29 (1/2)
210	8	Word 9: Almanac SV 11 (2/2) + almanac SV 12 (1/2)	Word 9: Almanac SV 29 (2/2) + almanac SV 30 (1/2)
		Word 10: Almanac SV 12 (2/2)	Word 10: Almanac SV 30 (2/2)
240	9	Word 7: Almanac SV 13 (1/2)	Word 7: Almanac SV 31 (1/2)
		Word 8: Almanac SV 13 (2/2) + almanac SV 14 (1/2)	Word 8: Almanac SV 31 (2/2) + almanac SV 32 (1/2)
270	10	Word 9: Almanac SV 14 (2/2) + almanac SV 15 (1/2)	Word 9: Almanac SV 32 (2/2) + almanac SV 33 (1/2)
		Word 10: Almanac SV 15 (2/2)	Word 10: Almanac SV 33 (2/2)
300	11	Word 7: Almanac SV 16 (1/2)	Word 7: Almanac SV 34 (1/2)
		Word 8: Almanac SV 16 (2/2) + almanac SV 17 (1/2)	Word 8: Almanac SV 34 (2/2) + almanac SV 35 (1/2)
330	12	Word 9: Almanac SV 17 (2/2) + almanac SV 18 (1/2)	Word 9: Almanac SV 35 (2/2) + almanac SV 36 (1/2)
		Word 10: Almanac SV 18 (2/2)	Word 10: Almanac SV 36 (2/2)
360	13	Word 7: Almanac SV 19 (1/2)	Word 7: Almanac SV 1 (1/2)
		Word 8: Almanac SV 19 (2/2) + almanac SV 20 (1/2)	Word 8: Almanac SV 1 (2/2) + almanac SV 2 (1/2)
390	14	Word 9: Almanac SV 20 (2/2) + almanac SV 21 (1/2)	Word 9: Almanac SV 2 (2/2) + almanac SV 3 (1/2)
		Word 10: Almanac SV 21 (2/2)	Word 10: Almanac SV 3 (2/2)
420	15	Word 7: Almanac SV 22 (1/2)	Word 7: Almanac SV 4 (1/2)
		Word 8: Almanac SV 22 (2/2) + almanac SV 23 (1/2)	Word 8: Almanac SV 4 (2/2) + almanac SV 5 (1/2)
450	16	Word 9: Almanac SV 23 (2/2) + almanac SV 24 (1/2)	Word 9: Almanac SV 5 (2/2) + almanac SV 6 (1/2)
		Word 10: Almanac SV 24 (2/2)	Word 10: Almanac SV 6 (2/2)

$T_0$ (s)	Sub-frame ID	E5b	E1B
480	17	Word 7: Almanac SV 25 (1/2)	Word 7: Almanac SV 7 (1/2)
		Word 8: Almanac SV 25 (2/2) + almanac SV 26 (1/2)	Word 8: Almanac SV 7 (2/2) + almanac SV 8 (1/2)
510	18	Word 9: Almanac SV 26 (2/2) + almanac SV 27 (1/2)	Word 9: Almanac SV 8 (2/2) + almanac SV 9 (1/2)
		Word 10: Almanac SV 27 (2/2)	Word 10: Almanac SV 9 (2/2)
540	19	Word 7: Almanac SV 28 (1/2)	Word 7: Almanac SV 10 (1/2)
		Word 8: Almanac SV 28 (2/2) + almanac SV 29 (1/2)	Word 8: Almanac SV 10 (2/2) + almanac SV 11 (1/2)
570	20	Word 9: Almanac SV 29 (2/2) + almanac SV 30 (1/2)	Word 9: Almanac SV 11 (2/2) + almanac SV 12 (1/2)
		Word 10: Almanac SV 30 (2/2)	Word 10: Almanac SV 12 (2/2)
600	21	Word 7: Almanac SV 31 (1/2)	Word 7: Almanac SV 13 (1/2)
		Word 8: Almanac SV 31 (2/2) + almanac SV 32 (1/2)	Word 8: Almanac SV 13 (2/2) + almanac SV 14 (1/2)
630	22	Word 9: Almanac SV 32 (2/2) + almanac SV 33 (1/2)	Word 9: Almanac SV 14 (2/2) + almanac SV 15 (1/2)
		Word 10: Almanac SV 33 (2/2)	Word 10: Almanac SV 15 (2/2)
660	23	Word 7: Almanac SV 34 (1/2)	Word 7: Almanac SV 16 (1/2)
		Word 8: Almanac SV 34 (2/2) + almanac SV 35 (1/2)	Word 8: Almanac SV 16 (2/2) + almanac SV 17 (1/2)
690	24	Word 9: Almanac SV 35 (2/2) + almanac SV 36 (1/2)	Word 9: Almanac SV 17 (2/2) + almanac SV 18 (1/2)
		Word 10: Almanac SV 36 (2/2)	Word 10: Almanac SV 18 (2/2)

Table 42. I/NAV Sub-Frame Sequencing

#### 4.3.5. I/NAV Word Types

The content of the I/NAV word types is stated in the following tables (see Chapter 5 for a description of the I/NAV word types contents).

##### Word Type 1: Ephemeris (1/4)

Type=1	IOD <sub>nav</sub>	Ephemeris (1/4)				Reserved	Total (bits)
		$t_{0e}$	$M_0$	$e$	$A^{1/2}$		
6	10	14	32	32	32	2	128

Table 43. Bits Allocation for I/NAV Word Type 1

##### Word Type 2: Ephemeris (2/4)

Type=2	IOD <sub>nav</sub>	Ephemeris (2/4)				Reserved	Total (bits)
		$\Omega_0$	$i_0$	$\omega$	$\bullet_i$		
6	10	32	32	32	14	2	128

Table 44. Bits Allocation for I/NAV Word Type 2

Word Type 3: Ephemeris (3/4) and SISA

		Type=3	IOD <sub>nav</sub>	Ephemeris (3/4)						SISA	Total (bits)
			•Ω	Δn	C <sub>UC</sub>	C <sub>US</sub>	C <sub>RC</sub>	C <sub>RS</sub>		8	128
6	10	24	16	16	16	16	16	16		128	

Table 45. Bits Allocation for I/NAV Word Type 3

Word Type 4: SVID, Ephemeris (4/4), and Clock correction parameters

		Type=4	IOD <sub>nav</sub>	SVID	Ephemeris (4/4)		Clock correction				Spare	Total (bits)
					C <sub>iC</sub>	C <sub>is</sub>	t <sub>0C</sub>	a <sub>f0</sub>	a <sub>f1</sub>	a <sub>f2</sub>		128
6	10	6	16	16	16	14	31	21	6	2		128

Table 46. Bits Allocation for I/NAV Word Type 4

Word Type 5: Ionospheric correction, BGD, signal health and data validity status and GST

		Type=5	Ionospheric correction						GST						Spare	Total (bits)				
			Az		Ionospheric disturbance flag				BGD(E1,E5a)		BGD(E1,E5b)		E5b <sub>HS</sub>	E1B <sub>HS</sub>	E5b <sub>DVS</sub>	E1B <sub>DVS</sub>				
			a <sub>i0</sub>	a <sub>i1</sub>	a <sub>i2</sub>	Region 1	Region 2	Region 3	Region 4	Region 5										
6	11	11	14	1	1	1	1	1	1	10	10	10	2	2	1	1	12	20	23	128

Table 47. Bits Allocation for I/NAV Word Type 5

Word Type 6: GST-UTC conversion parameters

		Type=6	GST-UTC conversion parameters								Spare				Total (bits)
			A <sub>0</sub>	A <sub>1</sub>	Δt <sub>LS</sub>	t <sub>0t</sub>	WN <sub>ot</sub>	WN <sub>LSF</sub>	DN	Δt <sub>LSF</sub>	TOW				
6	32	24	8	8	8	8	8	8	3	8	20	3			128

Table 48. Bits Allocation for I/NAV Word Type 6

Word Type 7: Almanac for SVID1 (1/2), almanac reference time and almanac reference week number

		Type=7	IOD <sub>a</sub>	WN <sub>a</sub>	t <sub>0a</sub>	SVSVID1 (1/2)								Reserved	Total (bits)
						SVID1	(Δa) <sub>1/2</sub>	e	ω	δ <sub>i</sub>	Ω <sub>0</sub>	•Ω	M <sub>0</sub>		
6	4	2	10	6	13	11	16	11	16	11	16	11	16	6	128

Table 49. Bits Allocation for I/NAV Word Type 7

Word Type 8: Almanac for SVID1 (2/2) and SVID2 (1/2))

Type=8	IOD <sub>a</sub>	SV <sub>SVID1(2/2)</sub>				SV <sub>SVID2(1/2)</sub>						Spare	Total (bits)	
		$a_{f0}$	$a_{f1}$	E5b <sub>HS</sub>	E1B <sub>HS</sub>	SVID2	$\Delta(A^{1/2})$	$e$	$\omega$	$\delta_i$	$\Omega_0$			
6	4	16	13	2	2	6	13	11	16	11	16	11	1	128

Table 50. Bits Allocation for I/NAV Word Type 8

Word Type 9: Almanac for SVID2 (2/2) and SVID3 (1/2))

Type=9	IOD <sub>a</sub>	$WN_a$	$t_{0a}$	SV <sub>SVID2(2/2)</sub>					SV <sub>SVID3(1/2)</sub>					Total (bits)
				$M_0$	$a_{f0}$	$a_{f1}$	E5b <sub>HS</sub>	E1B <sub>HS</sub>	SVID3	$\Delta(A^{1/2})$	$e$	$\omega$	$\delta_i$	
6	4	2	10	16	16	13	2	2	6	13	11	16	11	128

Table 51. Bits Allocation for I/NAV Word Type 9

Word type 10: Almanac for SVID3 (2/2) and GST-GPS conversion parameters

Type=10	IOD <sub>a</sub>	SV <sub>SVID3(2/2)</sub>								GST-GPS conversion parameters				Total (bits)
		$\Omega_0$	$\bullet\Omega$	$M_0$	$a_{f0}$	$a_{f1}$	E5b <sub>HS</sub>	E1B <sub>HS</sub>	$A_{0G}$	$A_{IG}$	$t_{0G}$	$WN_{0G}$		
6	4	16	11	16	16	13	2	2	16	12	8	6		128

Table 52. Bits Allocation for I/NAV Word Type 10

Word Type 0: I/NAV Spare Word

Type=0	Time	Spare								GST		Total (bits)
		WN	TOW									
6	2	88								12	20	128

Table 53. Bits Allocation for Spare Word

When the field ‘Time’ is not set to ‘10’, the fields WN and TOW do not contain valid data.

#### 4.3.6. I/NAV Dummy Message Layout

In case no valid I/NAV data is to be transmitted, the satellite generates and downlinks the dummy message on E5b-I and E1-B components replacing the pages in the nominal sequencing, according to the Dummy pages layout defined in Table 54.

E5b-I						E1-B												
Even/odd=0	Page Type	Dummy data (1/2)			Tail	Even/odd=1	Page Type	Dummy data (2/2)	CRC	Spare	Tail	Even/odd=0	Page Type	Dummy data (1/2)			Tail	Total (bits)
1	1	112			6	120	1	1	80	24	8	6	120					
Even/odd=1	Page Type	Dummy data (2/2)	CRC	Spare	Tail	120	1	1	112			6	120					
1	1	112	24	8	6	120	1	1	112			6	120					

Table 54. I/NAV Dummy Page with Bits Allocation

The parameters for the dummy page have the following meaning and related values:

- Even/Odd (1 bit) to indicate the part of the page (0=even/1=odd) that is broadcast
- Page Type (1 bit) equal to 0 to indicate the nominal page type
- Dummy Data (192 bits = 80 bits + 112 bits)
- CRC (24 bits): computed on the Even/odd fields, Type fields and Dummy data fields (1/2 and 2/2) for the Even/Odd page of the same frequency (“vertical CRC”), and the CRC is always broadcast on the second part of the “vertical page”
- Spare (8 bits). This field is not protected by the CRC
- Tail bits (2\*6 bits) as defined in 4.3.2.2. These fields are not protected by the CRC

The dummy data word is formatted according to Table 55, with

Type = 63	Dummy Sequence		Total (bits)
6	186		192
Dummy Data (1/2) (112 bits)		Dummy Data (2/2) (80 bits)	

Table 55. Dummy Word with Bits Allocation

- Word Type (6 bits) to indicate the word type dummy message, which is defined as type 63
- The dummy sequence (186 bits) is an arbitrary sequence

#### 4.3.7. SAR Field Structure

In the nominal mode the SAR RLM is transmitted only in the E1-B component. The SAR field structure for the E1-B component in nominal mode is formatted according to the values stated in Table 56. When an alert is present, the SAR data will not be transmitted

SAR Data			Total (bits)
Start Bit	Short/Long RLM Identifier	SAR RLM Data	
1	1	20	22

Table 56. SAR Field Bit Structure

The RLM identifier bit is described in the following table.

RLM Identifier Value	Description
0	Short RLM
1	Long RLM

Table 57. RLM Identifier Description

### SAR data in Nominal Mode

In nominal mode, 22 bits are allocated to SAR data in one E1-B I/NAV page. The SAR messages are formatted according to the values and structure stated in Table 58 and Table 59 respectively for the short RLM and the long RLM. This structure allows the downlink of a short RLM within 8 seconds and of a long RLM within 16 seconds. The content of the SAR data is provided in paragraph 5.2.

- Short RLM

Part (1/4)			Part (2/4)			Part (3/4)			Part (4/4)		
Start bit = 1	Short RLM	SAR RLM data	Start bit = 0	Short RLM	SAR RLM data	Start bit = 0	Short RLM	SAR RLM data	Start bit = 0	Short RLM	SAR RLM data
1	1	20	1	1	20	1	1	20	1	1	4
22			22			22			22		

Table 58. SAR Short RLM

- Long RLM

Part (1/8)			Part (2/8)			Part (3/8)			Part (4/8)		
Start bit = 1	Long RLM	SAR RLM data	Start bit = 0	Long RLM	SAR RLM data	Start bit = 0	Long RLM	SAR RLM data	Start bit = 0	Long RLM	SAR RLM data
1	1	20	1	1	20	1	1	20	1	1	4
22			22			22			22		

Part (5/8)			Part (6/8)			Part (7/8)			Part (8/8)		
Start bit = 1	Long RLM	SAR RLM data	Start bit = 0	Long RLM	SAR RLM data	Start bit = 0	Long RLM	SAR RLM data	Start bit = 0	Long RLM	SAR RLM data
Parameters (2/5)			Parameters (3/5)			Parameters (4/5)			Parameters (5/5)		
1	1	20	1	1	20	1	1	20	1	1	20
22			22			22			22		

Table 59. SAR Long RLM

### Spare SAR Data

In case no valid SAR data is to be transmitted, the satellite generates the spare SAR data field according to Table 60.

SAR Data		Total (bits)
Start Bit	Spare	
1	21	22

Table 60. Spare SAR Data

A SAR receiver will use the sequence of start bits (and only these) to identify SAR data parts belonging to SAR RLMs. Every time if both the currently received start bit and the start bit of the previous SAR data part are equal to one, the previous data part does not contain SAR relevant data.



## 5. Message Data Contents

This section describes the data items above mentioned. Semantics, formats and other characteristics are provided for all items to be transmitted inside frames.

### 5.1. Navigation Data

The navigation data contain all the parameters that enable the user to perform positioning service. They are stored on board each satellite with a validity duration and broadcast world-wide by all the satellites of the Galileo constellation. The 4 types of data needed to perform positioning:

- Ephemeris which are needed to indicate the position of the satellite to the user receiver
- Time and clock correction parameters which are needed to compute pseudo-range
- Service parameters which are needed to identify the set of navigation data, satellites, and indicators of the signal health
- Almanac which are needed to indicate the position of all the satellites in the constellation with a reduced accuracy

#### 5.1.1. Ephemeris

The ephemeris for each Galileo satellite is composed of 16 parameters, which are:

- 6 keplerian parameters
- 6 harmonic coefficients
- 1 orbit inclination rate correction parameter
- 1 LAN rate correction parameter
- 1 mean motion correction parameter, and
- 1 reference time parameter  $t_{0e}$  for the ephemeris data set

The ephemeris for each Galileo satellite is according to the characteristics stated in Table 61.

Parameter	Definition	Bits	Scale factor	Unit
$M_0$	Mean anomaly at reference time	32*	$2^{-31}$	semi-circles**
$\Delta n$	Mean motion difference from computed value	16*	$2^{-43}$	semi-circles/s**
$e$	Eccentricity	32	$2^{-33}$	N/A
$A^{1/2}$	Square root of the semi-major axis	32	$2^{-19}$	meters <sup>1/2</sup>
$\Omega_0$	Longitude of ascending node of orbital plane at weekly epoch	32*	$2^{-31}$	semi-circles**
$i_0$	Inclination angle at reference time	32*	$2^{-31}$	semi-circles**
$\omega$	Argument of perigee	32*	$2^{-31}$	semi-circles**

Parameter	Definition	Bits	Scale factor	Unit
$\dot{\Omega}$	Rate of right ascension	24*	2-43	semi-circles/s**
$\dot{i}$	Rate of inclination angle	14*	2-43	semi-circles/s**
$C_{uc}$	Amplitude of the cosine harmonic correction term to the argument of latitude	16*	2-29	radians
$C_{us}$	Amplitude of the sine harmonic correction term to the argument of latitude	16*	2-29	radians
$C_{rc}$	Amplitude of the cosine harmonic correction term to the orbit radius	16*	2-5	meters
$C_{rs}$	Amplitude of the sine harmonic correction term to the orbit radius	16*	2-5	meters
$C_{ic}$	Amplitude of the cosine harmonic correction term to the angle of inclination	16*	2-29	radians
$C_{is}$	Amplitude of the sine harmonic correction term to the angle of inclination	16*	2-29	radians
$t_{0e}$	Ephemeris reference time	14	60	seconds
<b>Total Ephemeris Size</b>		<b>356</b>		

Table 61. Ephemeris Parameters

\* Parameters so indicated are two's complement, with the sign bit (+ or -) occupying the MSB.

\*\* Note that the 'semi-circle' is not a SI unit but can be converted as: 1 semi-circle =  $\pi$  rad

A single ephemeris is applicable to all signals of a specific satellite. The ephemeris is computed with respect to the apparent CoP common to every frequency.

The user can compute the ECEF coordinates of the SV's antenna phase centre position at GST time  $t$  utilizing the equations shown in Table 62.

Constant	Description
$\pi = 3.1415926535898$	Ratio of a circle's circumference to its diameter
$\mu = 3.986004418 \times 10^{14} \text{ m}^3/\text{s}^2$	Geocentric gravitational constant
$\omega_E = 7.2921151467 \times 10^{-5} \text{ rad/s}$	Mean angular velocity of the Earth
$c=299792458 \text{ m/s}$	Speed of light

Computation	Description
$A=(A^{1/2})^2$	Semi-major axis
$n_0 = \sqrt{\frac{\mu}{A^3}}$	Computed mean motion (rad/s)
$t_k = t-t_{0e}^*$	Time from ephemeris reference epoch
$n = n_0 + \Delta n$	Corrected mean motion
$M = M_0 + nt_k$	Mean anomaly
$M = E - e \sin(E)$	Kepler's Equation for Eccentric Anomaly $E$ (may be solved by iteration)

Computation	Description
$\nu = \tan^{-1} \left\{ \frac{\sin \nu}{\cos \nu} \right\}$ $= \tan^{-1} \left\{ \frac{\sqrt{1-e^2} \sin E / (1 - e \cos E)}{(\cos E - e) / (1 - e \cos E)} \right\}$	True Anomaly
$\Phi = \nu + \Omega$	Argument of Latitude
$\delta u = C_{us} \sin 2\Phi + C_{uc} \cos 2\Phi$	Argument of Latitude Correction
$\delta r = C_{rs} \sin 2\Phi + C_{rc} \cos 2\Phi$	Radius Correction
$\delta i = C_{is} \sin 2\Phi + C_{ic} \cos 2\Phi$	Inclination Correction
$u = \Phi + \delta u$	Corrected Argument of Latitude
$r = A(l - e \cos E) + \delta r$	Corrected Radius
$i = i_0 + \delta i + [\dot{i}] t_k$	Corrected Inclination
$x' = r \cos u$ $y' = r \sin u$	Position in orbital plane
$\Omega = \Omega_0 + [\dot{\Omega} - \omega_E] t_k - \omega_E t_{0e}$	Corrected longitude of ascending node
$x = x' \cos(\Omega) - y' \cos(i) \sin(\Omega)$ $y = x' \sin(\Omega) - y' \cos(i) \cos(\Omega)$ $z = y' \sin(i)$	GTRF coordinates of the SV antenna phase center position at time t

Table 62. User Algorithm for Ephemeris Determination

\*  $t$  is Galileo System Time (see e.g. paragraph 5.1.2). Furthermore,  $t_k$  is the actual total time difference between the time  $t$  and the epoch time  $t_{0e}$  ( $t_{0a}$  for the almanacs) and it accounts for beginning or end of week crossovers.

### 5.1.2. Galileo System Time (GST)

The GST is given as 32-bit binary number composed of two parameters as follows:

- The Week Number is an integer counter that gives the sequential week number from the origin of the Galileo time. This parameter is coded on 12 bits, which covers 4096 weeks (about 78 years). Then the counter is reset to zero to cover additional period modulo 4096.
- The Time of Week is defined as the number of seconds that have occurred since the transition from the previous week. The *TOW* covers an entire week from 0 to 604799 seconds and is reset to zero at the end of each week.

The GST parameters are transmitted according to the characteristics stated in Table 63.

Parameter	Definition	Bits	Scale factor	Unit
<i>WN</i>	Week Number	12	1	week
<i>TOW</i>	Time of Week	20	1	s
<b>Total Galileo System Time Size</b>		<b>32</b>		

Table 63. GST Parameters

The GST start epoch shall be 00:00 UT on Sunday 22<sup>nd</sup> August 1999 (midnight between 21<sup>st</sup> and 22<sup>nd</sup> August). At the start epoch, GST shall be ahead of UTC by thirteen (13)

leap seconds. Since the next leap second was inserted at 01.01.2006, this implies that as of 01.01.2006 GST is ahead of UTC by fourteen (14) leap seconds.

The epoch denoted in the navigation messages by *TOW* and *WN* will be measured relative to the leading edge of the first chip of the first code sequence of the first page symbol. The transmission timing of the navigation message provided through the *TOW* is synchronised to each satellite's version of Galileo System Time (GST).

### 5.1.3. Clock Correction Parameters

The clock correction parameters are transmitted according to the values stated in Table 64.

Parameter	Definition	Bits	Scale factor	Unit
$t_{0c}$	Clock correction data reference Time of Week	14	60	s
$a_{f0}$	SV clock bias correction coefficient	31*	$2^{-34}$	s
$a_{f1}$	SV clock drift correction coefficient	21*	$2^{-46}$	s/s
$a_{f2}$	SV clock drift rate correction coefficient	6*	$2^{-59}$	s/s <sup>2</sup>
<b>Total Clock Correction Size</b>		<b>72</b>		

Table 64. Galileo Clock Correction Parameters

\* Parameters so indicated are two's complement, with the sign bit (+ or -) occupying the MSB.

Each Galileo satellite broadcasts its own clock correction data for all signals through the relevant signal, according to Table 65.

Message Type	Clock Model X=(f1,f2)	Satellite Time Correction Model Parameters	Services
F/Nav	(E1,E5a)	$a_{f0}$ (E1,E5a) $a_{f1}$ (E1,E5a) $a_{f2}$ (E1,E5a) $t_{0C}$ (E1,E5a)	Dual-Frequency (E1,E5a) Single-frequency E5a
I/NAV	(E1,E5b)	$a_{f0}$ (E1,E5b) $a_{f1}$ (E1,E5b) $a_{f2}$ (E1,E5b) $t_{0C}$ (E1,E5b)	Dual-Frequency (E1,E5b) Single-frequency E5b Single-frequency E1

Table 65. Galileo Clock Correction Data

### 5.1.4. Satellite Time Correction Algorithm

Each satellite transmits time correction data. The predicted offset of the physical satellite signal TOT relative to the satellite signal TOT in GST can be computed for the dual frequency signal combination using the following formula:

$$TOT_c(X) = TOT_m(X) - \Delta t_{SV}(X) \quad \text{Eq. 12}$$

where

- $(X)=(f_1,f_2)$  is the dual frequency combination  $f_1$  and  $f_2$  used for the clock model
- $TOT_c(X)$  is the corrected satellite TOT in GST for the signal combination  $X$

- $TOT_m(X)$  is the physical satellite TOT for the signal combination  $X$  retrieved through pseudo-range measurements
- $\Delta t_{SV}(X)$  is the satellite time correction for the signal combination  $X$  computed by means of the time correction data retrieved from the navigation message

This satellite time correction is modelled through the following second order polynomial:

$$\Delta t_{SV}(X) = a_{f0}(X) + a_{f1}(X)[t - t_{0C}(X)] + a_{f2}(X)[t - t_{0C}(X)]^2 + \Delta t_r \text{ (s)} \quad \text{Eq. 13}$$

where

- $a_{f0}(X)$ ,  $a_{f1}(X)$ , and  $a_{f2}(X)$  are defined in 5.1.3
- $t_{0c}(X)$  is the reference time for the clock correction as defined in 5.1.3
- $t$  is the GST time in seconds
- $\Delta t_r$  (s) is a relativistic correction term, given by  $\Delta t_r = F e A^{1/2} \sin(E)$  with the orbital parameters ( $e$ ,  $A^{1/2}$ ,  $E$ ) as described in paragraph 5.1.1 and  $F = -2\mu^{1/2}/c^2 = -4.442807309 \times 10^{-10} \text{ s/m}^{1/2}$

### 5.1.5. Broadcast Group Delay

The Broadcast Group Delay  $BGD(f_1, f_2)$  broadcast through the Galileo navigation message is defined as follows:

$$BGD(f_1, f_2) = \frac{TR_1 - TR_2}{1 - \left(\frac{f_1}{f_2}\right)^2} \quad \text{Eq. 14}$$

where

- $f_1$  and  $f_2$  denote the carrier frequencies of two Galileo signals
- $TR_1$  and  $TR_2$  are the group delays of the signals whose carrier frequencies are respectively  $f_1$  and  $f_2$ .

A single frequency user receiver processing pseudo-ranges from the frequency  $f_1$  applies the following correction to the SV clock correction  $\Delta t_{SV}$  which is defined in paragraph 5.1.4

$$\Delta t_{SV}(f_1) = \Delta t_{SV}(f_1, f_2) - BGD(f_1, f_2) \quad \text{Eq. 15}$$

A single frequency user receiver processing pseudo-ranges from the frequency  $f_2$  applies the following correction to the SV clock correction  $\Delta t_{SV}$  which is defined in paragraph 5.1.4

$$\Delta t_{SV}(f_2) = \Delta t_{SV}(f_1, f_2) - \left(\frac{f_1}{f_2}\right)^2 BGD(f_1, f_2) \quad \text{Eq. 16}$$

A dual frequency user receiver processing pseudo-ranges from the two frequencies  $f_1$  and  $f_2$  does not apply any additional correction for group delay. The Broadcast Group Delay is coded according to the values stated in Table 66.

Parameter	Definition	Bits	Scale factor	Unit
$BGD(E1,E5a)$	E1-E5a Broadcast Group Delay	10*	$2^{-32}$	s
$BGD(E1,E5b)$	E1-E5b Broadcast Group Delay	10*	$2^{-32}$	s
<b>Total Group Delay Size</b>		<b>32</b>		

Table 66. BGD Parameters

\* Parameters so indicated are two's complement, with the sign bit (+ or -) occupying the MSB.

Each Galileo satellite broadcasts its own BGD data for all signals, through the relevant signal according to Table 67.

Message Type	Type of Satellite Clocks	$BGD(f_1, f_2)$	Services
F/NAV	(E1,E5a)	$BGD(E1,E5a)$	Single-frequency E5a
I/NAV	(E1,E5b)	$BGD(E1,E5b)$	Single-frequency E1 Single-frequency E5b

Table 67. BGD Values Mapping on Messages and Services

### 5.1.6. Ionospheric Correction

The ionospheric model parameters include:

- the broadcast coefficients  $a_{i0}$ ,  $a_{i1}$  and  $a_{i2}$  used to compute the Effective Ionisation Level  $Az$
- the “Ionospheric Disturbance Flag” (also referred as “storm flag”), given for five different regions

These parameters are transmitted according to the characteristics stated in Table 68.

Parameter	Definition	Bits	Scale factor	Unit
$a_{i0}$	Effective Ionisation Level 1 <sup>st</sup> order parameter	11	$2^{-2}$	sfu**
$a_{i1}$	Effective Ionisation Level 2 <sup>nd</sup> order parameter	11*	$2^{-8}$	sfu**/degree
$a_{i2}$	Effective Ionisation Level 3 <sup>rd</sup> order parameter	14*	$2^{-15}$	sfu**/degree <sup>2</sup>
SF <sub>1</sub>	Ionospheric Disturbance Flag for region 1	1	N/A	dimensionless
SF <sub>2</sub>	Ionospheric Disturbance Flag for region 2	1	N/A	dimensionless
SF <sub>3</sub>	Ionospheric Disturbance Flag for region 3	1	N/A	dimensionless
SF <sub>4</sub>	Ionospheric Disturbance Flag for region 4	1	N/A	dimensionless
SF <sub>5</sub>	Ionospheric Disturbance Flag for region 5	1	N/A	dimensionless
<b>Total Ionosphere Correction Size</b>		<b>41</b>		

Table 68. Ionospheric Correction Parameters

\* Parameters so indicated are two's complement, with the sign bit (+ or -) occupying the MSB.

\*\* Note that 'sfu' (solar flux unit) is not a SI unit but can be converted as: 1 sfu =  $10^{-22}$  W/(m<sup>2</sup>Hz)

It is assumed that the ionospheric model corrects 70% of the ionosphere when operating on E5a, E5b, E6 and E1 frequencies. The effective ionisation level is computed according to the equation below where  $\mu$  is the modified dip latitude MODIP.

$$Az = a_{i0} + a_{i1}\mu + a_{i2}\mu^2$$

Eq. 17

The Ionospheric Disturbance Flag has the following values: [0>No disturbance,1:Disturbance] in the region, where the regions are defined as:

- region 1: for the northern region ( $60^\circ < \text{MODIP} < 90^\circ$ )
- region 2: for the northern middle region ( $30^\circ < \text{MODIP} < 60^\circ$ )
- region 3: for the equatorial region ( $-30^\circ < \text{MODIP} < 30^\circ$ )
- region 4: for the southern middle region ( $-60^\circ < \text{MODIP} < -30^\circ$ )
- region 5: for the southern region ( $-90^\circ < \text{MODIP} < -60^\circ$ )

### 5.1.7. GST-UTC Conversion Algorithm and Parameters

The UTC time  $t_{UTC}$  is computed through 3 different cases depending on the epoch of a possible leap second adjustment (scheduled future or recent past) given by  $DN$ , the day at the end of which the leap second becomes effective, and week number  $WN_{LSF}$  to which  $DN$  is referenced. “Day one” of  $DN$  is the first day relative to the end/start of week and  $WN_{LSF}$  is the Galileo week number modulo 256.

In addition to the parameters listed in Table 69, the following parameters are used in GST-UTC conversion algorithm:

- $t_E$  is the GST as estimated by the user through its GST determination algorithm
- $WN$  is the week number to which  $t_E$  is referenced, modulo 256

#### Case a

Whenever the leap second adjustment time indicated by  $WN_{LSF}$  and  $DN$  is not in the past (relative to the user’s present time) and the user’s present time does not fall in the time span which starts six hours prior to the effective time ( $= DN+3/4$ ) and ends six hours after the effective time at ( $= DN+5/4$ ),  $t_{UTC}$  is computed according to the following equations:

$$t_{UTC} = (t_E - \Delta t_{UTC}) \bmod 86400 \quad \text{Eq. 18}$$

$$\Delta t_{UTC} = \Delta t_{LS} + A_0 + A_1(t_E - t_{ot} + 604800(WN - WN_{ot}))$$

#### Case b

Whenever the user’s current time falls within the time span of six hours prior to the leap second adjustment time to six hours after the adjustment time,  $t_{UTC}$  is computed according to the following equations ( $\Delta t_{UTC}$  as defined in case a):

$$t_{UTC} = W \bmod (86400 + \Delta t_{LSF} - \Delta t_{LS}) \quad \text{Eq. 19}$$

$$W = (t_E - \Delta t_{UTC} - 43200) \bmod 86400 + 43200$$

#### Case c

Whenever the leap second adjustment time, as indicated by the  $WN_{LSF}$  and  $DN$  values, is in the “past” (relative to the user’s current time) and the user’s present time does not fall in the time span which starts six hours prior to the leap second adjustment time and ends six hours after the adjustment time,  $t_{UTC}$  is computed according to the following equation:

$$t_{UTC} = (t_E - \Delta t_{UTC}) \bmod 86400 \quad \text{Eq. 20}$$

$$\Delta t_{UTC} = \Delta t_{LSF} + A_0 + A_1(t_E - t_{ot} + 604800(WN - WN_{ot}))$$

The parameters for GST to UTC conversion are defined in Table 69.

Parameter	Definition	Bits	Scale factor	Unit
$A_0$	Constant term of polynomial	32*	$2^{-30}$	s
$A_1$	1 <sup>st</sup> order term of polynomial	24*	$2^{-50}$	s/s
$\Delta t_{LS}$	Leap Second count before leap second adjustment	8*	1	s
$t_{ot}$	UTC data reference Time of Week	8	3600	s
$WN_{ot}$	UTC data reference Week Number	8	1	week
$WN_{LSF}$	Week Number of leap second adjustment	8	1	week
$DN$	Day Number at the end of which a leap second adjustment becomes effective	3	1	day
$\Delta t_{LSF}$	Leap Second count after leap second adjustment	8*	1	s
<b>Total GST-UTC Conversion Size</b>		<b>99</b>		

Table 69. Parameters for the GST-UTC Conversion

\* Parameters so indicated are two's complement, with the sign bit (+ or -) occupying the MSB.

### 5.1.8. GPS to Galileo System Time Conversion and Parameters

The difference between the Galileo and the GPS time scales is given by the equation below.

$$\Delta t_{Systems} = t_{Galileo} - t_{GPS} = A_{0G} + A_{1G} [TOW - t_{0G} + 604800 \cdot ((WN - WN_{0G}) \bmod 64)] \text{ (s)}$$

Eq. 21

with

- $A_{0G}$  constant term of the offset  $\Delta t_{systems}$
- $A_{1G}$  rate of change of the offset  $\Delta t_{systems}$
- $t_{0G}$  reference time for GGTO data
- $t_{Galileo}$  GST time (s)
- $t_{GPS}$  GPS time(s)
- $WN$  GST Week Number
- $WN_{0G}$  Week Number of the GPS/Galileo Time Offset reference

The GGTO parameters are formatted according to the values in Table 70.

Parameter	Definition	Bits	Scale factor	Unit
$A_{0G}$	Constant term of the polynomial describing the offset $\Delta t_{systems}$	16*	$2^{-35}$	s
$A_{1G}$	Rate of change of the offset $\Delta t_{systems}$	12*	$2^{-51}$	s/s
$t_{0G}$	Reference time for GGTO data	8	3600	s
$WN_{0G}$	Week Number of GGTO reference	6	1	week
<b>Total GST-GPS Conversion Size</b>		<b>42</b>		

Table 70. Parameters for the GPS Time to GST Offset Computation

When the GGTO is not available the GGTO parameters disseminated are:  $A_{0G}$  (all ones -16 bits),  $A_{1G}$  (all ones - 12 bits),  $t_{0G}$  (all ones - 8 bits),  $WN_{0G}$  (all ones - 6 bits). When a user receives all four parameters set to all ones the GGTO is considered as not valid.

### 5.1.9. Service Parameters

#### 5.1.9.1. Satellite ID

The satellite Identification is coded with 6 bits and has the characteristics given in Table 71.

Parameter	Definition	Bits	Scale Factor	Unit	Values
SV <sub>ID</sub>	Satellite Identification	6	N/A	dimensionless	0...63

Table 71. Satellite ID

#### 5.1.9.2. Issue Of Data

The navigation data is disseminated in data batches each one identified by an Issue of Data. In nominal operation the navigation data (ephemeris, satellite clock correction and SISA) have limited validity duration depending on the data type. The identification of each batch by an Issue of Data (IOD) value enables:

- the users to distinguish the data in different batches received from each satellite
- to indicate to the user receiver the validity of the data (which have to be updated using new issue of navigation data)
- the user receiver to compute the full batch of data even if it misses some pages or start receiving the data somewhere during the transmission

Two IODs are defined for (Table 72):

- the ephemeris, satellite clock correction parameters and SISA
- the almanacs

Data Type	Bits	Unit
Ephemeris and Clock correction IODnav	10	dimensionless
Almanacs IODa	4	dimensionless

Table 72. IOD Values Mapping on Data Type

Each IOD has an associated reference time parameter disseminated within the batch.

Note, the broadcast group delay, ionospheric corrections, GST-UTC and GST-GPS conversion parameters, navigation data validity status and signal health status are not identified by any issue of data value.

#### 5.1.9.3. Navigation Data Validity and Signal Health Status

The signal health status and data validity status refer to the transmitting satellite. These status flags are used as service performance level notification (e.g. notification of satellite non availability). The navigation data validity status transmitted on E5a, E5b and E1, is coded on 1 bit, according to Table 73 and Table 74.

Parameter	Definition	Bits	Scale factor	Unit
E5a <sub>DVS</sub>	E5a Data Validity Status	1	N/A	dimensionless

Table 73. Data Validity Satellite Status (transmitted on E5a)

Parameter	Definition	Bits	Scale factor	Unit
E5b <sub>DVS</sub>	E5b Data Validity Status	1	N/A	dimensionless
E1-B <sub>DVS</sub>	E1-B Data Validity Status	1	N/A	dimensionless

Table 74. Data Validity Satellite Status (transmitted on E5b and E1-B)

The data validity status bit has the values shown in Table 75:

Data Validity Status	Definition
0	Navigation data valid (tbc)
1	Working without guarantee

Table 75. Data validity Status Bit Values

The E5a signal health status transmitted on E5a-l is coded on 2 bits according to Table 76.

Parameter	Definition	Bits	Scale factor	Unit
E5a <sub>HS</sub>	E5a Signal Health Status	2	N/A	dimensionless

Table 76. Signal Health Status for E5a (transmitted on E5a)

The E5b and E1-B signal health status transmitted on E5b and E1-B are coded on 2 bits according to the following table.

Parameter	Definition	Bits	Scale factor	Unit
E5b <sub>HS</sub>	E5b Signal Health Status	2	N/A	dimensionless
E1-B <sub>HS</sub>	E1-B Signal Health Status	2	N/A	dimensionless

Table 77. Signal Health Status for E5b and E1 (transmitted on E5b and E1-B)

The signal status bits have the values shown in Table 78.

Signal Health Status	Definition (tbc)
0	Signal OK
1	Signal out of service
2	Signal will be out of service
3	Signal Component currently in Test

Table 78. Signal Health Status Bit Values (definitions are tbc)

#### 5.1.9.4. Checksum

The checksum, which employs a CRC technique, is used to detect the reception of corrupted data. The checksum does not include the frame synchronisation pattern or the tail bit fields since these do not form part of the required message information. For the F/NAV and I/NAV data, a CRC of 24 bits is generated from the generator polynomial G(X) described below.

$$G(X) = (1 + X) P(X) \quad \text{Eq. 22}$$

P(X) is a primitive and irreducible polynomial given by the following equation.

$$P(X) = X^{23} + X^{17} + X^{13} + X^{12} + X^{11} + X^9 + X^8 + X^7 + X^5 + X^3 + 1 \quad \text{Eq. 23}$$

The CRC is composed of a sequence of 24 parity bits  $p_i$ ; for any  $i$  from 1 to 24,  $p_i$  is the coefficient of  $X^{24-i}$  in  $R(X)$  where:

- $R(X)$  is the remainder of the binary polynomial algebra division of the polynomial  $m(X) X^{24}$  by  $G(X)$  and
- $m(X) = m_1 X^{k-1} + \dots + m_{k-2} X^2 + m_{k-1} X + m_k$  with  $m_1, m_2, \dots, m_k$  the sequence of  $k$ -bits information to be protected by the CRC, and  $m_1$  as the MSB.

### 5.1.10. Almanac

The almanac data is a reduced-precision subset of the clock and ephemeris parameters of the active satellites in orbit. The user receiver utilises the algorithm described in paragraph 5.1.1 to compute the positions of the Galileo satellites. All other parameters appearing in the equations of Table 62, but not included in the content of the almanac, are set to zero for satellite position determination.

The Galileo almanac orbital parameters consist of

- Mean of semi-major axis
- Eccentricity
- Inclination
- Right ascension of the ascending node
- Argument of perigee
- Mean anomaly

A reduced set of clock correction parameters is provided as well in the almanac for each satellite including the time of applicability  $t_{oa}$  of the almanac data. This almanac reference time  $t_{0a}$  is referenced to the almanac reference week ( $WN_a$ ). The  $WN_a$  term consists of two bits which is a Modulo 4 binary representation of the GST week number.

Additionally, a predicted satellite health status is provided for each of these satellites, giving indications on the satellite's signal components health and navigation data health. Finally, the  $IOD_a$  allows identifying without ambiguity an almanac batch. The almanac parameters are transmitted according to the characteristics stated in Table 79.

Parameter	Definition	Bits	Scale factor	Unit
SVID	Satellite ID (1 constellation of 36 satellites)	6	1	dimensionless
$\Delta(a^{1/2})$	Difference with respect to the square root of the nominal semi-major axis (see Table 61)	13*	$2^{-9}$	meters $^{1/2}$
$e$	Eccentricity	11	$2^{-16}$	dimensionless
$\delta_i$	Inclination at reference time relative to $i_0 = 56^\circ$	11*	$2^{-14}$	semi-circles***
$\Omega_0$	Right ascension	16*	$2^{-15}$	semi-circles***
$\dot{\Omega}$	Rate of right ascension	11*	$2^{-33}$	semi-circles/s***
$\omega$	Argument of perigee	16*	$2^{-15}$	semi-circles***
$M_0$	Satellite mean anomaly at reference time	16*	$2^{-15}$	semi-circles***

Parameter	Definition	Bits	Scale factor	Unit
$a_{f0}$	Satellite clock correction bias “truncated”	16*	$2^{-19}$	s
$a_{fl}$	Satellite clock correction linear “truncated”	13*	$2^{-38}$	s/s
$SV_{status}^{**}$	Satellite signal health status	2 (F/NAV) 4(I/NAV)	NA	dimensionless
<b>Total Satellite Almanac Size</b>		<b>131(F/NAV) 133(I/NAV)</b>		
$IOD_a$	Almanac Issue Of Data	4	NA	dimensionless
$t_{0a}$	Almanac reference time	10	600	s
$WN_a$	Almanac reference Week Number	2	1	week
<b>Total Almanac References Size</b>		<b>16</b>		

Table 79. Almanac Parameters

\* Parameters so indicated are two's complement, with the sign bit (+or-) occupying the MSB

\*\* The F/NAV almanac transmitted by the E5a-I component contains the signal health status  $SVB_{status}(E5aB_{HS})$  coded on 2 bits. The I/NAV almanac transmitted by the E5b-I and E1-B components contains both signal health status  $SVB_{status}(E5b_{HS})$  and  $SVB_{status}(E1B_{HS})$  coded on 2 bits each.

\*\*\* Note that the ‘semi-circle’ is not a SI unit but can be converted as: 1 semi-circle =  $\pi$  radian

### 5.1.11. Signal In Space Accuracy

The signal In Space Accuracy (SISA) definition will be published in a future update of this SIS ICD.

## 5.2. SAR Data

Each Return Link Message encapsulated in a SAR data page contains the following data

- Beacon ID (60 bits). This field is used by the beacon to discern whether the RLM received is addressed to itself or to some other beacon
- Message code (4 bits) defining the message type
- Parameters field (16 bits for the short RLM, 96 bits for the long RLM). This field provides the information that SAR operators wish to send to the Galileo-equipped beacon.

Short RLMs are used to provide the activated Galileo-equipped beacon with a short acknowledgement or various kinds of commands (e.g. to reduce its transmission rate). Long RLMs are intended for more complex commands in which several parameters may be required (e.g. to contain operational information or the coordinates of a location).

## 6. Annex A - List of Acronyms

AltBOC	Constant envelope modulation scheme for combining two sidebands each consisting itself of two binary signals (in I- and Q-component).
BGD	Broadcast Group Delay
CDMA	Code Division Multiple Access
COSPAS-SARSAT	Cosmicheskaya Systyema Poiska Avariynich Sudov - Search and Rescue Satellite Aided Tracking
CRC	Cyclic Redundancy Check
CS	Commercial Service
ECEF	Earth-Centered, Earth-Fixed
FEC	Forward Error Correction
GGTO	Galileo/GPS Time Offset
GPS	Global Positioning System
GST	Galileo System Time
ICD	Interface Control Document
ID	Identification
IOD	Issue Of Data
JTIDS	Joint Tactical Information Distribution System
LAN	Longitude of the Ascending Node
LSB	Least Significant Bit
CBOC	Composite Binary Offset Carrier modulation
Mcps	Mega chips per second
MHz	Megahertz
MIDS	Multifunctional Information Distribution System
MSB	Most Significant Bit
MUX	Multiplexer
N/A	Not Applicable
OS	Open Service
Q	Quadrature Component
QPSK	Quadrature Phase-Shift Keying
RF	Radio Frequency
RHCP	Right-Hand Circular Polarization
RLM	Return Link Message
SAR	Search-and-Rescue Service/Signal
SIS	Signal-In-Space
SISA	Signal In Space Accuracy
SNF	Satellite Navigation Frame
SoL	Safety-of-Life Service
SV	Space Vehicle
SVID	Space Vehicle IDentifier
TACAN	TACtical Air Navigation (system) equipment
TOT	Time Of Transmission
TOW	Time Of Week
TTF	Time To Fix
UTC	Universal Time Coordinated
WN	Week Number

## 7. Annex B - Definitions and Nomenclature

E5-Signal	The Galileo E5-signal consists of the signals E5a, E5b (and modulation product signals) and is transmitted in the frequency band 1164 - 1215 MHz allocated to RNSS with a worldwide co-primary status. The E5-signal shares the band with the co-primary Aeronautical Radionavigation Service (ARNS) (ITU-R Radio Regulations). Moreover, it shares the band with other RNSS-signals provided by EGNOS, GPS-L5, GLONASS etc. as well as signals of the ARNS (DME, TACAN). Also found in the band is the JTIDS-MIDS signal which is permitted on an NIB.
E5a-Signal	The Galileo E5a-signal is an inherent element of the E5-signal and consists of a data-component transmitted in the in-phase component and a pilot-component transmitted in the quadrature component. The E5a-signal provides the F/NAV message supporting Galileo Open Service and overlaps (in the spectrum) with the GPS-L5-signal.
E5b-Signal	The Galileo E5b-signal is an inherent element of the E5-signal and consists of a data-component transmitted in the in-phase component and a pilot-component transmitted in the quadrature component. The E5b-signal provides the I/NAV message and supports Safety of Life service, Galileo system integrity and Open Service.
E6-Signal	The Galileo E6-signal consists of the signal components E6-B and E6-C and is transmitted in the frequency band 1215 - 300 MHz allocated on a worldwide co-primary basis (ITU-R Radio Regulations), sharing with radar systems of the radio navigation and radiolocation service. The signal components E6-B and E6-C are data-component and pilot-component respectively. The E6-signal provides the C-NAV message and supports Commercial Service.
E1- Signal	The Galileo E1-signal comprises the signal components E1-B and E1-C and is transmitted in the frequency band 1559 - 1610 MHz allocated to RNSS and ARNS on a worldwide co-primary basis (ITU-R Radio Regulations). The signal components E1-B and E1-C are data-component and pilot-component respectively. The E1-signal provides the I/NAV message and supports Safety of Life service, Galileo system integrity and Open Service.
Navigation Data Stream	Sequence of bits carrying the navigation data information by using a frame structured transmission protocol.
F/NAV Message	Freely accessible navigation message provided by the E5a signal for Open Service.
I/NAV Message	Integrity navigation message type provided by E5b and E1-B signals, supporting Safety of Life Service and providing extended system integrity information.
C/NAV Message	Commercial navigation message type provided by the E6-B signal supporting Commercial Service.
Data component	A data component is the result of modulating ranging code, sub-carrier (if present) and secondary code with a navigation data stream.
Pilot component	A pilot component (or dataless component) is made of ranging code, sub-carrier (if present) and secondary code only, not modulated by a navigation data stream.
Receiver reference bandwidth	The bandwidth of a hypothetical receiver with ideal (rectangular frequency response) input filters

## 8. Annex C - Galileo E1 and E5 Memory Codes

### C.1. Introduction

This annex provides the optional memory based primary codes (expressed in hexadecimal format) for the Galileo Open Signal components E5a-I, E5a-Q, E5b-I, E5b-Q, E1-B, E1-C.

### C.2. Hexadecimal Coding Convention

Generally, one hexadecimal symbol (0,..,9, A,..,F) corresponds to four succeeding code-chips. The leftmost code-chip corresponds to the first code-chip in time, and the rightmost code-chip corresponds to the last code-chip in time. The first group is built with the first four code-chips, the second group with the fifth to eighth code-chip etc.

For primary codes whose length is not dividable by four, the last hexadecimal symbol is built from the last group of code-chips, filled up with zeros at the end in time (to the right) to reach a final length of 4 binary symbols. The translation from the chip-stream to hexadecimal symbol stream is illustrated with an example code of length 10 in the next table.

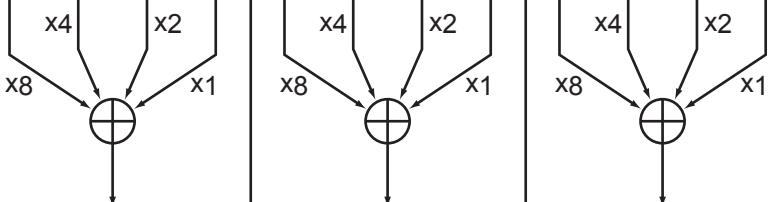
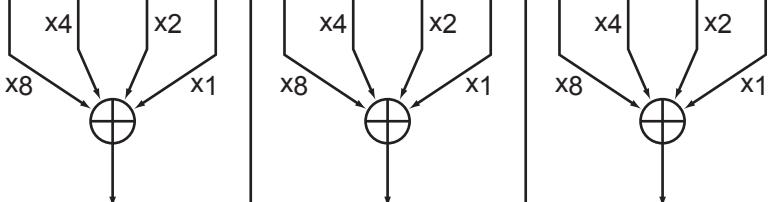
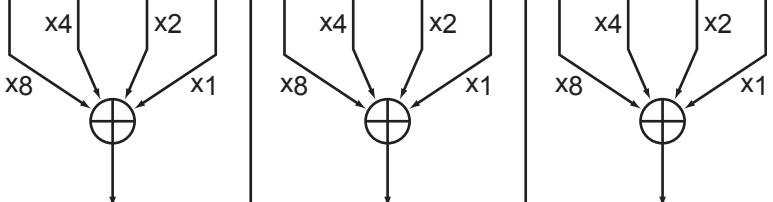
Time (in Chip)	1	2	3	4	5	6	7	8	9	10	11	12
Logic Representation of Chip-Values	1	1	1	0	1	1	0	0	0	1	-	-
Logic Representation Filled up with Zeros at the End	1	1	1	0	1	1	0	0	0	1	0	0
Logic to Decimal Translation												
Decimal Representation	14	12	4									
Hexadecimal Representation	E	C	4									

Table 80. Example for the Translation of Logical (binary) Spreading Code into Hexadecimal Representation

The following table summarizes these code properties.

Component	Primary Code Length (chips)	Number of Hexadecimal Symbols	Number of Filled up Zeros	Number of Defined Codes
E5a-I	10230	2558	2	50
E5a-Q	10230	2558	2	50
E5b-I	10230	2558	2	50
E5b-Q	10230	2558	2	50
E1-B	4092	1023	0	50
E1-C	4092	1023	0	50

Table 81. Primary Code-Length and Hexadecimal Representation Characteristics for the Galileo Signal Components.

### C.3. Primary Codes for the E5a-I Component

#### E5aI Code No 1

3CEA9DA7B07B13A6CC0AE53DAD1EE2A0FCC70009338C08AC0EE457F76A1690815C3C940AB7224  
 87CC8F3D1F4C428828E7FD2A21230E42A3BBDF1E792165F644D0E0335F95EBDC93D6005CC0C68  
 0DB7B0E1B8C4946B7974319F9816141DB9E01011E4F20DA8F1B8E15A6F618CF599C3F5C1A1B27  
 6D51318ED4119BCE0ACD0332F3DD8F88EC5215AB311C51FF4987D93B09A43BA84CF08032F6CB  
 28F43043C54586811D870AD6FA27AA63785345C8BCDD3DA26A0134738BC7E08461D5409FF0B79  
 1D8574CE797FC5EF7821055028CB4AF92AE1088F8806CD55F0E5FDFCD8D74ED801B2B44AD5D79  
 D1924D41DDC6AB2070B5360CB64CCF487FE517420348CC39BF50BDF78BE7DA91542FEAB689457  
 B3EE69E43C75FADC303F31032FD96B7DC70A88C3B7AC7322B285D9CFB3A93AC8B890165F2384  
 8FAD8477DBDD3D0AA4CB3CD73A48000B6D134DA2DA70B56E590A101AEE78864DA0C64A7BCC6B3  
 7CD6F31E9AFF10CA4D47630752D253944632DF6EC60AECD223F29399CDA3B74D1DFA5471277  
 EE6C814464A8C55D3C0B83B36B6AC9FA90CE876ACDF65E3EA3FD61D309EB71ED29A3D510B2F4C  
 OB6D6C5B57EC9060CFBE48389DCB17CBB2284E7F578565B91503B06F49CF3E8534870AEB6AD97  
 07265A9A1E6E2E5E6DF6DAA367239A96EF5B02C19A4543D537EB4D9D73966C09E9B52B4706F57  
 B3E0987885EB84DEA26F7823D895F62015188ED38C04CC6714F797FDB0BC713E3D0208462F9A6  
 8E3872A167BF1BF9791AEE8BB73CF527C50975B55C4E5C2F2E95B677F833ECC878D1764839608  
 CC1108A75EE9E58FFCFE4CB52884E7AF15EE0632E0729DA1CF5B7A227028CFE1E08F8B881E1A7  
 43D52DD27BED33DE0EE75D0C31B4864CF192DEAF64F726D73321363A233F81C57232432D2B0A  
 5A4C44F4320847A9C143F378F204185D2B571482FE45D6BCA152E6EA7223BFC6DCE06CEF90CE9  
 114623EAB9B1EC789B2051B4AB711DABF5B16FCD970F437B8860313B4F1F14D384EE3976B7E55  
 D2FDCB7E1BD9B18B722E37C853ADC7E1CC2870A02881F95B78487780E1D1C296415109CF07AB  
 63D0782A9F451CBE3B8919917AEDBCA8A8E563AD3784639793E0F25CC9CC62240FA04B2F141  
 E71BF5C84EAC56431159556B8BCE077A51469A87737D3D6F06D97DD479FCC35129F4499C19EF9  
 8BDCEA9D4941B3756CDE1997C3AFCAE62B6D9E23341E11CD05A7FFF52F5814011A84D737E1264  
 109006BEF5F19E3C6A9C7521B44741A8282755A8F0DC2FA0E1F6CA4FB34D8CD5FAA27E1880886  
 8725B9634376137C1BBC46934F83958112D03082DDD6148F353BD1DD24B9F8FD7AD89C40DA0A9  
 2A8DBE3608038CD56FFC4ACA35241D76FAC4CAE1211AAD9D73D51C81C59BCE05F71C345730D3A  
 2C670F8F533A950EF24B00EFE6A3F1354694ABC6FD9E4C4E74DDE1F287AD4F847A297ECCCC39A  
 F029EFCDDDB19932D906B9CEDFCBE0D422CEE305DD05E407340F28EEE866664D60AF293A45D5  
 D6D5C0000B05F79463DB513ED488DE7BD4EC9ACFEF973B23CE4E9539EFCB797456CF5FD1EC54  
 FDCEE80B39063C48B91A5C2D2BEB81B9B46D0AD6503B5E5AACED2BA5E81F630B4E07510356E  
 8229F7FC5E5A32B8729CDB819E066A15379AC6942CD4BC5E97C6791E098105C323A3A3DA3880D  
 5EE5562ABBA2BDC906F4486B51ACF8AA4405E9D7A63DB9E3058782DD9AF3995FFB3D34AEF982  
 34A0B3DC62C339325B60706C068F0198BD8FA658396D06931B069155217690C7F88FD230CDB38  
 E3E48530BD47722FC

#### E5aI Code No 2

9D8CF144C4B667345D44F765622A956CAC4E097AB1CAB05CFBCC6BB68C709503AD9DB09C09C98  
 3D46A04A05B6F7EB26DB4D46F868C10E112828B1AEDB3C0074BE0DE3C9B7821BAB84F8B8E24F6  
 9869CCD981B09A783BF6A95F39ECFAF25DED6B16F89EA09D3A8413CCCEBB545651B363DD385D12  
 BB72420440C40E804FA27D0E29A1E08629BA598C035DC58FDD309844F3BEBDE40FC231F386  
 05DED06572ADD85DC51D3D8B89B4480143D0B75283522354330E5CCF4DE1A6E68047D5B8D45D8  
 35A891F2D40C9DB8A76CEB1D18FE2BC38D080A8D97064C87D692DF21184ABFDDA7642D0BD6F3  
 209D06B4AE7600F7DDDB71DA751120599117ECCE645FD109CCA2EC7DB98F4177F14DB854FEB31  
 4B5D7CDC3385AD203464EADEAFF4AD08DFEF3D21240BFB8EFCAC1356C72A0F5C61BE03CD2A21  
 A7D756FA9003D562FC4A49A6BE788EC8D80054ACA881DFFF72C2966EECD09F185EDD11218C669

6DB14E05FFF3644D11E508F4F1E9C5AB3074FB1C3FB21092A1C8D5AE05688FA4A9226C3C30D0B  
C3981933DC8648240F8CB67085F53AC5295428DC8447A1E5A46C2BA86796982C4C6CC647FD807  
9BC4024BB69E2B226E6F3D0F8A90B4D36DA2AED4C6BB60D318AA7479FDC2031143C67CB4381C2  
7072E12935001524C7BECEDAA9954BCC2AA218E9EC2C95498FD8DF655C015896D9ED42CE7F91C  
BBA2CC4A7920038EBB5F5CE638F969F8B179E72AE252BE7E826E5CB53C2E85AAF1E1F1AD8D534  
F78A681928818AC3154651FFC583DEB0A6A1F40B98771ACC528AAF80D210ADA83597869968D4  
99ADE9A19BAF341E8CBA20F0E1473BDD898C24C7A5466F9924EC7EE992A2086AF295BEE1F6D0F  
8843D91180BF2C981C11FD978B23B6BAF7786BD526B458B76A87C31D7C52DFA43F3D362C8EEFF  
FB3FE5FB3F6E5F34B1FEC7EF1031146F3F609B32677F148F7DEBCF3526BB45582436A30924081  
93D6312626E46ECFA96FEAD12A234CAC10FAF9DE75EE2D238088146328E10E9ECDBB0B018ECD  
F2725415CF5A06AAB857403BBF6CBFC350903A982864827988BC805A3484A31FECF7A40D4FE25  
1BC7E487613B9D3A48D3C7DAEFD49C4B7E625F868DB53A798515A61050978552699EF2A5BF2F  
13BDD444EADC9B60B479FDD4633EB4C1062AA78BE06692DED203819D3160310FD7F234373215  
6A9CBCB0B50BA9A8F93E339B702670E54BFA6DB2E2E773202C690FB71EB03671AB0B1B02B2F18  
9BD99061ADD23F75F4914067AE638C9A29DD3661C28AE272CE692CBDE6AE880FBCF272E548342  
372CBAF6370C7E3AE9648341CE7310BE1C534B5702B0611AF65868F840B6B7613FDAEA21DEFB4  
F2024487023B02B8B58C9E9F27AA787EE775249EFC40913CBD69C38538F239B203815F007B9  
CB30DC79E6A0C3E069D109E4A1BAEEE36D354C3D0121F1342F1F4AC504A68D69DEC158D54B04B  
E8164B48F31BC0827A0379C5237070B6F963741AD9ED4F3865698FB8233D7F49ED4E0EEF3AD92  
7CBAF4FAE183252BC56AE4CDE3E329B1D9C87C6C11429B15B8EE589213CFAC208A12AA01B4F1F  
7CC35CD0AAEAE217471B3DAC1C279F353DC61994FC45FEDBBE0005D8EC729385645864EF98A3A4  
17E62F1EACA7E60D4E773BB2E4024D62830F103A7988733D7BBCF3AB0CD0049006FE2F7EB382  
1724BEC37EAE44681A9699A025D212724CD98CA3415FE2BD09FADC02F1501FA38A6083427B662  
DDCBD0460E12A09072698EC8966C47B8A640AC79C1B7722E78A6C28680F4BB77BBA477BE0A6FA  
B959B9753217C5708

---

#### E5aI Code No 3

45D1C8FF162EE106CC87C3EBF6A837930F8CC797EC7A446E8A213ABD239582350636B19B5BE42  
8A9C13F980B7AF5CD7F32630AFE8693CDF0EC0BC2C84F2472F5B86576E8C43136C14717A24705  
953D392BAC96C1055B782C7941D82FEA357E5FDEFF772FB9F3DF248455CADEAC4CBA2EBA9C911  
84006D1680E000D59E4BC8FBE2C2F7CC2E78BFA5B60EB292F244E6CF497D5A287432F2520B31B  
9D9FEC1210923299EDFF043CE077195509E92372F5959AAB4666AE486DEFA400D81463C388CD0  
5C677BFD4953D2627105B0A776960FEE916C75D53981D30DC689581B7E8E0723D65949662ECFA  
A6FCC9FOCE8892E367721718F906207663F9AD450AE98D75DF004080FC15DC2CD7A1DCE013A0E  
547ADDC29A397ECB9E7FA02035327AC40240E2091098708D424563AB7C5867F3F2D78EE3EF5B6  
58FDDDBD49435060CA2EA3D559CDE957B7E48B98DB41CF875F7B3D9EBDF6547B4EDD98DF4B747B  
0793152FA8CC07C6D9EE5A2002464566D86466C2EDE54A2BF4BBE823049E57364C127A14BFE1B  
88ECF70E8B81EB831BBF50F6AE124E5F6A775F3F2620E91D489CCF24811C0890EF905E9E2ACD3  
99E13DC81333A54BDD295B872EB74E412E2FB654A9874854FBC3A68C73434C5FC5CED27534B2B  
13C316205FF4E432FAFC13A7B57A7FFA9FEEDB5A69036F8F2955DA124CE5856E8C53F24E609  
F7D3386DC5212B2E78B5AA23B59D45FE98AA08E9CFAA9D52ED260A36AF07522C047ED43808A39  
D7019E444EDF84D885A9AC84092A0F6BFED562F3E0D79FB5CF62F98E67EF219FA3F5AEB7D4E34  
4642D3D4B1A7EEA18464F6CE8D4CB3181D9EBF6F4122751B54D0D7F3FC470A91B547148AAC1CA  
0DF59872120190640555A7561B0F2C11280768F74B1A56674FD5480B0F510491431810D99CECB  
C6DB85888BACBE2B020FB8B3D78039773229714156494EAEC3A2D0A59E718F72205747D69C05D  
DF1C678E2E154A1F84EFOCA2E24DC4A6A996F0850A396D2432596EAE84AEC0935B8C25D5C65B5  
2A32722F01D281C4F753EE03EB10020E9FA02462CA303DA39560669637532D381EB78AE5EC0F6  
DBF6273EC979442E6243F65FC51F26C6C9554C6C0E3EFF33BC4EAB6A27CAB9383BE7DDDE4218C  
4998033B47919503F1C9A789711FBEAAD6C0298B3DC563F54D28675260F6D896F1B8D4FD0001C  
429210398E9544B3DAA12C31F7EE82EF4D2234E26F873610B76756DDACD24B6132BCFFE735FE7  
5513ED527DD04D7DC6D24059F85706679DCD1474A9DB9571426BE17E6DEBA58B33B708567697F  
471CA8B78E8FA73B0E18CB6F88BF9E4F442F0FC21FAB89305484828F18B65F9D373A6A2B380D7  
3F5924F80DA234C1DD8741D025E4E663C96F287B0C83DC92C2164D81830781B715209FD11A65  
E64962D805389BAAA91DFBB990D3511E506A8EC101131C5B7284252F861D047DB2C2027DBAAD4  
87ABFE429CA21CBEA7671350618E441F4D62F2D579CAE29D97023A8873869B553293D9F54D4A9  
29E252AF132325A6E3BCBF7B36D0DAFA1E56A39A5D801FD0D5A4111017BF62AAF8346C7D424F  
E007C32B437ADE60AA9540AA5078FE6C3C3CCEA53EE863086646C976FE6C79434A0AA4F53B2E  
9E2C3B4CF9C9C4015391E27CDFF5C1FCCCC00BBF5B99715A1265F591E294D530DB14DFD485AD3

4BBCEA32E5B5D0EED15F88BF5D96D058E6D70BB1A232597E35A625E5E8C2EF5E7031A71F70309  
019A0591BA0A50E87C839498255A3602C0FAE53166BE5E49E29D24AEC47002B698F80FC49E718  
B66A8959259ACC540

---

**E5aI Code No 4**

7A0133D5CC3754D6B259A2CC4EC0298111D098CDFB40549E5C40B36A2846CB4B256672BA189CD  
3A05293BB36B167508A7BECAC3110BFF339BA06340585DE8EDA03AD244A77F54B7931610B6F9C5  
C54D688A0526A9B52605BD7DB01A63F3D1565CF78ED904B8E4AFA4A290EADFE9DC156E59BAC  
162A818B6CDF38D2BC715144D44A1578BFC72742377784D15ACFE80FACAB61F9E58B5D3FFDDB  
065A00C5D49DF0237EA6C488D7758F1A689DC59DBFF78261016A7C723FE52FFE571F5876FE0ED  
50FB00A90BB82B27BCAF5A67374284844E06BB1B2D84B1D20228F5C2208CA7E8EEC2E95027B09  
372A309223A15C132543FF3A89B7AFBA56AA7A8DBE70E0805D3A54191CC6884D75ED0FC00C06D  
9D488B0F4816E12D6C2A4324EF742AC8FF885E42100849DA05E3B7C451D43ADBEDFD13076CD  
8D22BDA101F665B5878E321A009B970D1F4C48503CE35365543B3F36786802E5C53FDD756C595  
784E4F130904044660784ECD9C9161477F5BCEFC98987540AD1E86CABD3EC7823D83877605FFC  
79820F1381DA29282C3C5B3443B6A67973F0622EA5DAA14FA239542EB140082F242958B390144  
86E5D5632C62C3EC8BE0E09E038C0ABD52B1322E0F7407FA53AE8D761858136CB371AED5E6FC9  
D32CADCF870EE833B7120BC0278D9A05554D90DBEB24ED6F5A8861698D48B4BF7AF7763C140  
1572643E246DC65853996B0480D38DB7302364409357137DCD0B416561B9511BA43CA34341FEF  
7954C28B2D9FF96EA110E0818309C32AD306DA077CC911299FAD6396C872F3F6AF7871395D7E6  
7879EFED929E4C05AB4C09E8BB396048150A4161D7944CB99C94DD16CD8E0D8BB73768B17EC0  
2C0D4206AF623037D6F4257DAB4C07B4A6C0B4D2E0C9923FBAD3DFF7FDAB45F4E6BC5A895FAE  
4F5BB9EA247F2D4446E260F7988C452203EEA1DFA64DEC2DCC090BB3ABE13F6A8718F8DA2BE55  
1407B59B8EF1806A65526B6B872CB8922BB929F09341554A71E69B41B60987FE3A5E7E3424D94  
7455083A827FFE27FB5BC5365C80998DE01CCDB66213575FB61B3E6F877D0E2E4EFDE4467D9F0  
7B6A28148FE2FD6EDC9202F55FC855D0DF8C49E244C40CC3D95FC06C6778D397461BD157F4A0F  
FD915799820D55F52C96AE0C0CC5A3E7A2151A845EECEE78B82ED9A217E326CF6C49F7D31C4D8A  
CAF827E6ABB760150203448C000819E7E0B6E424C43A5500164CF128D686B4810D9838480604  
A891792987FDC549D87F95BCA120AB84FCCD8C9F93F988C87E79599F3C1952BC0F7773BDFC50  
B19BDF8E3D8F52D887E45B643297650044E80124BEA0ED60FEC4449BB3B8E394CDF7C7AA39BC  
1A5023044F6A843186C01EE1BF5834EB5401AF7905FC04447AE00DAC50B051B432F831FE5AAA7  
506160CFD7D4639C489ECA447F4F993AF0503CE5EF68A837FCF85B85993ECC55A9A3673F8F2C5  
CB8D3DD4C60E8421E3417EA958E87E0764B061A39C32ABD5E0E3A712B54B0A3E2D351A0E00F4  
E901521C63C1F4ED829F6E259A1F720FDE96EA9CBB8F7BD7485531A81A49CDEFCE725493A04B5  
EAAF7411DEACDE5A95AB6C2AA7BE3269F6AE4D166D8A5FD5264B135FF8361FF75B2FF22A61905  
A349C6B2C1DB2BD7B385B8FBDCB2768C7926F138D5F8107111563CE527322AC42E6BD42485668  
106B8CE91F157E0C94448869F7AABA255821DF981CD5298D40378FB0E33A3DF8A037BC21F0AE2  
68E69F7CF61E7E117BB463EDE3C7D2EF95987C66AC3E5C7D79C44A7590BFCF998683701DAD7B9  
8731DBC8455E61428

---

**E5aI Code No 5**

64D4236F326627BC08E9B2B96C1A9E5BA2631DCCA3F7A5B63736E4EA8074056DCD6BF0E5D6DB8  
845D9271C0D706F972AF22E652E3B2A7CC482B125EF8BE005F25D5109F6F9DD84DF966E2E0B89  
50FE1C01E2DF15205EC48BECFB32511DCC39678F9DB08ED0EFF64C7B5DAED1DFD202F63B6EDB  
CFB7E4FBB431718BBFA2B65594D78D3983B0457DDB350AF2C1B9743AB9EFC260A78C3144622C  
50D528B7D47DDE46FB9DA33D1E7DE6D5829258C2F02D54085AD0121A1BC8339A2847F6F161CB6  
EEFC5E3FFB12E6C77E5FE10E0D4B02E58142DBE5B900B7B64EA79D520A35506AF4987E67BCC8  
0D00FF467A0889A14B85B4745888B09DF7B4D3316D9B4A9B17C4CEDFCB0A55E2AAC53B5387056  
73B2A2EE4ABA914E20ECAED730E3D5E272A65A74C36617A711095624A679C9300FEC18E20E65  
DA3645F23AABEF7EB7C7FF49B289FD2F44661F6F5F689B6E06EFC99F8A5EAF558E10F2236E00  
2F7D97C316698D6833792C456F812A339166E9FB3B3F61734B98AD2DC9A484A14A6025114D072  
B68C47DDE97322E213F5D6A93762A45C4C73C7832BB31209C4B1F0094BD24BA23CA9378FB893A  
B078FA3BC4763704EB6A0C8EC965690CA5B858DAFE623AB88ED39154F46B9030462DEC9070DA9  
DC34063C1CAB3FB84D60337F1D6D95D1A173650C96128D3C036D0B72B4D2A298186CCA8E1F386  
E1F70C0716F0BE370A6B325CDFDEAD3CC67E021E9D4C839230708DCCB062096F32C4DBE3C4876  
A7D1A26072673A6CABDD8D65A5E91CC5E973F00FA67619F749930F9D40B767E434D0955D47FC1  
7BB37E4B7CCE63B1D666AF5D67FCE5F5469D3DF6B6855F9C308DDDF6733FA7B8511B25193C2  
7925F3619F5F836014A64A2C8B783A50C6B3001001D621CEC582FA4E52C2B916A418F49ECFDB5  
ABCA40E1A8D38FE400FC2D0C185009E85546A92E829DC1AD2A7AC3DD23EB77F3D80015BDA4135  
B1194B10ECFC87C1102B3D366C5460D20D83E778142F1A4EDFDEC3D0BC448CE24A49C609B035  
A99B64FABF071C58DF592BBC625359BC23A565F4BB077DCF879E14ACE87F709D276982A3D10B2  
3A9538A6A3DEEBB0F712DB4C16B0FF508F3E4AF4AA759738302D24C6D13037DC81B0394F785  
FD14A322BC00ED95E0E9D527FE5316748DD893DB03D5C4149D471DE98C386A2E9DCFF05181E83  
7A1814D54C9CA708CB5E7A10B0FF4F540338BE403E4B9713015A99260795DF5832CCE8D5F763C  
68BDA51133AF1D012C283E8F4B1DDBB4EF8C351C4AF86FB436571F53B2E80AC04BE26EA617EFA  
9C5578FBB81DD1809EC5BCA5DF4A85B24970EBD88D9856B2136616F85A338771BEE80F20F6E5  
652FAD00F49F3C349061DE3052841992EAA04CE15DB6C48888BD3CC5EF4D6CEBF00431CCB7C52  
89D79E67FC6CF2DA88AB60CB65D0F687455A535C33547553966D197BAD9778542F6CC7182289A  
ED366ED1CDB05C5E1E9C0F0E21D4D2B8D01EF4BA394E0C6B05B8E42D81F773D3D251D6264CA2  
3DA5CA2D4884544FDB81A243974FEECB416D0748449BA0CDC69E56D666FCD24D9BD7C322BC03  
8CEC658B5253227D87C527473F34BBA3E2FC18784F864233FF8528A874A8503840AAD03B63F79  
FEAA6C07E4467C4A04366ACD35E32A142DD76A23417EDBB8004944A1E51880CAA97937493EAB

D5A41298863A71D33156CDB942C166748DF66B80ECAD27675A673C8692805B42E97F1B28DCC9B  
CB58FDF8BE55E2034E73E444A225DDDC5B46BEBA51AE98A27990F622B32B2C337046E459B173  
D94BBE5FDAE31FFD4

---

**E5aI Code No 6**

23300D5D80ECA6A471DE5CBA1D29B7010240D95FE341A62FF8175ECAA9566011AEDE6EDA0EF2C  
FFA7BFF9F4C9AB2C97F6554BB182B23F2772090FE7C4ACB8BE7427E7A8535DA3A670341D88CFE  
694D1CF40156E9B0557EA317A0B3E21F3A629D1CA971482B1A54697BBC2020BBACBBB9D1E67DC  
33F52C4B446A36D4331FB02F19BF1A647D05714450E591C65853176A04DD561E0933CF3F24A2E  
4707C44FE29C5D7706723FF53ADD67A67C23769CA32876F0CF31D233D352FF6A7277E5A3A75  
78A6F2A76456C0AA876680CDF2702B114E02D22D9F59077B9DB2ABFED673158EFAE4C23A75FC8  
BE701D973169AA7015297BDCAD4870D4F152DC556A06BBBBAE0DFFCE40E6BA4F0FEB154F32D8E1  
492F74EE7085937600EE176ABFD6B8638E983EAD26C63805B98745BA290813CB65CCE33DF6B98  
240E571DEC4FB2430C4B8FEC23C1BD5C3E87E0E746BA87722A6A660C5095FEA8E1C4978B966  
F487376DF4C9668E5D3102F123FDCE7B8D80E8BC84AF0D91E9355FF6F7482BA74E0BBA7DACE8  
5BC053F31074151566334B4DDA37C6C51BB947811F284B671FE53FC464CC30DDE59A3D9CAD268  
22183E96D2F4BE60905B94BB8B167B734A0F0B26AD0E5083A34E68A620151966D073293E5D430  
D0726C0FE35BA3F1F44D851D374ABD80E826DD84A665165B3B82D540CDED9EF60CE48E87802F1  
6F5DD89163AEC8E9C523E9F99AACCC6F00126C4C8663A7D64D919EC41ACA337379496D0C8761  
99A86404CE5844F8E2CACFB00A985B92B7A393CE464DB19E0B5FD65BA92D8EC1164CB1EC994F  
82396F6A52BE2B66C8780A5AEFC0293EE437E7FBF9FB8880B61C8313C3865561A4287BFCABABB  
90B3A11F6AA57C2B2A6047F1316AFE1DFF540C4F1D5270F3EE3E023E202AA530211DC51F8C2E8  
7636C14EC8300271A6454A924A8093716756F79780D94DC6863C24C80A405D6F52DEE81810EB8  
50C1F60732AB24209773F66B2D2AEDEDAD6FFF60902910D4858B0F706414F5779590F2D7C249  
E5DC1484EC40EDBB01920A5175CB9D74EFF957A61FE3E08DD7C5DED5B299C03299F25E39B161E  
1DC1C586E39D0BAF38C09C2EC0B22589AC489C3199EA4E66611C45A68A7254D292C78C3978C38  
1F297D7DCD8C0F7646E7AB6DCF155B67F10C3F915F9B3AD96C21379993D8C5D6957847EA81B3B  
B4BB0863F0CED12F5CC48A4325CDA65268110C1C156F845951AF3C3C90280F8883CE0236FF02D  
B0CB07721261432C7E0D479F859D8EB7C433F67721B06E001498656578F0E3CEF2A6B94151988  
5BBBBB03F33DEEA07802226Aeba473CFAE6B894F45D1BB937ADF5180F5FE22857CE0EB75D251B  
02D89E5502560A0B6B012C191DE9D62FD28CF503375F2A1FA9EFE0E42DA81A6EB3A6DBA299726  
EACC6F3BE91ED51A25EAD5F3E7067720F7D4BB72F8BE2DF978C46E1DFB4B0EA17BFCFEBBFE40  
C66ED1F288BE08D6CD0B097C7ED1205E43F8FFB7086120FD153C47272188799D0F4554E9A4131  
C6B1460077A99E8198B3717AFE5E7C95D3F49B3779EFF9E935FA63A6F881F039436EBDCA2EBE6  
FE00109B658BA5555BAAA4A401D1FFCBC03697988B3F8B54FCEAA5F25F31AA02208B0F0702  
70F9E043BAEEDAD4432B1C2DAC9F7B4CDCB52965EC43C2E99764AD2613BCBE468C9477E64B8BD  
CB64CFCE01C06B66A15FB034D1AAA507AFB6842AF66AC8C18807E98884C6A780805720718A3A  
4D1A7B094846C55B0808736199CF4EC3F66B713259CC715B22B92AFB1599B7AD539B188E99B39  
F9A92987D0ED15C94

---

**E5aI Code No 7**

91CEF241899B4DD47BF31F3BBEF20F5BF13D9A98D3F133AE61F3E4A87A299A6B115B96DA6B281  
1414D204A49EDA0E1A763E1EAFB78CE05C181DD0947CD50276A10D62543A0ECBA57DAB5DC794A  
D7006A520B419533CE8519F4EE4194B58B2E36F9E9705266B6E304D1DBC6B7349104554863744  
9E5C657B263CBD9577AD8DB7D5A5BB5DF43A869FF91BB8706D4E81A4F8243C214D9884104675F  
2BCB426CD785A28F4856E363E1ECC974325487DC40E7304D3D7CADA5DCCA6E60F4457DA181A39  
801D35F20E1DFA05BC09E7699FA289A87EAB311BA8700AEC0F90950E5FF740DAE7EAE7FCAE8B0  
D9FB82ABD25BF46FAA635F570C22A76C52F9733D5BE64BA67AEB5D826288D03D8A23C5BD3FD6D  
BA68082B7815044E24859865ED557C7DE8F866823CD4716E573BFF30067F0931D0AFED0146D55  
B0B2A3D6C57481D94F61279DC4D2C6DC1CEE27DF24426E55AB4FFB87068AC8A6F286151356C  
EB29D993B4FB26192319C373A1F0F58FF5949783E71671FB58A683DC1CFE166FE1AEFEC8A41C5  
FC06A31F4EFFFA3EB7C388E1BF99667A5D2697F7132409641AA812EE84EA8735BB46E5069A7BF  
1B2618B56ACB97C368AA7BDE1B0F0BF286B6D08B42702F1EDEF408BC529B4158824F673B30E3  
D3247FA59DCB83D004459CC5E87BD6C7D188FD91A2A7FFDB008244F8618ED46A73323E9C7F9D  
5A83298F8C81702FB4523AFAE589D4CC269BD226D04689F132F766770FF23C832EB5695713AB9  
9B74035540031AD1D9D9047D72B1910BC320A65A9F63A40C02FAFE217BA0C51FFE24E96DACE57  
C1318351038FBB81E76EA34853484E7ECEB672A4180A3D24B6C692747E9D306D0AF275EC0581  
A30AC2E80EC73B04B1EF83160FD88DC43406CD715EAB1677F1422FCAB85D1D1EAC64F698B9ED6  
9FC9F2B5519AF9153D5AB722339434C780886B81DC2878B27177B4616450BC1DE99C49C965DC9  
257BC78ACA052E998493A0CBF7B6AC86EDBC2627E43E7521A9DE7824DFA7DE19AEEA5892685D5  
0EB10128B3D14F3C670F639AF6F2B6168A1E551A65781A418ED697E6AB3CF91EA2470995A40  
1B08380CA58B9439DDA7BDB7A92E91016567D57D5D0DC4D8E3C1490CA1BEC03FDE065C7B7F  
34DBC40BF704149A0573C55A0EE4C415533829EEE1BD8C392FD622572DE009044E937AEEDF67  
2886CF4A36EFCF7B0F8BA9CD9EBDEAEC40BD74AD34CCD2C7D07F7AA64EBF4DA9C8810C05F556  
19B808127CCA00D171BFEA3E1EC0895A22218DF1A0514F5D16DC416D9FFEEA8EA3BC9FC650F6  
78EB731E70A6110E138E059371D5A10BEF6420A0C8BD45F836B7D310E732BDD0FE57D93A69343  
17FD8E2449BA0FOC6E1B36821B62D1F80B9CB6A5B407B6755977C06BB2C3CEED0B14D4D73A355  
4FAA54EF2C350C388B230B30148605035E4F481A769564E2814A160A67E6F0DFFA7814D0C1277  
2C0496737C52016A93C6753C82FA896BDF3BCC72105D6EA5B52B3810004DDEDCC66F1C90CACF  
49BA7DB5016A4E485F06355441CA204F7D589F2A3159541F991682E6AEAC0C7359B3282A04B2D  
C69BB0AD6CF49C48343C8A769D3EFBE8D0814E72934F7CDE698061EC68FAAB39016B96BDC5363

D2B53363A548E6476647C10F55611469828564C189430D351CA01D2F1029CA3CE1D2853E8E595  
D46C9C3EE9F7D3EB9C72A25F7B2138063A0F9186FF41CA9C579DA61772FD60408668A877CCF6B  
65FC2B88935822A6DDABB97D19F7455A9725A8DF2B8E6B28D83ACDACC66F02370575831490B8D  
8838D4E56AF36ADF8

---

#### E5aI Code No 8

AA82DC5072A45A21B7880DEA3E2691FCC22EFF3AC815A2576A7F480ADA6F8426EADB4A96A17EB  
949BC049A646D46926F0D69E0B3E1911D2CE652FF4D9CBFCFD30065FF4F779DF896D38587B29  
7BE8E224EFB1DFD04BC2D22832B2955A250B7D0448AD9C0A76DE7C33A4E2B5DA1B3A868852B7F  
04D848EA6495BE8D2501BB47F24E8DC4B254DC56BB5A4760DF62DBD229F3DF0E0C06274A63A28  
D11F928AE2DEA72A9974E3C55CE261943F78B771CAE7B5B98642A01DBC06111B137774898F0F1  
13A4DB23BC240BFF147568493FCF0C3D767D3548A1C0E7AA4B6B2DF566C3E94BF9A183264F63  
E4FBA58B517FC46C4F0017F8D763A54D044C644D632667A425F0F5A2A7C8796B9C9F8CD0FC49  
A1F035BB6662C0CCC0E9508AF8D2B834B929D80096F9BFC922BBF1BFC6F101317EC08ECC1DB52  
404B30B153F43C266D3E64FC496CFBB350668B2AB3B596B5E0F0A00757E0D4A771F5A386AE86  
F5105C1718F7E93CF00F588C722509A03597B95512CFC705F08D3B4D5A3E23C56EB461A719A95  
5AFD3EDC8329BC97E3EC6BAB24D97E16A724ED2D4C02B2371FA3ACAF49175A441C3FDE53C2DDA  
440C18BDB8A6F27805F944EAA7991D404CA74544E2F3A669DCC4052B6770AAD9EE29A6EF7791C  
6DF93054D07A2B3CB2327B0E8E7D983624639961AC4C3CEC2A84DBB3A10A830DCAABA9600DED8  
7FD5CBAF4D5F1DB357ED42374175257474BAC200AC1B6A5B87D2FB2092458F51185C380B8BFF6  
82C5BA1D2CBF8BC02E5D485FD811797AED167DE6ACA66B927363D12EA405D75A2E9182B1FD30A  
BA700C5683611A24EC5DC453F523EAEA44C6E06261A98346328ED9E86CA8F7EA79ECC551F3683  
6272127A45984EE165BEF8A8D080D26DC45E34E1794F56C1265DD92B4078FD2AF2F13981C08FE2  
7C55C3C9238BBDE193A956E3F834445D949CAD84D3FF0FC511C6C598735D5B3B07BD7D437AD  
ED3ABD6EC3171F3735883C9F511A06F4C6C7D0B137DD0D57869B8FB1375FBFCF9C3D08CDCB12B  
8D01614AA3C965550E5862AF49B04410D25BA4BE86FA6B0B9D9142461AD3CB4BD6D902EFA4963  
2A78F1463619E1309CC89452C2B453BF9F08A714D67ED90972C62C0468CE17006F9B60138D28D  
A6362670BA3048CD8D099AF193619AA8384A1758FDF4A04CE56ABE464A66E913DB7BBBFF7EB2A  
DBD47E6347D7054CCA13000DE13F550C6263AA4135A2E16F1A2A58BEF962113C209CF58CE514F  
B51EC162D05A4DF832697E544037CA18E62A267D81D539F879F50C654E74BA21B47FFA5C704FA  
D2147EB3DD8617DE98B3ED4859B605310A777F3DD161F4038486F0872AF55FA3610EE0D68C1D5  
1EOF91EF7D9AF4ED01BFF53FDA16BA3197A518BAC0F82F8895A2BDD9FF4C3035379E870C49DA1  
AF18B3668792B6640E687BB71F13DF1650C4E1A2CC487C247D1D1356EE16DB8F97363465614E9  
E63F36C853FB63C12963A8A5D98B52BE8DB31F0954B35C3C749A62C2B34A690803FA660870155  
06225181C5D6FC101D1494C3A7961ACFB4D9B905323DAA5ABA1DCD2DDC1F9CBFED7D726E60257  
8CFDC1519925F8DBF9AC5FB4E4CA723BB264B5D106B6206574C46C1A49309C22E1935904942C3  
6148F764B59F10A5CBA0C9397F5798E200A606FC75DEEA1FFB10A85398E5BFBBC6AA3619A0F6  
11E591245D03B6ADC0C50440A1B1C236ADBA933B2BF84D2C60C807E9F52436904BC62B813FFF8  
B9C824819C760D0BD636B10572C781B112CC0C603A260AB87986B0280FB913A9E0BCCDEE347F0  
C744BF8299A9099B8

---

#### E5aI Code No 9

F2A17D19ECA96F67ADACC0D83FDCF235F07832E8E78A44A53F9C4CD09C3F88DB226701963147E  
E0E1AD0F549E11BBA70053A105BD62C40DA810BA37BA72D999CC4FF9BA4D01FCFC670E0D78198  
71D06C4935C10B85594CB7202F037B25F85141A580AE1CB3E0CA91AD73C6947D2492B8FD2F889  
B1421E04FF0FB7866218A491D9EF6A35DCACC12CE098EC575C697F5F8D1BF9178B3B36C999EAD  
FFB5CB3A41DB672165CF73A7874FF68B3B901C4E9B8112EF4FF9B9308742ED678DF30E2F7C40B  
F922099C1A95BE0C231E9F8332EBEEFD99C6DDE25C5E8B2985A9689912616815AEAO22FB8B  
7353B8B799D64280A6922CB09044ECAF51037AC2FCB11516E9E286F64B4CE3E30A55191F24AB  
53F2E10E5A8920F8BAED77FD4C476E9AEC751763D68409ED9B7F435E53D401CAD787A50033BB  
8547C910D90DE100FDF6B9041F529830E3A51919299FD4476F02C3600AD5D42E3E154AEDCD1C  
99C1C5B531FE179860EC1EAC69E0A381CD4DCDE8716F94D6510F10FD1915864BA96840CCA6D0  
D5AD8983C421079B033B56FC34481B9F27188F829F91DD73F27BE8E0456B0F75DBEF40A3C67F2  
74F6A50CDBFFF9798F8DBF1A6CE7158B577550E40639D38861A3CC4E060C9E5BC1F0D3760FA9A  
89C2CF0A23505F4A642F5E80A055B96843198CE20133DFE022AFEE043191007276427DC82E877  
BDE27E20D65DFF8232E9E4DD786C23D4E8B5E84637A22AE5562651BA45369947C159B641710C9  
8494ACAD48B4AD6AD9828897437AFACEE442DF2330669D5F2C6A9893E08507ABF104C62F6B4D  
568C5381B28D5162EF0FBECF396E7C622B54A7864F9B31CCB396A0DF82AB86D950B4657237FB7  
69122BE6B783ECE3F798AF68E354C521C77735EDB97D580CC80877ED702231CE2F8B73262AE39  
EF94E8473694929E065515D40A16BAB13EB9437D30AEC44AD8C67E3AFCE9AB377753BDC481E8  
E79EB10F89A7C4F7AA24E6FA48A36DD1CFC02CF3FF6DFD0CC1C4030C312532A70B60F678FF2B3  
586D77DDE74167CFFA62C12F7D0086A6FA59B36C6A025DEA1EA0BFA9861BEFEBC6B2601DF225  
E29F36AC97EBDDB21D7E8206E1EC42F3B9CB314E7AE6464D54ABD53D090DE83B466FAF5384E0F  
AAA6E67F2FBD6A72E00D9274C9B5C768DB4AA4281F25EB2DC6BBE0EA85CE1CD31B32BD1971D6A  
A20B6C68D66426F09C0C1128A679AF06CAD490DCE3A2DB50181278BC40DF9E094D1D09B281CD1  
EF1C369E5927407E04918BD21315E12583D7D845933AEF186DAF8B6609C3CA9452857DD2112E8  
6227422491DC7821D7E41DF759BABA6ADD11A4C771CF16469F86262D169F221D97DAC9686B6DA  
29568B4A2D2579C76CBF948C321F5158EB3FF5F6D4D6D68FA255C81F62A8DD605507D0C6C9D82  
E6AD258B32DE4AB6FF8FCC4A8C237E270B9673C208E56A6F4796867762399FC8549DBD232B2C  
D0F9957A8A24FCEC6E8B3DCBC67085C542A134F3E80A3CC8D3DBEF0528432F2BAB2F5DC89D6  
015BE7F24B2B1F378EE75222EF125A5645AE37AFE6ABDF84CCC3026507BAD9CD8C2EB4020E776  
3E0F85164734C851532FFE705C111CCB7D738BA8C0D29C5A0A50250D0BE53353A6C407D4F7EDD

62F271F099528CCB520E5B6B5695D3FBE628FF65D67CC0D1B766149B9C89D3C770AA133FAE2BF  
3C9846B30C46584E9F93A8216627CFAD84C37AAD7986B8D69F83392FF8F98C828F8B136633A09  
718D375327B98A0CF8B7736D229499A52D91D19CBB896A5BF4131691682741797A25FFF6AC60  
E30C79385DC778C90

---

#### E5aI Code No 10

3D84AE0F7756BCB2518300DB110A07EC46869AC35F1B02650A36C3CA0350356E2808B84A0D9A8  
A648F920B7D48AFBBF6CA9A37F673DE2B6FB15B189FBBF2444BDE8808118595AA995AE0DF53F5  
146B011A0AF5B7FCB4B3D3EC074F2DF15CC9708EC50EBEEAFE06F7A0235A50E2DF7F6C023B538  
19AEA87318C4E67C4742FDEACF57DC539FBD5BA01F64CB45322212C707923303D96E58EB95F73  
92292885391283DD9477218697698AD6D83AA96B06D68F58FC2B8FD9D61E75337C6815BBFA8B7  
6833FE1856B714ACCB6FB1B5E957DD385658AC760AC5811E3BC079DDF2CE30BDC21AB8D2C7B56  
D2F6B384FECDE4EB0206A6C00282950C1B72B3E464570364A919812E86BBFD0E1CB2DC98D6FF4  
2617355F2131F72A11F50618CF21A4C4961083FC6BFAB63F544677428BB9F10FE341B947C41AA  
C1B367E338CC2AA08D6CAD1067F02654794571FA4AA11E211F5E75D194197BE4AF6543009C40E  
A86F74AEADAAB134CA9E35D79F7CD062B53BE2AD86FA7C2E30D9222A49A25044153420AEB6C8  
FFC4E0D4C514B8D9F5DD922D8EA387003409539D0B40210B05C9209B008D3E47E8F84C376F460  
01FFE463F21A92E34D3345751E8E94205EA06FAC16292B8C6D4FA028867AD4C4E8DE0D51BB7AE  
D59547707CFBC2CF3A9235C29EE3A3873B96FB75DD50E758CB2C7196BDC09336A97756DAB994C  
46D5BBB87F9D80008D09C603A68022BADB1D2F6B98B676CB3C0EDAE07A23065B93DAD67BC59  
C9BDEF7BDCDEF39D9AC04C9CE8F6DB4A925F77BBF8150AD478E3C6D7D32512ED75BFBCB82C66D  
505CD8BC5A5679014B355BDC66F365BE9AAF15B76C0CFC0B51E53F86BBA763F0302B448E84B97  
92F34442743E2D979C5133514D4BB1DE5E8AF938C4C158336D04B6723F9422161805D5EB059E  
55C86D0C461399073A705FD6E919D1760B2D6860D65665B486DC0AAD8F7B3ADA9BD681D7FAE41  
85350BAA543E9F8671F1B4BAE86D18674516033B2E2E4E427521C290A6E44E1EAF9974BBB2360F  
EA3535CF46D68193C0E208AE5B2F85C2049C906725C92F598E6C0B67DC5F8B7C48CD411E107F4  
860CFB3C4229A44694ADE0E31A4FD70AE5702C0A7710678763B035C5C6B4B9214D507313F5ED8  
5C444B98278B40446C861057AB9B897638DE4739088FC28A577CBD52A3910885276A2DC8DA99E  
C74D30DF707BFC60663C869DA4C47BBF4D64A789425C5C894EC2B512C3296D0070DE4942113FF  
C0B13D03515F2B4EC07A0E3BB7AAF08DE24779F9EEBE26CE7C316EAF47396E538672BB646E1B2  
016356A407B8828DC25D8F8A8296B4F855290131734C94CB92CBA5689574CE95B60988C42558D  
AD978F36D67BDDAA92FEF21282683EBF6D59763384781EB4D3431DF5BB909ADACB397D36D55D  
2ADEF537D7B1B942F3A815917A388B12285689B40C3B45C04A591672A2B957F924F1CF6049B96  
A38E304B8641DF6A079614C9F9984FD9C9F0A82ED6E440164AC484252B45147929A58B069E663  
663CEDFOFA44FD67580BFD23BF77C61B95B533107A25684FDBAA4C1285AB568C9FAB387C6FDDF  
D5EBDF5AF1CE094C59630E19F621CDED14E3847BDE9B0EEC64C159F23C779C4B8016355490039  
3CD7F1B885F92F183839CDAD7801DC7FCFD08B7E08D23BE21BC80F8655A2F3BD0C483B2C1D23D  
447682CCD9CE098AECFD7B47C48F5BDEAC8397220A7852077A8D7933FD353C25E37DAA473E996  
A5920DEDB80C26DE4FC3AFBD6ACEA16DD3208C9384021D9B1FC1C884319B59276D48D8BF5A03  
7D84B8C579EE0D9BC

---

#### E5aI Code No 11

446D385D09A3464D1ABDC6D6CCB015280BBE7DCF00078634371D7F327322DD720E8DBD7B8CD97  
FB9505A118B469762ACA10C4E135ED782FC905EF30F9FBA82F11AE679431F270351F70F0508BA  
998AD9A71D2BE05F55348B275A0E537C63699C96D8AB8E0645CA2606E35805F66CE586C81B4A  
65E2EF036697A18DA49C36CB22404497577107924DC02FD87072490D7EC8D5B376D0C3370F975  
3E0E7C781952C03D844490370D6853FCA9E12139805C24FE9C9914E3CF91464D332C934570DC  
D5D1C3C609C6984E28C9FBCBA3669B75452478DA4099C0E0F6311FF782D1D0123A120F657CB53  
6A3810984871B69D25913C305117A7E51D199A56387C2777E3497489B9C240DECC03DE7235F72  
37CF43FD421039743CA72361DFEF2491953A3C0F0091FE3EE064B838BD73E9E6EDF8FD90235CD  
B374892BFC42759792E5636D031795C0DCC70D7DB86C161FE7059CE17B6926FE5D024D6B1B9DD  
5608839DF85C7802F5655525B633BDAD0803CE14649095C0A7F870F66888C072C410E0E085423  
88A7FB259901CAF3570D398B621518193BBDD75258BCB53AF2789EC66DBE2311DACDC1F9CDB6  
DBD4BCDCD15F9C2E77E0D2736CD191D2B83389A71B1804A0FB5F2480E38343CA48EC6D1830BA3  
466E53FC51C4EF05F4D10711A78AB215650462E9A26D9301EFDF15A3CD5EEE14DDAFAEFA45171B  
A3A757CD6FAA5887A5D5A98045BEC7FEB331D01A997282910B6B946CADF0AEA57973520EF0561  
B233BCF798805B3B048751EA086FA71BCAAE15F8BEB837CD2974EB3E54D3B6D3F99A51F88313F  
B64218610CD1831E2E6E18EADCFCEB72BE5818B4AE4F3780BAAD8C4A55DAFC10ACA3EE7AB7D1  
337506C485C83EB0C41748C668705B4D41D926221D33C31BE7D56B42BAC7E9240FE4C2287B5B4  
1FE88F9B9E19970D0E4569DBFF167EC42BAA2566676EB055B69D159358D23DABFFC86A917490B  
4942A220038CDADBE24C335DEB895F3472F0D22778BC79B169D1EDA9FD18B31DA66F0246359DB  
3EBA36269EC5F92E5A1A89560C7DEEFA121A7035EC2501C553854724C5176AE60F87004F6FAEA  
907B91D1C58837C9FE25BD9C32F66257BD78169B1A4B8ADEBA72B5699D4C2D14F67BB347EC8A9  
6B04278AD9F97A9B40DBB56E7593CF4B3C905108F10968F0AE6A2E7F1D214FC7B45637A256ADA  
5EEB70E03C02DA2ABF86C36E581A31032DFFEF4343C3E59EC7A2A715E9C199DAFD3BF8C9B43C1  
D016DCD33E2590A20EC8B657C08E5C0C0BB4F159A07206504780715A252D1F4F5DC65ACC43E3  
CDC255123A77792685C9B68AF281863AC89ADBD5F778733E95050ACF781FFA386B3EBCD633D6E  
8E6D4A42EA85F005AA80A4597D40738A8E8823FE3C84B10CEF044E9651E45D1ECDF59C537AAC  
58D2BE42655259DFE6CFFFBDAD252254B732EDC93B4D610C50DC81B576C5A5C5BBCAC0BAFD7B  
DD7771EF1A19C29D7A82E448AFA07E7FAA8651C11D1BD550DDC69F4C9C6A44435034D80B47B51  
2155E5141378A94CD277D4BE11B2A383B1539AC9731079624E81D3A3404F5325F5D2EFBC0929F  
510529C84B1BC3E7C08F661640E55AC49452C00256BEB49B7A52DA23EFFD85B8C303C6EEDD220

2768ECABBFBEE87FBF1DAA992C8439602B1645C462D3297DDA1AD941617B508E481A28D154021  
2CB281B5388A3691A26AD7D3CEF52FEEE9F59F477EC98AFCFE38034B762B9D4B5DF3B312758C  
4238EFFF94BD16D9C39655CF07263CD6DBA96D1C0EA425610C1FC81061FAAC5C0F8E6AA9591ED  
E2FAA1AAB8F76EE18

---

#### E5aI Code No 12

C514F282EE4B5E02A90A2AE126DA52A9FF5274735ECAF74CB36D607EF299E0227E94B6CC2B78  
B1F71D6B5FB8BB4C78C09B3A6E3ED6CD590AD526F74CBF869085F2BD3A9DF66D7DA9D06FC674  
8D8FBB78D98A4D860B362BEC6295F34A6A16A58BB21C9632F8B3A64370B7A7547E329B39BCC82  
D17B82F6E4ADB514444F62AA800C97B748D73B0168ACF2FA898C262820F8981713D00CEB8453E  
3E9E452F5EF41452A9C8CD1F1260000C4CA9AF4E6E629B13DFF203187C0DEDA08315AF2418101  
5D2E68D6AA4E7E938FC4FA9A8B80CBF49E3A9F27953A05FC7609146EE39F09FF485015168636D  
1F452FF311D4D8749C31AC8420865A87A707E540D7FDF0D25F63C7F3AC906E048281BFEA46263  
B4350BAFA8B5A27E0CFB23DE145622BC2FE34DCF4E1B4DCBF60ECD5426C27B3559B73A59CB1B7  
1587C685542F5E6DF9F9E3C5E75A8E9600E89217343D29C67A7AE80F9A8589D82AAE7B2A1B8D65  
46D3CE2482DDABC7FFD3BEB2F1009297A77503E7155ABD4692F1244A49AB32628947A681388A  
D75A750AB92C81ADFBCED0AF166326FADAE6B79070473D67A8FCEBA7F21BBA932168CEC2A7542  
47CA324081900636D87D001A605C4E5C31AEAA44A8DB9693617566726C7120AD15D96D917F5AD  
D0D86A5A9CDD7527644EED58A9BED014D9F4C0F62FCAD8D7D5DA2899D57C5510EF15B7482CB3E  
087493959AA12D73D55E194E48CD128FBA278829AB4A86C325D60227074EA55BEB601128D5FF  
42371E74972B802D3117E1F2AF2018177D4E994903996DC365D3B52582AF2085EE5919DA7E84A  
2F3A200F4F6E76F11CC95F87BD2EE5935CDA0D52D9EE6FBA6D59E80427EEF4B80372091C65E05  
9B566C38A6B3664974396BD0383A35EED0494C2BDDC167725C4160AFA58D408978D5A345EB03A  
55127C6FB08FC0B4EF7037482EA724D9D121E26F2249C0C7A927946A846A67FB7C565E86C8C5  
9A49265ECC4927A8FC88873DDEAEF6F8B629BA1819807F38AFAC501EC9F206346581174A037B  
1D7EA56628C660E17BA0A97F2E189299A7844FEDC562BE678B0606CE18493F717559365F66201  
AA598C68F99A8F28AFD74AAB0E3619BC342AE9F36D3811EEB52C8DF6544C96B679CF434B9C64F  
CA0F43DA73B9BC8FEBD609678F5E691AA706E3586176ACDC25652BCB68D98417D3FEE12B23724  
EBDF496D6AC3B35EF706EAC11BB0090066F3C421C3E298B00821C90DDADE472331B9B2CA1F1E5  
3E6D68FB059EE0811EB7E7FDBEF394E3E35E59BCC4B63FA8E09851843F28CD941F9A97E5B72C  
8DCB9D32F37B79DFDD1B9D7C22C10E6F65DF07DBC7734430B811BCDD450A10F491B1E0DA37468  
68622E457774D0BCB1B29F9C1CB161DEFAE78354B7F718D18F07ED6672665D35562D6F05A2B36  
66B667A7C57D2617711F27DEC15D0A4079519D0ACC6B3591EBF0A61A12C42A6820CBA755C07FC  
531610C4192A0B9F241BBC5ADF758FAA4DE47C6B766FAD728BB1D2C672EE0969303E42AF78  
9FB295E766E90319D98F0618C1B4B8BD31CD2C5EBABEADA30C6E43D03F380F4C2B9C3AEA20BC8  
9B852BFC042AD3C9440AB395E9E251DA758D317E39792973083B20B79BA36A14057E1DFFADCF  
903B10F8D3D4D35222E4584D520D6FF675D3E8E9FB43ED1B79252648A5E0C2552E388AA3D1168  
790A09854F1151A94DB4E5AAF1C941FA61B196D869B16051B75F56AC1BC769C6E7A7EC173264A  
2E56BDE4BB9952A422855D65AF1C209D561F8210FFD7C2FD6A540BE788BE3D2822D49DBD2C6B3  
3299604A835F07A34

---

#### E5aI Code No 13

0C0184CC1854C2013817663EB9E23F3B78DB8009E761F1B38C2DA2036F26819D2DC68AC38C18  
FC15EB00BDBF5A11316C7B6075BF9DEAE9B0A651527DB3E3B3039BA01398B3923A2C40DC4706A  
0BC186D2F8FFB124EDE35E8C427FB6FF05A3C2ECB81E275D1AE370AFDB6F731E27F4B22B877B  
1990FE479239526C655796BBB8545051527ED0E532E0440048912C64D0913227C2F6657B8B80F  
DA076E49B7E3DBA1D0E23C9D7F43280A324DF16BEE2A87B87C21692FEACBC3348C9186DC6C0BC  
B7C1DBEC60AFCF4F1D76FD3D45A24ACFAEB8E7C95145D07427CD67003019AB57DC233D566BB9A  
20AB82ED4130D9B4C0FA6F2EFEDC897749831FED436F67F3B170877040265EBA4915B1B290  
4C8277A11598432B973AA63F628456AF2320D3478F6E669E2835C00D13EEC7B6ABC6BB94F1677C  
9A05B2D0CB87D3E529AE1D2E3354B1E30C6634E10AB3B0F39815049DD5321B11B80C1F1D1F4  
26A413D0D11FAE969F3BA266F4F7B60684224A6279380D08D46FFBA2E1D684416405A02A2B2E  
260ADB23498AF716E58B03C8CC442D0EA201C4DE39F7038EA4E0E1544BB08F149F57F03FA9  
10E09C27303038EDCA21A618A54DA87CA747763EE6D4D1DD4912AB7E3BBFC999939F82563B944  
CFC5F4460D41A47573DA92CBB28439BCDBEBBF16491C404B356E5889D33A034680F8648F2CBB  
1888FEAFC410FD5A3C8ED85B90EC875D7D4466904F5D4A4048D8DAD848313232B80FEBAA09D4D  
86F70045C0C2499A93610DD088A6263DE5AD71067B9B3C82E20658AE98677889BDFEC65C2574E  
4AB7C9059F1C13CBEC17EC630F9E5B891DCDE1E81552738D4C8612F3BEBD570EB39B24EC94A15  
3465D1326765D9B8F23D7E4AE3F2782F6F9738C189D0D20C4DFCCCD37D9A510250F0941423CB9  
055C7BFED84520AB119FF921CF81CBC6967E9CE1D759E5F4481ACCC5881F9328093B63ACB7D04  
404D8C0FAE8747D39A270399000CB690CDE17A46E81DC5CCED183BB863FD7A535CCBC592C25B0  
59496C45DAD179B83EE02543B5E93213E10E2BDD480F7C7D007CA2988942F65E46B886EBCF0  
5498C655048C4B32A081A059A28DCF4D84AAA586F0291F322B25D186FCB5ED2DE7AF7EBE58CD8  
314CF846AA39C67E2F284162524A14BD2765642B31F31EF4704548C13D5F5A132E983203EEB91  
795BCA934BA7EB26DAA5450745333446D2B86ADE99788476A3417DB7FE9E53F4906CAECBAA984  
657969B4592F9213612AE6812C215D5C6E28BC89BB76B9CCC937BA4D4C6368CD4C491BDF41B24  
2BD8FCF9DE2D35907F08AB80BE71EF90F84BFDBC6777A020DC97BCA1E963050FF991A4F0E1E46  
8813AE1CCF05B819012377334AD6B5A41A87A7D7C4F0AAD241FF7D3AFF40D7E6D5E62F9884B  
63E23C3A8B96260A6E9E3BCEC001D487E375D4D35959633BE719FE592C4659970C0B67596E9  
CDA4EE3B05237C02CF2E36FFDB7CAE37F0BE993FAC46DA6F56B15FA74EB4511AEC2C861C2A925  
3259268A9BB95468FB02867394AA8D83EEB6464A65CD15DAB6A696FABAC4661F439F377560F3D  
2F3B668A7648BA4017DB5083BDD0D76B0DE99FBC06D7938D7D2F0566D3DD036CF6A5E336359F

0896B9B1E3B685D963A0EA70CAC175574C5AD41E20EA1332CF103BDE6B1C3B3F117C21E8FE745  
0866C5036C244856B5FAC176671270EF7225BE7CC36D24498C92E5306C2870FA7839DB1D7646A  
62AE0623EEF3199E8DBE32020B71F23FF2F2BF3C9E0EBF0FDC629D97837B97D76C99398EAB04  
4AFEEBD5BFBC35FD4

---

#### E5aI Code No 14

8767E0FD01FC0DFEFA6640DA0B47AB5B2B2CFD25C8943F0DAE6AF46C3898AA1FD2E2DD0FE19D1A  
9BD0353A16D03C448B7005D56D108FF2035E948E3C4FB8F0F928A5797D491389AC431F271DD1  
C8FDDA2B1FE623D410190FA81F74E042C0BE9F97F99120DDF442D5A4ECD1EC9789DBDFA8C8E57  
7E0AC5A1BA7DD6D5A474CAC3C2C04E71A14DD2244A30D64B17E4C9B081EA8AF0175D7D0A6E039  
B6A289EFEAA20763B1F106667745EE2795CC588721BFBCA6D659D81192A02FF2CE11CC878CDC  
E73CAC9B92A972CC9340ABA7A03C3384ECD28301103F347D35FCC9B12B85FFF170894F7D104F3  
4D95B56A23C486CD9E7520EF8CC0BD928EACCFC5D230D77EB9B19EE274113E1F8BFA79FCA93E  
F54B86900859BA6688FD29444E03E2F14033F076F2F23711129099051C59E0126A907B57905A  
021F024D98736C3F5D1AA11C25F32319546F91DCFD4940FDC7C4428CE78A998694E6B19AA3CFF  
470AE4582666D350ACB02CFEC0E9EC39D1607912B892479EF94CC67797F443EE6BA4008F46C0  
E61C3819C5F82DE7A7802E62E7050C8AC506186878F08ADC8A7674DC3D0D156060AB7BB08511  
D2F8DB46EAB9B46AF359135030A9EB46A6137A9419D97C7069147BF5065712B1F03BB8B328CBD  
1E583F59B662B64C0F06ECEC8B71AA2213EC29F8968E0F3093AD04E739F01DF51C644FD4CB65A  
EFC7073018DDAA81185627B613242260CA7A9270FDBAC3EBEF62865D0341B5392DD5FEA4827D6  
0D5AD1C9AF0739CF5BFE0F658E72C436BFABEFCC403B87AD4B64F3143DBAE1D2CC25130E65D72  
ADECA1A8FDE09EDFD723072D538792F50A067BA78D7E4749F0344AB1AC1CC0E8EFA1A42515877  
C4539EDE35556D444516474628BE9D8B29DE428BEFA12E99C985F1EED4F937BA4794776C6303  
3C03EE356991607473835A50718E473D036F3C522A9DE2E49FEC2E686F17A5023FB7E82E94B26  
A4AC6236E0B656A938BD7A8575D734F53CA419836110DF78197D7DE4D45B6589CC31F5057759B  
8402F43ED9A423A7D69DB02EB9357B1E51207161E08FFEC8F286722159C570ED4AF63E5B54B  
A582404C0E978CEAEC1CC1404CD15BA22EE6D8C98C4278C1714695927C2389D74BBAC72C2516A  
F1E5D0C52066A656170091B68A7E4C8399ADE63605E9DA1727C189C541A404B7335DA27843A32  
E470FB4DED8EB5EFCFD30BF15AAF37D7CFF4B545DD09DE3E7C8D0E77427B3C0764608912616E5  
DA2A3B885688F25E83DC8D632BC00015C2C8E6923A3D9E7C7344CDE87D6F0DEECA2006F644F7B  
DFA0A524759B2B16313501A1CB8D4D762D3E9D9C8D32154F69F0DBABEBD26AEDA947485FE0B40  
D1D7731D7F4E41D1EA5FC645DE31CD850273B6EF9C374CC8E149960B349BA16FBFDAADFF12E8  
6EF05AA38B6B17EEF7B55D27DCE27FEC916DF99F0715F1DDFB93C7E1130EDFA44663CF19F400  
8D5CACA48262C1E8209D0C353ACD72A542B93EF18EC7E15FD4C9B1633161D94B285FE8CFAC30F  
BB1E140E9561A35715AF982370AB4DDF25BC30850E5F0509297289C0045BD3B3912843A9B0BB8  
8CB7E961639849B8A0A75E3E903182F0C6C7ECAD4A38081BEB18DA72EF9F9439DA7DB2B4D59A  
F6CB71808E604E56E1D4BF627226FC28875888BD486D0C8052068D12BBEC6B27E9DCDD73DBC  
93D33EE66AB63936C2273525A17280FB4BC33A724D20BB7D988B938018EAC4738D03D583A71C  
16671B87CD60BD6FDD101BF2AD07492A794FB8696E84CF24B9707D7706F0AEED606C3A7FB5B1D  
F7FCF86E65F6DEAA4

---

#### E5aI Code No 15

CB8EFFE09FE09C622B34574E74D4B061C284F96FB7937481FA7C204F449BE9B2DB0957E428D17  
7C5525C67BD75D75989EE98D97C4D0DEB5E72E2B0DD62E66EDBEF0D22D2EA97D42A3374B9B659  
804F1EEB01D7743DD9AEADDEF356C7C4FE94077411DE58DFA5035271015AF65FD1D78C0F17632  
C10EA02C537706A7C14E3A1D7124FCC11F579333A68A1AF70BD3E86F7B1D13A3B4EBCDE343F36  
A2B226DC53A0E1A084EE966272EE852A349D7A5606F1AFDBD81B8C3CB556DAE83D6A34ED4F9C0  
6BBFFCD5953C51814FE0F4CF5A697EEF5559886D92F811004C04FB399E06DFA845DEF183160BE  
F8546F6E8995E403FE0E464008646330CE4B419DC464F229A47E0CD9F89C83A28FBD0C1E758  
D380C2A7C17A487191A46C04C23F7906418B69E2527F3293588952919D220EDC36BD9687C7347  
AEEEFC8CD24E91299900AE4ACF018FA2829E215C13CDDECC918DC85BBFA317FEF7D2FFA9E3A3  
0D9D1F1B9DFA0AD0D641E800850B43D7E0B187F2ACFA74FC5DBC99471A7511B838BEBD6E2744C  
3AA9AA9D46060C83FFF803C148C35209F840AC23D60FD046B461CC2D776AF51612DD166E1450B  
8A998052EBB25D1C8F426391A8571C88C2012A8940CB0B4DB3223CCB39021D20142FB5039A6AC  
B250994AD7A99B1A43494EFFBD8D3692F213B46C6CE9AF3477BD6061398CB19C099F27F48F4F7  
85E9E741988412F070F39727FB8B74071E007210D939B0EC5D6148A5931D38A030374E5C0B575  
AE27D49DF49A77245BE310E49262C56A616C757A80C5989F27962303825EAA3AA014A4C9C9E5B  
3CF93F1A031F82D6A0C877277EC41356D1BE2154F03D807940A1CB2848A6A23B905BDE9A907F7  
C20E333586389014126765CBA8D5C8951CE09DF085B5F18A24E1E5D638651687CD2A2F75CBAF7  
38F65A8B24E7C67E64FFD9CB8A34A473F11996E3663607A49EF663C4D87A0F65D92067132B5EF  
3CFCFA9B49FF66CB6E363BC1C7EAAC392605200A5EE704D1E754CBD1C9CDAB75355BCA41DC129  
722F855215220092CF6248609DE9EDC5603562F5C82B5414BA305CEFA60020E1CD93FC756241F  
E7A20CB4B550D980A7266E7B23B6FFCFC4461F925A14EF6584B02005E1D795ECFEF9331B336  
9C52A8A2AB99AB5255E8E09C05AC722F37A5E95AE46B226C7319411750562DBD0296F0CD1326  
055577BEAAF270E75F4433D5312038854C30AB23BD51F1246EC46599FEC1B628137A73A702606  
112CF61CEATC3977BCA6701C8E5F63132C15EFF01CA1EDFA5CCA8FC0E3FAD392F21972F857B53  
F62CAF3BDB75D556E6857067015E11C5E217F5D1C1AB1D603571F9EDDE04499E23D39DCAAEC16  
263A5EBAB9BEAD8F61B0ED942EF261E0ACD309A903E73AC4E4569A65FE6490F6DD6842812DF61  
CD858D9AB54D3456C89CFEDF2621426E3F9D13FB94177104F6EB4E30B018C01F78CB4FA9C89F4  
53B87FA7D4716B96B0BD2DC532D4AA7D8FB9D264B095BCE39BA017E8BB90D6000D2C58647B9D9  
5F63783B4B90BDB83A175E5201784AE000A493A387E16F5F0C5CAEBF62A360A6A927B3FE4CBFD  
310A3163BFFF1836FB9770583FA4F88E5A6E7BE5796145890A41FAE8BD1839110EC05C325012

E19C69C3868C7507D04458C074DB3440A0E018A23CDD32ED35E7A28DC8AA8BD63C8CD0A9F4876  
B56C04D5D3D5CE52A0601ABE2AD3CF3106CFEA6D761335F420EE3D277DA358DF4F6813D543424  
653B256E325346F677EB7F69B2FAF9536DE80E8EB018D978484509804D600783708D48C4F7100  
E0AF891BDFC75352C

---

#### E5aI Code No 16

93EBCDC22C36C3BDC8B579B31AD5F5C9B2B08218BCCD1B29829A365DF4A8D5259753381B67868  
77A5250DCE6A2B182734E363B39560D3DF44E88CD6394324765087DD1A77B3D8121CB81F665F  
9B719E75B740BD930D6FEF316325B8B3A2FDD93AC488714AD9AB525248EF60B2649B70DDE6849  
BED793264062B38EE74270CC190C6A86AC4E106781BB3D09F0A6D7AA4DDBB0116D3452CE041BF  
F4247819FD8D78304088355D8DE741B1A6461C74A4832ACF4D4004FB22F6C9BB397D7CADC6FC  
05AB74919CA346F9A54DBDA80F8E1303A1D43239C5DE043C2AC21E182CF49BEF9BCFC109BC884  
E41FE2D8669915701992200BCB938A745FB0994E6AD01187C4A24212DA421A178E42216287DB1  
F6A25E8370E4209E09057E16253BF477A061399AD1B3FE985D6A10D8B05FD94B67F878649862D  
68F285EC0BFC06B7006589A590AE7B116EEF8C71010993F4768197473BF22AD54B2A8FDB0BBF  
2B181A2A1CB9FF0D0989F2F68B339A8D8B27FE1781F3DD6F7CB972D73E3DD702FCD0CC3CBDF66  
A6237460E3B2F45DE273D2BCADB96C118DCC19F7C1E703BCBAA04DA5370A5CB3B78112B8E95B6  
3328B43C51557AD84B3564749C2802B52EB33458394747C176E119E1774BC905119312963401C  
1DEE02964DC9F1D836069CFBB9B33791C908ADCC17B08FE3C0AE98C0D5DC0C22876595AF95A0  
2AB33BCE3502A92E532E72D0E3455A3D7EE796B3CD5D61DB902B8C0057F2D47F2655E95DF55DA  
562F632A4F9A2CA8B1D2DB8F5745A71318C37043D3E08F9950D06C1301F9E9FAF4EF560B238B  
EC483DF0E017E3CB27A251156221F183F3E9B0581838D04BEB5DFD9EFC26B979BCAC7DF631F1E  
CCB777E2617EE7386C8BE9834D26B96D80074B8EFE8C8BD203299AFAE8E6F90273B92182CE7ED  
CA9154E0A33AF9981B8CEC94E6A7C78C4716B47790EAFCC771C3DFE276E4E617CC0DA50F05099  
B9BF587127D1D18D5F892E0090C8D033F21E7382738F1EAACFBA493D776821DBDFCCBC24B1D5F  
877B157AE6BF6D307AE9BA54CD053E68594505D038747A7D8450E3C4B2F2E980C5D97A2AFB311  
47906CFD3E9000BF166EAC8D16A532BCF69526FB4B86B1F71D2C5F38958EB11F9ACC438CCE14  
E88A11DC431CE4E20B99DF0ABDD2B5AF358260A64012F4A408C6840D365AB95167B54FD479E85  
27B5FF662161F75FBA7CF790DBAA51613DE7C52A2A94E4AB78E051F32D10233161A4EBD868238  
9D091B5C4509171650ABA574F1FE954698268450E11D2FB52C1AB3E4DF426D26DC6D5319FB762  
CCDD552F4B1BF4E82AD1F78606C644185AE87827F022C9508805472136DC48E71D1C45944413  
485EC1C72BC092D6F9990148E12C2A3FFB3D8C9F91C18CC9086F177633A83F2CC9BAFFBD810  
A99B66DC3B399891B2045BA402749B55E7E363F5D062427A9BFA8B599367F1D07A38DA16074F7  
5A4E095A528C26DE4083B044055F73D207A6571196263D8BF5A53B7679791BDE49E869F0F5843  
1829396A34415CDF4CB986281840BC48857361281CB4BADF8FF5B86ADC76FD3A812D7641C5FC8  
8A21F137A6980B42FD3858E2A057BD4D3FF57A5ED3F5C41C71C70036E1762C0079DEDE2821750  
72A073A90AB83C9DB447AC07E6BF99DB04BF276FD876F4E4816B0294333BF3403DACA2077BCAC  
3889B55E76D62F58DE7D1C49816D03DA2D492D1F3CDB2B6B186439CBBFAABB645E9745F404538  
BE8FC4C698765A3C67D01CB54D404D2A2E78098FC334F0A375EB41C3031F57FF9A773612445AD  
3D98BD09C949616D4

---

#### E5aI Code No 17

5D55CEF58C74B4C681E813564F1903FDB56BE053280D438BBE5E2480CF279CE47FBAFD179E270  
D838F764C2E7F496AEA9C0800056F2E0456EA7E59CB20432B65875455975AB37186D6B06FC7D  
0BEE743CB974DF92B19F4D2EEE82F36598F8E400DCACAA4EEB110ABE352D3A0F58DEF8D51DBD  
CE5C23E84D1166FFEE5428541ACA407B9578E4295C3F79F9376384B630D25F11271C6234B9AA9  
C1B4C8015AC2C73CF768B9EC30C61BBFEA1426F72FFBC995A834C9D4FB8350C301133F123313  
370C33FCFD711D1847CFA84E782F4B39762A02F9476D5F45237A29E3E269D16DAD60033E0907D  
5431C1CE36D37BD388024A020B612E1DE42492A3759AB82AB393237F4A1AFEB8217D2733916B7  
B610342C0D182C17BFBD4556B071D82E6C6E554F2127654C15671FA1A843347BDFBF9498C7B5E  
7636318C3EDBAF7BC4BCE123698A05538DD5D42F01970A41A75F0A46E61520911D86A39D89270  
0AA23A033EDC836EBC17CD2EA274252F53A4BF8F5D42F01970A41A75F0A46E61520911D86A39D89270  
F7D18357DF728FB66B212DD4DACA7218292216808E7B81E3514BDA947E436A301C4181CE53A2  
98250835AB98DC89D0A3D6240C57C699A5BC31EC4CBF8C111149CF6802942256520BC7FA22968  
556E2B390E63C9DB7D0AB79939924ABF068BC3D44264D607F088A38FA67F8E25933091BD3EB0A  
3590F3E62E63CC6C66AF66128F7C3F97B76E62F1AB82F24D8C147FB2C8BE207FBAD7E5CD35523  
0EFD48DC9FDAA4FD1C970781674E901D35D7C651EEFEE2356F825ACD348FF0FF590E8CBFA0332  
F77A063581E6F19F53CDF1BFE952585E93EA13A83BBAD06070850EC824397A9FF13227F4C60D6  
5B67AF810EF1BF5D5EA95A5512F95AECAEFA25BFBB24CBE6785E91A4874E81E465AB91B1F2E99  
0F37AB145645F2681B47592990CA78264DF8902620E796D4DA9A260D1BA67DF9BB0292561FACC  
B2478AD7F7D7CAB3DF179897596604F2B0F1E3F10CF842C311F49C6B5EFD5D73DFEFF59127384  
D3B4D855F8C412E949E3A941782C186413946DF8AE33C9640704CB0D930C12F5FA1C4CEC5883C  
DA699E294019562948AB028548FA974D6C56AD667023F9C417F067810C4C7E4A712FC3417A92C  
075423A57C208AF683DDD695AAA5F027CE535412DFE0029B292D32B2366DF978294FD263DAF8  
C6A6F7CC895BEB1437CA189C2AD9B6FD5BAC06DDC3D075DF55BAA6E75865CE375DBAE862EEB7A  
51D0DDB5DFE03234CC8F14EA99110DE78A3463546C6CC5F7C623028134968C59E247E642CE17  
D8933B6701DB7952FBCDC6CAF7F2FD24A241D82D8BB1C0F5D55BF55E57BE4AFEB4200C1C57938  
F4A6B1BE9AA02FA86AA811577BCF1D6BE545D6F12046735AE963DC7FDAA9A2F7270B8BB37B3BC  
EF7C73F59013041B6CF9FE10FAAA86DE369E868FEET737F62E9C1409DFF11FBB09A76AAEAD  
0F8E443582319F6F74ED0AA3229BB7A50043636E881BD139EB7442FA35F5DE1D6CC227B921A13  
43E34030D2F1F361D7651C487282C907577765161DB781C49655A5F87BBCB68D08C04290B4A2A  
94B61BD0C7CFA41821B7F5641B899E90DA026290FDCFA4FB956414523041E14ABD7B1AC7CDA1

148A03B6EA17C49503F01707BD3373EACFD4E248BA0F8D4B845251BAA35D41DB186E10464F6FC  
CD2CAF9CB06FFE9DC97FF41E07084B00B7B31FADE0E093C8968D1CEEF9810986821F1741F11A  
71F5F20C809F54852307FBF33A6C33C6A230EC7CB2CC6C44A3A53AFA49477037E55BE691ABDF6  
D4A852799453930A4

---

#### E5aI Code No 18

B19B7C4DE003906A0001E0DEEF57CFDD2B50514CDD6F57FAA2859061678DB9F8B5AAC67442D8B  
737F635DC297E3A46C34735AE4D2C607B06964D1FE264B7786B8B0604781D4814E2A81F3A0250  
D4EDDB77C121B962D0E7109A738630557F5AD47F95A0971A58704CB5B53AC378781B48D67FE5D  
5349440261C58C26D9370DF37255CFE845F7B0F735CAACF4921CC9D55B3431C6C888787D7C2B4  
36C9DCF1DB94FF0D510BCF15DF0DE42AAC7640741B4893C960FADDCE4261E6284681BDBFB0F47  
1C864FD5600FD87DDFEB4EE7A1267E285BBF2966F6A8BB408A105034220F2565E38F6A15A45B7  
FFA82DA63965BF44A182FB4672E90BA7933A0120A449323340D0368CF057DF299A8CF60035170  
D197104B394CA9F2A05983980A1BD93CF3AF8799E613BCEF26234DB2550A15BD53FFA306D3F61  
6D78A6204AD1D50FF4F9972B0CFEB48B76516155791C14E0C9E18457900CE13F672882BF42340  
0D2E6FF94CB16BF3071F44CF2DFE8317A9B761FDC8FDE90D7D05827521B070492AEAC90187EE4  
8D93374B463C3381C7D80178F54C676479BC92470FEA7069CBA95BFDAF099A994AB8244CA786E  
7767B8400464BD08D5C560D61F27A96E3886A4E821E0087E7A56F96DC6F6E85F1FDFB5C82FD7B  
D48B63E794BDE01439FE4C3D7F08864263A0A8B1C1ADA5DDE86B99EB2A619A12A1A76A39D8B  
1F04AB55B67D15C7878651BA1F6621658757B890D80D2BB533BA1C6A5E3226DB4FEE7D561842E  
FCB5B459598CF5AD3F98217CA720B6781E83C2297C96F4F51CBBBEFA708AD4B3F682FA0C67C82  
A5F5797030E0724AE9715A911CEE347E80F774EC780DF7E2279924F67ADF9D07FE4F56DE99E06  
B58099E1104DCE62CCA82D100D90BAF44F26F19ED7AEDEAE609C04C530CFEBBD161A2C324A38  
2FC8234D405BF900F0B6CE895F9BD534A6474680A7D63C0CF7B4AF1D1E93958CFC02FB379AC09  
B205708A68D11683B9282564C06290F5E6B57E3E7A75D30C9E21DF8F27F85E1FF347B32105A00  
0BC613006BD7FA6D845C8E6D4053FF012D0D85F99737D045871BE017D672C8FDEB16F944E3020  
BA7FF0351A303A0D3280D71CBDE42F55657671A79CA30A7A33E744E74B34D27453654DCC8E879  
11B3701FBC27CD16C4D9D6C29D1BB9AFCCDAB28DB6C2B42C5D6BC1D1386AB26669985B626BD54  
791930CED4A13716BC9AF8F4DC37A0418FCF711EFF515B92C943E53879B5098BCC4E87B98000  
BD0BA2E1CA3C7A97AC95C1AD145EBA3950B154888272A0ED49289157091DB2C55D43AE77FA338  
4BCE92E5840459B405237E194B6F5788F16B217D8BF7539EF8809FC7AE1BA931DBDB2A7D15F13  
9EF4FDA60F02FFF9462777647D675309AAB8201B5FCC1ED7AE066FC0E4F32D260DD9406BCEFE7  
DC5DFB38D66CFA08E5CEDBA636EFC23B3CB7AC38FF7C390542C9814A86D2D8F676720B7E2FD93  
217F916F10FF34A1AF34E3B8563319E92A3BAEE34258B4DD63FBFED854E08B1A2F4B560FFC40A  
A1048F081E66748E05EC3EA02837272FB9CBF1A658B86B19B7DFC63436185D02C64111422916  
45692A92E3EA6A113B5436B0BB78990942146956795DFE003A4AB6D9ED875FE7E5B895EBD69C4  
3BB7317CA5C97BCAEA97CFC6068431B24673FEA931EC1DC1A3F72625AD531CD89CBEBOE07F47B  
26971059FEEAE3986E23286D13BADEA3585D73F1092E41AD041D59120D3D25FD3BB0AAABABA73  
8049C91B22649E715F3710EA51C41C1705C4F1FFB1DCEC85F0EE704240EA8A20526DC01C7C838  
9B21DA979B99FB44

---

#### E5aI Code No 19

5805FC5E7042027201F3517AB8BA6F5C3BFB0BC7657337ECCC99CA480BA9C3D36033336AFAC0B  
E172AF430A98D8462D46453E935805E594C18C0EBF735D90D5027067006193854E7DB6424688B  
D715A7BE72EAF93C2F763F3BC340EF4BCF90B03AF20C28A59F72114F693848289873BE3869590  
A64658C0A3938A414BDE86BE80BC25165217B1605EB0402FED48DC09139751DC1DCFF532CBF59  
9E9AA13F3A72142E05A1D8E47A4044269A0B414976670094C9785811628718C6FE5201221A582  
2E29DAD564B6EECF025DE7783B7842DEA40D4F72D083D112C608C596F25E09EA85BC6CBDEA393  
00774301C1C36790D7D9C0B59741F6B53E16BCABF8120112C81D70F30E44561EBF3A3A4571F20  
7305BB3A292C46C46E285C246EE9A7442F869711F52D921EF379DF7CFEC4CE64BAE4D7AE7DBA3  
CAF47EFCCEE78B477C02550D1DABE4FF4EC67A38A705F60706D948C017E333B645C0D80AAC1CE  
A393CF3ECF711CA3D59ADD7CA02DB6C5E3F259B4ABC138D24C7A650EFB96AAAE93E69F08077D  
0CF38B230F199C3B353229C529278DB1F5846086BC8F5F49F9631423105673FE92799FFBE5DE6  
ED167658BA5DB5AAAF921926FFC27956758CAE8B2367E3C5C5C6CC81DA875AEB8F3460275C4E  
E6EF43570B4F571994C7690FDA3DE311F2FB77057732B19E6FFC96221DE1DAAF9B8CC216091  
60457365877519D2B332FA3A85B9801EF435D04DAEC3643CBB5413A036CC1AA0968A40F4EB5A7  
6D2D0C3DFCC53C97BB3896E855957B1941FEF59048562171F6241AF278F6D6B580B4C94C5CED6  
5CBC0F810D46E864C2B567BEC920F6D1DE42CDF32300805E6022EF184B43C1733F809F98B129C  
937930B984F5539F574AE144EDAF7BABBF379EF1A1AE69B7B4FF9212BA817A4F223FA8B182FEA  
231E7029F80DB126641725C36AB4AE950725435561C6FE37F960E37927585026B8ADD92E4ACA3  
B4500FOCBE078680D16DBB90ADF6A127FBC7F791B4F93D5463F8C71ECE1BDEECA881FBDF3D29  
40C2EA0F8E4DEA1074EB5C0C9EB34534C9C3992E988DAF8979FD8AA90F540F028708BC6D0EBBF  
C00FA946DEE5E9D01CC272A4FE61E5B86FF1347340FE64F650996F65E5702A61FB53EACD457A  
5ED66DCFE1B019A79104842C51B60142267392DC51F86F69367C25B999B3153C1B7895298B6B1  
B43EFC8CEC3694F90BBF1A417C48E5CC4983782F874A7C64E05BBF462220950DA9E8F56BA324  
002E91D934469225E57309C7F562407DB900267553B85C4314A63351F20D57DED0B3D210269B0  
9B976C07878C324F74758D9D507A4CCEB4AA30CC9CD05CEF32F1174C7B0F7AF93875F66E3A7B1  
2F163920825885CBE5092CB7728A1B74B2F3FA9A01264214761DC5101BB0C18D65BF972A3587F  
95B3E13F52EB6D1F334B15220ADA5A59497558EAA0F4ED358A995F7444B633FEB900EFD9528B5  
1FD82F5AA30699900D3EA3F3644E4FE3F6F2900ED45DFD997FA905D91521CD9C898AF4CE09B6E  
E00A15057C17DF4C656E00DD876529CD75A169977962DF3F6E4CB6950BCA37A79C98F108AA7B0  
2AA488AA4ECE05F702B468C20C81630F51F884AD74A76491DA378DBB8290ECB8F5879F019FB4

16BAF1D9361126F3514557403415F286C8E77C0BCE4FDF0F4EAA96D19F22F189971155F749EC1  
9687657B245D392BDDA62935A44BF6C82E0AF3593BE06745099F06DC4A66C0768F17916AA3609  
88D5E578D169CA84AD1A36B12CA4929223BCC52AA9B47FB138E999CD6423D1171AD3BF87B5D40  
5A174B0398A689DB4

---

#### E5aI Code No 20

F99EA1599DA410098772B05B5D7F9AFD485A04CA036BAA9C71AD5DAA3EA5F1C757BC83F3C0028  
DCB93DDEFFD157EFC2CB29C0F8146D6704D34091EAF1EAA29AB915E652309491F0BDE63217291  
4C132CB9A533E97F89F567A7A9B0776B400FD8EE71B49AAAED156753F5BF564CACE2C1285C4E  
65B5D8B2803A11B22350ADF79645AB6E458B1C9E2031C4D4D6361F77B53329C3530F6EF727225  
DE668A960FEE1F6D7588BC126D0E2AD23C2ACDED06AA2331E9D0E7F99234A391926F0DBE610C6  
00964E89BE1842CB1F1551D5CDD4AE3FE45B628E9A990C872622C9257BE40A8A124FFD6B135BD  
D2EBAC05E2DDE5B7DCC13C76C27C8A3E778063F3DBB348CC52836E92A89641F4559F377273FD  
51FC45550C727689CA4D5CEBB26263F4268502658F40D4EC2BBC0DFD0E41F16A399F02711BCFA  
96C2456EB8A77FBEB852726B0DE4F927C13CCB329F8B9BDD760D1DD299863BABF42EA7D7F6204  
BF13F7355610527A38E89F66D3D73522B421AF013197D649D64EAD17F6A6BC8148D9989E786AA  
A94FA19077292015EF7CABA4B1545CA9CA20E5A816D6EFF7FCA31FDFABC611253FEE80FF0D755  
18001C2DD6C604387C2656E1362A3EFC1AB85461A5B55C6374733FB6B17090E6EC1186EDCE2C4  
9EAEF84B139C66A2E8308CF2370095B0129B6CE7FF6E17D14F79258BB3E555EDDEF12E634A5AF  
748BA40735B90BA1E7DE7EA00D2F4A8B3BED32BFAC17D10050B420DA32EB6D14035CEA1B7951  
592AD75FB751FCCF190452F88AEF45080161C5544AF80FB0FF93C62B02B2E5D1966F77760D44  
6F2625C3FFC91A07A5E852BE406F1638B521579FF299227769DC4B88A805E168F08ABE606B5D7  
45433584BEED712453785B1C01D2B9F1020BDB7EF11936F0BC449F26DBC2D5FB35A2131BE9C0  
DE2746DDB6D0356294D0E09076C9A77A076F6B659B7B4F54A06BE2F353A3A0EDC6A5123598DF9  
BA1CA852A5D1FA16877A78D88F0B367E6C4471758F0663A7498CB1C8F13B03F0E2A941DA89C71  
7A15143F4ECF594B0DE2E43B657DD87E4BF536CAF3820127B1FBBCB0F2E53B9E0E1CF10191B  
A9B43D4D33FAA379B1B543C593F1BD5CC05E0B7511E8D4925BBFC5923AB0E2FA90D05ED580F56  
071A62A334408D3C454C892328AE1DAF16CBD530ADA7B858DA3763BACBC989F056EE1D46192CF  
F6DDD7F066D2EEDCEE5BC6B72551245EF8D10389984D3B3455A7B9664475CF6B837D72D42E49B  
A2F61298DE9BCC707209D7F1E56BCECE1B21FDE69293D2560B8940223E0AE966459C249751A2B  
AB98323F184532F4D6FA396D5C0AA2A4A41C75C638DC3DA5822AD7D3D7D51FE0811ED3673D875  
039D3625362D7D00356E8461FBFFC49FE1B0624F6D30D550FE1F5FE4211341B9D57D210237902  
BB7C62514AD872C1CA8797680971781AECE1E224733079478A5DDF5F2A067DDE111A3FF911D0  
B511A6AEE16046039B229C00D6D10317F66E1202449DF20CF28BBAB4112948C65DD7342D09059  
EE2701B36E2ACA6A9948F818B61B9A3155729EEA670D4AEDD6F0AC314DB12E0DA62FBA01D419  
F7C48B09BEED87F7292FB0315A597CCCB7B51AF776509818A73A0BED7A656AEBD7ACA26466057  
97940CB737548E83653E204B6A7A5AFE2EF16EBBF73484314C5699EC8D24E899BAA0E202F37E  
3C8D8B5F75ED34417E608EEE4B26B453C07DFC6E62FAC215B6122CB14A07739E86FCF816398DD  
49970AE8A216BDD8C4C478647A8D07EE8BBC6631C22920474154B3C83942C842A728EDCE7466  
565D9A6BB030CE684

---

#### E5aI Code No 21

B23CE558D0DE0D584768E83A066B9BF6A12C78D173AA3262866339B86EB8A8D5208159C5873CB  
29E9C4C0BE918CE4E8DA85C85E070CAC29850CDE48E2DC5E0609F419CFA46EF650B9022273AF1  
4BD9EA28FA856B7BCB580D8949C1F732F87EB34BC1257205BCB6820FDF3BD1E7B9C99E114B3C7  
607D01235E111E3AB1F30E8A9311F0F30B601C833FB0D8C4D76AC1B02F85E93D4C3D0205F735E  
20223410CCF56317B6A12D07F3BCD42D2023BA0676A00E7268733C41C8C7DED2555FB2D2BE0958  
4B3063BE41BFE93340955788603F1D52190B35FFB8148CEC733CFC1BA49F609ECD3C4512A9930  
8043F3C377EB65870535388376C2C748D18A748F582B3362666C49F803828B4A019F26D6A936  
2726E32B650A85523484C4BB2ACFCABD16E754EECE0466D1B370175C37C8CE9DE236FC58ADFB  
4FAEAAA1E048BF40CE084467C8835A1E209D2CD67C5BF01E0D62CC78A12130F5EF2E3CFCDDEF  
86D489C4C5D9AB99484CDD469F2F8EE5E14BE43B9EACB92E72237FB54F9615627EEE193EFF88  
8AA0A908327C61C50D20C613C933D736F6C3D7F60969A5D3770275081365BA8A57DF600F10A16  
52167AE3E18AD3715532B7C4BAD97980DFB0C4F69D9137EC7B21BC72AF16F0BEC30B94A4A5C2F  
55074ABC6233CDF4D8D347F4FA942944D9B2539D0211B24E2C7FCB56BA877371AD7701ED08726  
9DD643C4B62E4B40D3F6572C0730E465C5ADE50FDD11BD30C07EFF35AA6218D0B73B22095D32  
0448E0671E1CA59BFD52A517A50932A06C4897BA6F7E7038A39C92C20F6DB18D6F6AFB3563D10  
BDF48BC194B79FEA6861F1CB9756281E969968B65161D3980C4CBD036467850EDE9397321913D  
57C1EBD7743A44A12E8C85F8D2D1EFE2A8754B5ED0E93EE9649C53F28129130DEEE66E5818178  
7137B262E1EB3FD8EE0604ED1AFC798B198044DD5D0A3E87A754C7EBF0852953ACF3371BBFA0F  
D5979901252EFF69473FC5655709EA193DCA2A2BA63D706C84F49802684F80C576706FCF1BCEB  
2892B9179A72B7CD886AF36C7D3ED09270A4077C481736BB69A333AB4B864AEC1EFA944A5916  
08A2469C85AA6431C47F657AA9C2043F373A69323E735B56BC8177E1E37AB03BAE93A7B304EA1  
C5C52B244FC265EBD674FA7F1647E29CED527FCBC93CA7A56A4E771D7D2E576C40B2EC736DBB  
4FD7411168C5C568C446D1E454249E6F7529AD83215EDB62F57D25272F351CB2C40965B1DB65E  
F5835923EC2D2FC7D8AD56B67980A3DBB77E6C4415F54F3FC00A790DBCF39A2FB699A20FC634F  
1B1C177C37898A81D7693B21020C6B592E5A6359AE395A841B434B675F1C30A9CDD0ECF987ABC  
2406178EB2DE941393AB4F96BCD43626978AEA548173413EC9DEAE7B53B175AFAAC5A1E02D6EF  
7E27AC41268C1FD88D83D1AC55ED45D087083C0D136048B7F61EADB94C88CBA5503000A90F91A  
39A8C9E2DED567F7FA0DF605AD7870189600B941B99240A15310E7B3FCCF5ABDBB56D50CECC06  
B4303BA39EFCAB2F7E9F5CC8F542E9603414515AFE3788DE0A4985EE1929D4935EF975E760DF  
7FED8A257718DFDC5A0B4B87024C59DCC6FEF6F2715582023C3C80EAADBC7AA8712FFAF80CF5E

159CF5418A1CB50845C97A7F19DF3CC5FA344562DFDD819DD736E9ECEB7BD57AF324256934CE6  
DB0CF295AA0ADC5931D339027CCCDE1441891067DEA40F69FEE07187F9B78DDF6D59CE02EC3B  
A6DD68F06851B10AFE9672EF84020CD53ECA25B3D5E527405AAADF60593A8080373A387111EA8  
98499F096FF46FC58

---

**E5aI Code No 22**

8515E8CF42FC33A8CEECBD6E1B65BE307A5BFEA9CA59FC51A382C24CCCF012C38DFAD3FF3DCA3  
180934DD6AA52D828439F1052A959DE23BDDC3EA3F2E8CD70F7A765F77549BDE6CF8E444762DE  
51CBA3431439D1F1E42F1773FCA2F90E48126A000E69C0964B1955F586CDE1895419083322FB4  
E6528F61768F8BE4CDCB37FE9D02B27193A0BD79D15F3CC9AC6DDDC82B02201BEAB86D13EA56  
0F7EB5328AC0B534C52BB9D266F291425EF1607A19AECB9AD681815EC4FD1888BF5449421D92E  
473C21BD44F2C419A0B3E0603E3C5C82E56466C5A76B76F81A6C394BA693991A5808334EFF1E  
996AA1B1394A4DAAE00995F02E9518053FC744BA391214DF2464DB9F01A5A53870173B3E8FB6B  
9B698A8DEE80745D7F71B70B811867D3513197B32115882348FC704B2AF8BD6FB3BCCE30361C1  
198B84865162734719D88BB62B7431FA39D452E0A1B0A7E45534BF76B6AEC48DC25B7487FEB4B  
5FFA9C56CC7C83E39AC196987747D664943A600B106F0C3D6B2D0D4425073EAAF89AB33BF6AD7  
6B151CAC32A670A2B03BA31FBDB48B949D3074CD9F56D39553708CB0EF2BC96170E2FCAA3CB28  
11EF1C67FEF6FE85CD450FEA37A04A07EA732A696EAE8E76D497F5C350CDF72F8970FAD94C039  
09F67FC895785D5DB6C3A68641D68895AC8544C6A1096DC4CCD45A68BFED7ED86961B5E035E61  
E9C126319A7B3C1468457C423C4A4E2DD1D42BB90C8BDE2A162F999A8C3A99BE998B9DB7A14C1  
01CE78F08857ADD9A96059DC22592B90488D77D6F0A6D459CA65FC947D742714A42277A79745C  
73CB157BB825E6587D9BEF5066C44229ED1A097A6B0308DF2793A2284F911C764BD1158742  
EF4109CD8AE6111DCF8404BE03409FA6C430829D0C9BA28B466916C67311F8BAEA2D8CD2DF9C9  
5094E4FC6D43F4491AC5FFB05BA6B7DB9D7FE4A6DFC386D136B1710DA5F30E67C8DE97A98189  
5476B8E4E0DB5E1AE630C8034F949AA4095DC81EAA0F645B0B440138AA7C5C7C5FAF3B57E1504  
A5FE477CD61A355D9A66C39F89E2DDCBC1862E19102205A9F343FAEA71D4C67192D4D5A1AB0  
8BFADAF6753244BE5B14B1F911700B4A947D53645DCE170401135D0D7E968F03A9B19D2ABBDC9  
4BEE623FB64C1DFC4AD9040197C319A79391016D6D44B8EBAAD5B2F1AAEA58AEFA21B5B3D9ECB  
66B3B70626AB31CEE5CA759499073B4FDD9645739E58C0EC871B95C7B77F74B81C4CF5B1B243  
BD35F4D540C1CE878E80AAFC635D363B9D72DFCDAFF62FA8339BAFF4DE1EB3E146DB93E7E4444  
03E0D4290AF501C841B66302A345F5541B1C797D630B5B7E788A793192CE1F362B22B91A83718  
4106D852391A241A903E3BECD192C4F52586BA4044C4FBDB20B711D2624B6CC13E0C5EF62F2B  
2E00CA516991C7572732DB94DB809FA0535D2E8376685506186170E3702903A6D08996BDE20F7  
4BEAD391245680A029FB439FFB96EB829F0BFE58A6446B00B4E1894BE1B5017F706156072E2DC  
FAB25A3BED2DB310DA1A7262ACF24A65F41FADAE3F81A32077BB9CB64AADCC2F92B95EE56F20C  
CBA24DEC9F5F75B36EF1A101D0F3FF6D730DC199869F8F26DFC6F51451BFEA2C0EE77CB17422  
E2790A8B29573405F112EDD704E3F46C7CD8ACF0E495C6BA9ED448B0B89A9997850F09A813FB2  
3788681D3CC04996E931CB00A879E2FFA1BA6A63F9D3BBFC20405244B0F838A040F125AC2B499  
9A197A2D53DEF8CB167FB7E37DA3862CE3ECB57B081DCFD98894E45C6019B9229315108E37DCF  
C57C9F80201486AEC

---

**E5aI Code No 23**

4368224792A5CD4ACD64D6956A334DB4614EE5EF8F98EDE0B4A5CD3D06819A4858EE0037DE64E  
D93BCC7FDB47E90409638B3789BBC63134308B9727655651902A9CAF4F310E93BB08E1F1E4B3  
25D414DB5D7CBF660A880642A27378A7427F2627BAB3444149181C54E9D3FB7967DE33BED89A  
AC255A47482835D17E329ACF3F08F23AA1DDEB730D9602243A6894989EE2D900FF6AC0579864C  
2361EA56CBCE2F39A75A12100670AF3FF1A36E98D1931D17CA68D8D031C527EF7FFF35AD6E0  
46F4AF1B2B3F66210D978F8607039BBA99AFBC6A499A5A948C5C59055A140293CA97306BFFCEE  
37CE77C114478D0F73D1C8C9954780830D56878B786967DBBC71951ECF815CC4266D66F84195  
CA1AE0375E90017FA5C66DB8329D668B6C0BF85742088B7A3256A3277AE2A1F4E72BBB82BB2  
A59B08FC59F5F24EAD5F43D95917A144B4DC6587C893314D5C2C427EA92D02E6922FB0B60AC  
A646092E0D4A127799FEE4B76587F26AC1EB89BE0BA46F2A21ACF50D93D3345AFE72AEDA1A0F  
855C45AF1E14161E22DA3E223CAD6B47E591896F4283F10C4073AB524CF5D0ED88F979458BB928  
F1C179E2C5914B4CC52CC000383D154830A54332D4C0E652F98B91BC086370B04CCB1AAC56C9  
A33B9F0A65C33467BF45C74905B67607B83FEDA063857AC4E326B4293483C8841572174C8A38  
4014945F5C3072C5575A5BE322E3F2FE3A7E30F3F21118FDDAF23645A40E0A359A3572153F5C3  
ADBE1BBC4EBA5E063E9F73510C5D1D4326D3D7A20384724279C3B4795C68BA332EA706E812767  
2E41DE4BF1E8B5EA60B39CAE2C3B7B21A225115BAE051FB0401A69A7FC56AE4B7E31CE2CD575D  
82C8279E8B8499EEDFC134503E6798056324B17B8AB045FFDC2A35B190B39FF212C17C36537A1  
F99F2EC3A4CE693DCEC7DA80861FC6F3D064B82CE5581F9781289A085A300CCEFB6E80A86D961  
408250846A374ED00F5379F446FE6E551F608AC3D71346B738C75DCDF63E19EA79AFCADD5E1E0  
7E2F7C0AC709F6428FEA1DCDD835E3F56B026CD8DC9D4629AFDA9015295C2CE55DFD9C8322382  
1682B5AF876B1CE156343A0F4C1655448FEDBC992602BED5DA4B299B86EE2F86D02C757CB5696  
B32D60357B21F9DAAA06EB3BE2E9117D2C99DFBB5328B3636F41A06A020E3CB47851891AC3825  
369C037B0C0D8412204FC3D5FA9585F3218F01295375A09463AEC65F591A594551E19DD00D573  
8086A31712AE9FA7BABD4E9C10E9F4DA82C12EB2F3319E852B96E61EAD2F85BB6765DAF874FC8  
AF42746F14B8FA489DFAA9540B4D0470CB31F99B10C335F672C2E06E8A2378B9DD28E8F56BC7A  
4C017327404C79F1E8E67BCAEB5C4C793C176F0A3C1833007FC44103DCC6E273C9FD1909AEF16  
56E2B5756B7F4D69F4F2EA576228DD794777BEB2F34296691A1FC38AE44FE60A44AD894CE92DB  
77FC0246C779C13E8AA16648843BA68FC5E4E02FB564B0ADF3163C5E167C275A8C15E58659E2  
F70A3AF792565422D3327CCE25C9D488EF3C32B195066BD27DBD44EF1A20AC6AA22250BC0592A  
EC734477E1112DC3913F6B7CE323FD1F7B3F8299B8C9BBAC23487F735070AFD5C3627506D4C96

B0A1427F7EFC07EFCC62DDC5455A77B57D3FD0B8CAD30A346F8C34F42D87827FAFADD54264A32  
3907A89334C0E7F98AFC9060D7767BC9D8D261BC0BF64FCA389BB192A9B4B00CB566D254CB022  
6FA17F3BF21E2926CA52CE5DDC401E74A92C7989552CA66675A9BB9E9C198BCFFC488BE1DD5E4  
7DEDD94015BE09B44

---

**E5aI Code No 24**

30F77B7E7E40E42A52452A26283CF3A29B02DE3398DE5179773F2CCA4978059495B9DB13069B0  
0107462C0034064A024DF3AD33C063F9608783E79E38F706B92AB117029EBD6156CB5D2781498  
75B95AFBE877A21AC3128BD6D0B11D31DE7A2BF7CCB68911309BBD2215F592D56AF0F700D962E  
49E4C6D089548C7587B0598374C3D7BE80F7F20D6855AA28A27AF668A8AD3552CFDE3CE0B35DC  
EFD5240C8FAAB89D013D0DDF5B66E60328AE32BF4EDB8021E43762E96E5999CF23BF2457B1CD7  
5D1457D4926E7C2A324BCFF70A7CF59047DF3F08EAF2922CAE6A7BE1BBFA3BDDFB864AC965B7F  
F093CFE74B53DB332B411962DA01D4E6C62CE6731E893574A097328CA7606ECF373CC987F98C3  
1AD74EB4A863084266869D28C07F9C5B5F10385EE44E463324A81D523DFCFBABEF20F3F71FDA3  
3B7EC1B2A35A98F01D13693CECFF23E00CBDBA2A2D09C8A86A819E82D781AE88B9F207889EDA1  
EBC54CADE6A69A564ABF48F950FFBE7A86243C544A78362D9BFB6CCDF20CEDE386B9E3F8D7EE0  
E4A58596F095AC1B99E4F787472A734252D6C00B177FD2B99A85D49B9C0F32D728F7D9BA4DF96  
D1BF6C365F5F4EED7D38727B339A223263B58560ECA6778069DFCE48703AAD1BFAD59CE298C6B  
B464552408946265B1E19C1FFEE00071814FB5E4688140E1333B270F05EC9345E8BDF7B412F  
295AE3DD4DBF33D6D2D62582887D4CBB9E55F5E3C1BC32DC689548B66893356704968C143AD  
3CC2E48BDC154620ECADF336E218FF1B22521D183EB2D13B15A15D39A42A25B46F1AEC07A14CB  
805AC382DAC8C9F6829B8F1D241C5CDE5D849DEB242295D7870432EBB642A45A6C6F1C2786B8  
8C883B9B47343E822978155D079AD9F6C8CD4A21479B32B211EB0121C3C74E7C23284812F74A  
2B413B9A18D6372AA3E09BB04A262E7FCB6FABBB074C7C603C89F7607F83DA32DA50F2A19C38  
BA0965BEDC7A961966895E17A20A4D8028FAF7B6947A1964601DA45643C5FCECEBDEAAA83EA5  
420F2984CB606E9F3191EF323D644635EDD801130893D84DFB19E661E04188C6CE596DD38C11D  
1CE5DE1EDE0D15D8FC427842085D300E6801CDE02768E44BAFB302684FD945C9AC722561B0ED  
A92E8D845EEB99F6FB1889328C74D6D9CC6DAB59D55463A613AF33226660C0C034B896075D9EC  
2F51165A754A7D2393E15955BE327587943ECC1F3BB97180E751941728B94948B6648D2C606D6  
6B9BA1898FA28EFA38A413B066D715F7DC5F0C755B6A3126AFCB606EC6B12E332FD71E386ACDD  
D1DEEF1533D6386AE5994BF857380874B14ED836D9DED47DE4760ABB05E80DC622C8D7882CD7  
4B2720884DA747BAC3ED9A6EFA2287D5F7D6AC7821E79C79EAFE7A68D2543D7CDDDB63A13FBA  
4B894A6D0B3E14C44876364C9FC93DC066CE953E89851A49B6EDB38661C9316C82ED902EEB89  
4321C84331F6646A5C1AFEF832F38AFEAB89D181D3DD1338DAA236BE0E87A6381D00845CCFCF4  
DBEC3D41F8AE1E6F39167A499945DAFE77601147EB29804A8B98E7EEB31DE20C84E9148BBCB15  
CD02D1E3B519EE0A2E4F70F57A69281E651B189C08D575D52E997E3A435B4CC86F938BC79EF49  
61CD03DF8B92A8C507DFB2DE4D5EBOECAF2F3D712A46CD3EE01B8D4DCB845D23E53A2E01DF3FF  
A100078F7B2467A45BBB4A18D14E0FC0D89433959F07F6F60F651DD7FD9828069D340D048FC0  
79E4F8B92824D54322611A3698FAF181008DB5E3E327EDC431A8F6E481484BD5A429D0F5DC55A  
EA8A18F719A7865B0

---

**E5aI Code No 25**

A7D629A25F82015CD70688CC461244E4AABDCBF2CFFC2D73A3247F4264101FEFB5759FFB83E8  
ABE9EF5B6662DA3CF7196385C05D0E5BD50C71D3CED424AB805AD632F2C1930868ABEDF493BB4  
E3A9DE538D8E35146320EB9F5B71C40E6F32E9243E6A25F503B68EB484ECB73C436930F30E277  
6D17A2E5F9CAF157F368E0FD9C26A9E9AE30A30E15DDD8A56482C85B46F973D000292CFCF0021  
577E5DCE8220353E23DD8507D0F561BBCD96F6FAA451E9C595E00CE0F99C8C40359B103D621CE  
0C837A3D1598D814BE6E22B7A509DBF1ABD2E6A0955364791A5910414646F9928B5676D590F4  
1BD128A55549170211A0630BF5C5BEFEA204896C7FB40F0C72E40DF19C95F3A0ACD641834E5B  
CBD26E91315DA34708E2025E0B7D38F9513945DE44AEE57077C8CC32C707D9A39BF098E492842  
0B3FDE8C74F39F81790D827A628B8F2776251F51095C1193B2FEE8C93F49DF6D4E3C2E1BDA52  
F7356394BD5A675543493E04D602F332761AA1D57DF3E8F213E4E9B8D4BF6C8BE8BCCF661507C  
394CC9D5E9DD4D81DEAEB6D638FB9225247818710E4724111F522610075AE757AB5ECF6FF32CF  
087DEC9A04A7DAD8C613B22F2AFD31466574AA87CF0B8545B38C53A8F4597D5F1BB6837AF2611  
4D72C609B624252722DD867572D449ED7C170F99D4ECB995B76C8DBD14F50F3DEA077FBE4F838  
A03AF1DA6757C70C5F3394092D7EADB1E0A859A8487F70D9F7EE523AFCA08DAA5F8E9260D6333  
0773FB7EBE01373C3719129E483DE3D132697EC4C108654256315A38D7060C6F52B4A444EF33E  
87946C2537A3FB3B5FACBB0F3292C7F2498F0A11509FD9678CC7C678D4623DC07D8F218E4B65F  
2EB844D24D696A31483E1EDD1063AED60D7A110F7992E3E46F8C7D5CB1AF02D598440D79D649A  
A415E5F3ED033A8FDCADF8DBAC48F9905BACB37E31ABB0174CC08A9584E25B94423BF395E097E  
2D0B7ED76B55C6231F180D1A7BD969F6B874B9255138A1C3A2847EBA159C7EA281433A39D2F88  
D724B6350E846B365BE838F25B904E7B02B12ABE543961D33D991D0DA93310CDDA1EF551D7B6A  
02765DCF0D870C2BBF578BF8457CA1B599D0FE445B1E9C39E9C8756EDAAC6A10F62C84F60A272  
68FC5B436A323AC5BF4A9ACFC55510558C5A354D96A5D74F69687385C123C497543EC14C40117  
ABE46C22FE54DC4D2D6F4823A7F3DBFD3A1FEED428B90945B8F6B2C9A162F9C0287C758603E2C  
7845A11DDFC37B815A62A1A665C3FC003DC9F064CD5D950D0EE02F48505CBE1A1E515E6516E926  
FF6DC0123E1E4F94587F1F1568DFBACC3728BDC1D153196CD91D9F6DA84ED6B70D0DBA7E7DB4A  
71B224E5122328D1DCDB9FAA98E88E9823A49E7560DF822D67C908E9AFF7D429E84350163E49A  
FA4015337532B6E928BE2001CA202C5D975A3E54808AF8E110575AD5FCA28185B2A7D8A3019B9  
7AFBA933BE2F9CD5F279266EBEF52E0B92114ACC30237B712FE53DB1B8596CA72DC82BEA99DF  
8FE845D390B8DE1C00F24D0D9C619651FB16A280102CA8BD7FC3F7868E4649C636064F4D0E806  
D06595A0023E6C5D32654EAB9C8EB01186A32C3E5DB9BA6489895FD50A26CDF1BC27D599F7A8

BD1922B30187E0DDC54AD369CC61E958661C4FA76054C2C6658AECAD7D0AE23A9F36DB1B0E114  
1ED6A1084A8EBF8975325A1DE4A679BBD0E022BC35A07B40C52FA1B0BCDFE17B6EAD09908896  
3D7937CFA5B51ACCF722FE4F9DF99DADA8CB05C17B6A6AE884F1C7DA09049027D6EA570BAA064  
736219CE1DBEA7DB0

---

#### E5aI Code No 26

9BFAC777848D427BC9D39876B843378E100DDB87ED269AA91097FA433CA7EEC7D6210E7F100C4  
49876F83439E3E494941D8CFB3E11ED7AF04EDFFAD2729FF75A8FB14A9BCF386ED8D95C046A32  
6A9A92D3F316C758F6939F14BC88789B17F3DFB5AA691A872CA44E908AB966D5F672FB90196D7  
1136ED26591404202AF5858D44C8E0B0ADE3441F554040E458F5AA64AC3D5B32399E453FA1565  
F4E71FC9EE5BAAC97552AD75D0154FDE48AD914F6D59800A7FEF91BFB6465A296E217E554631F  
CAC48FB7FDE1244F00697C2155A3161169225109AF5AE218D51D70BFD452433BED94FAFA5920B  
35353013BE2CD0C32B8AACDFAC6C6B4CCCC2C222AE845FD76630E963CA22F5214033FEDEE3296  
112F9C127865137CE6182BBF09D1489A1DFFA82D9B391A5AFAE6C80414698703EF03BA4289378  
6FB10C9DBD21E7292E197A2959D605EC466CD202BB4E7BB1E9D5B9B3F07F55FD8637314E3D68C  
763CBE79982FCCC0147AE6D4C96F7A1C251BC35D8EE3A4F6FDD9CEBF771878B80E3AE481619D8  
0B7BB7EFCFA9C20F11A0FE18505299EF1BB195EC7A93263420D183BD89335411CDD66B4809BEB  
30AC649CF76552A6F08E9D77C2E9C5AE05FE469705E2E6F44485395C054F401DC6CB9F581E529  
78BD93CD927D47472DC52D81960F98D60A061C5ACBF9F5E4434B31BC3C55CCD71CC2F2DA6385A  
3D040DE8B8D5F5CAAB6FC301FE3D5DEB95A00F01772505201B33464F2BB1D45A2F55EC907E86  
803A94F9340960A5E99C727517C520D338A41320E7E8BAAD6C4470300DB904B1848AC84F67F67  
C6BDD6AB71E2531C5C662AA9DCC2E84634A5ACA48C5A5CD1CDA454C6689E2484274EB1A2D1CE2  
D94876F4978987331D16AFBA205E1D81CF287E5E59A6DE000FFC99E50B0B124E718CAC8FB51A  
708B42C0FE669894383C01D020E45B301DB2FE85B177FCDD1A688264A0327614A4483BFB689DA  
A49E8F59BD2D3943BA06F39119D46E5DCD0DEF78BA40798384BE03292F231A62F7B6E456F354  
2425599B2BCF96978626543266E8AC0426B3C4346AEAA1E2FE20B54F70273A5DEB9BDF92B8B4D  
E940C48963DDC569FEA89B4A6940B7644E33D105C5BDC61C3EB7D823D4CF3FA0AC7196D6004CF  
6654BB4E4602974FBFCF6E74FB58A83540254EAAA4ACFF41C5E1481B2C38E7084B944684B21B7  
C661F92A28508F449D8ADE8881D40AF4A161A08C5846C78FC5C562CBD36ACB83284223B2891F7  
3947804B6AD40BB99A4E7D9ED1912448C99E5B572760E53DFC434D06DCCA06DDAD3BA09DE0633  
78A98943EFA0CD3E75B1B860E8D1350CB920BD6FBE30D437B96290F49E37BEBCD2FF9F8A4BAC7  
CF8F4571DA9E788A3A411AE231D369D35055EA48D03AF54D968EB71F7BD14E51A1E617F81B49  
2FBC3AF3761C601CF108DEA9E198BD1B576F94DB9A15975CA55D356C209E5CE1D8329A5D35322  
3AE3C5C9BC55468AD4C2756BB54B6FC66FCC3B0BBA3962EFB4ABA17B1B08B01C296A578D5AD63  
F605BAB75C90924AD456D53CB72436F3A2086EE61D7C3479E0381A52715292DCB8CD283372057  
2A40CFF97928D4EB54265F3110714C360A0479AE7D51126C5CCAC09372AE7139C20C46AE13E4C  
41E89AE12097C6A198A979DCE9FCBEC5D1AF9D9189059E5E317B77B6E98C29F38E29A35FCC3BE  
BE3ED0267C5503BAB0FDC46C7D89766475F2676C80CBA7110F815A84CA7EF91ACBA63AF79330  
56DDA345D527DCB5549C9CCBD5B201BF9D0C82683A8865DBB4DDD057002025D088B7121C118B3  
A6C901BFF83DC1114

---

#### E5aI Code No 27

18A25B1D741562F456B84CF500F138FBB34AE1D18E9BD6FBAD05D0AFA14BD1FFD10334E6AF3AC  
C7AC2698BA10465ED5EC26B13265E5ECD1C79359095F36B1B5333EF87E78FC44571ECC00F2942  
43FE64C4BD7833FED71F3B6471ABDBBBF4C374519D24DEB1A8D2EBDEFB8D2CB3BF517AD92CA  
598040D0F5F8E5607CD879C75E15755087EFF796EF432073AB647C9DCD072FC9DC74D78326E  
EC1BDC9CD3272180E38DF556715CD1D37DEB8B6BA06B81F01C26A3E97B9475B688D32BB642EBB  
AFC4406B7625944603FC085B38E5E4C9ACF0D0F92A65EC9BAEC8AFD9A1C7805854B19EF516BCF  
65125603F131084CD13BA6E72201B13C1897D0ACCB8426684F3439F6833D22C08A68CA0EB7B  
636D866182E6F42B35EE9E255F3FD30014F4EF3484EF31FB1D17A6FC0913DCC144343949BDA2  
21336D05CE0FF168A9C54830066A6E986672EB92B2CA01C7ECABD5B5B40049B2161F8F52445F  
C27379B0706866AF20800C521B0DCAD90E8F4367929A9D21F1921049F9FFCB2BFFB69B27A2A4  
FC9E48256CE24302A57B69B04D6E51469D5D7C7E41DB611369322E1DAD218FCBBFD47892E8FB  
DC28FE1461AFC769286C6F75165CF945E5CD3C9322955261922B6C00CA2C006070EF26141BD8B  
44798110A9F20E86C52CE88D6FAE122FD7208C9216011D7D91750A800576F575B8EDDA2545B3D  
60310D61F7351CA1C82C90E18641FC747FE901351524B9D0B92CCBE86067EE5F126FF4B2C582  
B280CC1549CB3A18D5D9FD25A09A67DB83A8F3F7DABFAA3C09CDF00C6F16D722EBC259723B97  
017885B70CEBBC1C164E1A5361738B1F3FA426D077AA97AFC56F4F147D3EC04E52AF0CC518AB4  
CE8B3ED66A1EDEA49E904B81DF00EEABB5EA8437C18C0282EA1AEE445331C5B0414C2E3CEE63  
7933753B30FBD2160E93C3E7956BC032FF839B81179DC5C41CC81E6B8A74EDADE4F6EA0FC2077  
D3AFEE342D75DDEC1539F5C00F640A56EBA718A77A88E2E8070AB9663037AD66D9B6314C26880  
6C2856E233D37BA73E61B8CE393F9DE86DF5C76610766DAF68A8DADD37C3146F59115E8AC1833  
0977D7BBF677C755B79C902A50DC457FEC314323927BFD45D4A5AB7AF351228986F3B03E5158  
1C8A8D5E4F8C24ED9E14FDB5D0D6BD2A6F563D66A31247D4EA17CF6C158BE7FDA81DBA14B9A15  
49D5092658BEE5542BCFD42C8DB540447AA13F208223DE36AEE06BCC2F280333D81964ED05A27  
5EEF56C21F0BE0EAD9D6A8F2C70660C0CB04AF6D84E0D18D3EF56504CB18EA259BDA23AC1D8CA  
B42BC340448283D9CEF770872F3B94FE85A23CD9A864F76FA82EB637086D12244DBBB9E7B2951  
D3B0B6C345E513883F261D3EE312A31017BA33A08586F58084A8087144CDF634517F42AEDF185  
D53366FF728C0E7C0748A776F3932CA874D3C2C48B30D01A5F579DDB1A038AE1E20D986515309  
A13B369F644A856C995C2F6942B7E6BB624A0DF34FBF31CD9F96C486E530A2F3FF8A43D7DD57  
8D72B1E93338EAACC244650F8BB37AA9CDF721B1EDC334755B63CD34AAA832725A883333A4AF4  
ECE71416146A4F05232968680AD41C89872E14AE1CE2FA65B7A3BC099FE265173B0715966225

9FA64FB70902BA09988A30697F110B892D7D6C763EF80D6E904A2CE47BECED5E98AB2A3BB70A7  
3D6AF7175BABF8CF8F38F2AADE3BAFBBEADF208415A2C2FD4A1ACC3140E185A2534AFFE6C01EB  
30FF0137503349EEDC1F9BB263C18F427E2B119BFC692D5FF44421208E8AF146FDE964C2DEC3E  
1C9D5699ED01A7D78

---

#### E5aI Code No 28

69A39F2889ADC98D94B5C678A3D3D8736BC17256367EEE3FE8EF5AC6453A0691D894F1F3202CE  
84EA8BA5A341D1733C6BD0150CE9C0019168E67768B33B64DD4C9F0E2BCCCF2FF7E370C2BDE4F  
403C270F36937119950121A840913CC1D663F32F01B665840EC9E09E5A9C345EE001F84B2C115  
4359BC066D29E0405941476C5B7B11CFF124F5324D4D090E2BC49C3E8D8312DA9268FF58B523  
EAAAEE4493217609FDD5A5C510038CF383B65FFC7671119556702F630404C0BC686975E853C86A  
B392D25C853964693AA7F4A63BEC12BF51762DB46295D2062FFF24000E4F9FDD21972D747ED2F  
37DBBA2D6DECE1009222EE06B846FB7D49E8014DACFAECBEF2560CCF5E06EAD04B113D1F8E341  
F200DD8CDB3F36AB99B566B16A84F8C040ED8827F0E9F0D4FA340B0ECCC98F5CA4B05A990F3B4  
10CAEBAFB409E985A722E4C442F59AF3ECEB1AF0B148A3E8B958D9F6C0E45BA4EC8553332DF17  
0872E60967E106BD27AAE4A6C15D391C1B4DF7D77357B4D4E8B29FC874947A75CDB1A1ACE512C  
5CD08405F2D9F21D50197DC151B5E5A735F759628BCB5A70B5CC9855A39188FBB8E6BA0F5B65  
38ACCAF394A809C68F810441BB81CE71F7DBB2A11D3905225DC9B1F0F0D8B7E5268020039E03F  
D97D42204E503E9F98C26B5D9DCCF5424573775E536C4AA26BF4B0351530857B8F640495377E9A  
08AE82F227BA487FA1D945EC233EB1B42C18FEC4BEC651D4CE1313C9574976F092A5E52D1B37B  
5D4B33800F5C3803BC6ED2759AE3F6888E7120D3AC2F24729A08B2B4C8D44EF807987C156DD3E  
D871B0A6217E9783A78BFE56C819F2C8FFC2D2D83945FE846833E5ADE3F840B53E67E5D13BF0  
B7031B6C1D004D274F43C1982C43FB58011389D2C7E911B8ADD89C37756F1E4C4A931D828AD  
C3597429AF3A000C0C9A71A44A62F922102CABA479BDDF25A088BEFD630E2AED4351A90B9567F  
B6DB5FECD6F168966DB2EB6161DA84479DBED9090026C3ACC19B91E5F5680A40073FEAFCAE161  
E3A2F0DAC9C0A5A7AA31D93B425D5B5A7BF6D38FE797FB53793EED791C82DDFB2D224455349F  
26F147FE0D59747AB091585DAE61A32B04DCEF19D907C1159FF69443843248D75E772B558E7AA  
0FFAE2A9D2B6B1E9F34B79DABC98B2FAB34F76FEEC635E6E756F7724106D08F296019FDEC94F  
A7B7CBFD780F2C0B75B1D88EA0D5885237F4D09F03B2E8E1A98879656AA33AB23583DAFF96D8F  
CEF548302F323A8BA959710A78A803185D88A9C971D9491613E5BA2044D0B640FECF219CEFE37  
7445E5256FD687A15C9F66475C0270C9C1A7189507E881DC6FD5B31FFF9949342586E24C7827F  
260CDAE356F874CC7C913ABC40E892E495CD4388AFB84AADB45069F37ABF7DF966CB8EC86C0  
CA5A86E79350DA5D6BC2B23EEB51B9C9C352FD9D3FFAE368891D8FD4E2861B8002BB16DA0C4A9  
6E6A9B8D8FF553CA1E6D85B16F996FAB677FE58608BF58AC1AFA9482CA957B03924945B4260A4  
147625EE657C7763B4C9F4C00466394DB4F222DDC16B72C579FB80B3861D6B4364007FE856DD8  
D498F3732AF3A7041A2D71498ACB3793C250CEA60DE84FC0C227A08F903A0B5ADC936FBDB7BC  
6AB8F7AF002266C8740AC3D75B0628EF6A05C0481CB283E3645F7D8A0ED7415EECD52E4BF70F0  
0ADB11BAEB947F03140446AF31C2BD41F1D34D75FEAE64B91C6007CABC91A07DFE8AD753CE183  
C611178B8F63B822F03AFBD41AEF17F6A1D58F341D172D4682F38FED397FB01B396352C373979  
91D2E1473784900B4

---

#### E5aI Code No 29

39B27D6129F6C84173251B68B742EACD5A1BBD49DA6A4DE039831B66B054A9BB13299EE828282  
F1779AAB7FDFD82F4CC3296E9777A03C64AC4F08DC8882A9454B301264284F7226A4AABABBDC8  
336CA2BD1EC6517A9F54A776446C5A12FEAE387629FE5A66188C671C80A6C83B08322C2068ABB  
BC03261AAB8280F4E36507788CDAC4D3F0817327FC0D19B0BCA35D89819A9DC2D5C0CED08A87A  
F8DD99304505EA08855CDB514357F8A9A7F3F4D062705E7B26632CA617F640F4D99417CE5C90  
D432D6B8955D269460B9DB3C08432FB7BA08F5A658DD79DA8E9AE5B0751152847EA6ADA78D0B  
B4A8BD9F6E221990CEAF771B5AF603F463D2369DF9B556A1CE60D1EA617BD05EDCD16625581  
0C1FEFE029EF21147DFE8EDD5B333F6C7274997E1BC61F253AA375B9CC6B5B64BE8DE11CA00C9  
530DBB1F218870611D4037BBB88F257614EB7F2A6FF395376C5DAEE4E83C5D11BD6600DEDA47D  
1CAD95B11E5BCE680D2F18CF92353A11840DB88C38B363BEE8813E8004D2BC1DBF95E86C64E060  
F735C404E8945EA3DB31A27C63AD81B9D6EDC6B011CE3B3E9F0E1B7DAAB22364FC1B36D25A  
CF77630DBD1E3CDB194FF8B8D1B8EADABC4D0760BF5CD406E982E0F743AFA2C4B333152A7417  
7DD79E64566BF34A10515AC0E050CA135D7357E1F94F1653E9EFB0FBA0BEA1C2B09D6378E4E33  
EB98B5DB2A2DDA5D9F29CC68766AACBA09DE25B338BEE82700203628ACBDD4B828B34856910D0  
F2230260FF41EC371D08BE96EE2E821A1F3F328B631B53BECA81BBC74A92F608F2B040548BB5E  
805EAAB46815793F1D01D121D2E347ABF1FE62B4E00E31C8DA01202340219430E88938D859D6  
2B709D43934265B9DA9DBDA01537F54B43911126613FFF46ED0A39B2B19C22B8776618B065E1  
5A515B752E1846F51F8469CE32FA076F47A5C49541A19D54CD63512DDE1126D7850B4300610E0  
66AD53E094F26DBB40980B47D632DA9B4524EE5473B521A8F79A4B84CAE714B65E30824068305  
858CE9F39BB2EB06821C3C07EF2E030DA4BB3DC2D7A29A69DED7EF7B03825C663F5EF44B9A1A1  
74ACFBB164FFFF0419E13A8DDD108FCA9B2A8CF1A5A2E0471046FCF32555E72D857ADFBC123  
B190B48CFC91CE8F0BF86CE2B439DCD3AF6F2CB26EEBF393FFB34290D2B7EC33FEE285547BDCC  
922312D36D9D25AE5DCB0A03EB0B603A6F75A5EE878266221C9B606B185250231E4B5C8B9470E  
5BAAA9859A963A51B83ECC111DA4779F012AC23AD2E2DF2965A39E52BD684A0E8D2406A173465  
B57BA6DC095298D716BFE30E42CFDB0F2202D56E97772E3D64F1CA9B628B6EF2217A837165A1  
BA1A8612638C387EC3854AC557C326CE88DA10F9DA027B204CFE634A695F2B59BC57F987C613  
131DF2F06A5F6081C96098DC03F82B3691AE9E4F14C32324CE495FC94EFCD1CBA88842223DDA  
27999E0B1762C581162FD1839352E8FB7E4FC143E8D3C774BE9BFD7BA4C3091A04D08EFCAA98B  
5D3AEBD1FBC65BF1CD7BEE784B58A877D8AE9DA9B3D459521A53010D42242DA0181F661F7CFEC  
C2E74BF3C8E959D84F91904F4F8DE602B214A2E3C42B93BF904058FDBC37528D467E323039F10

1209D60C56BCEA60BF9C3714A05437A978F3601FA625B31562B5C9B5DE2C6B84F560FE35296E2  
715D905BCA71BAF6B577E7A03CA4A5DC816E79E21C9B688B0857887A25AB624E2233FE8C9A80C  
6FFE9AE77108F44A72AAE91885BA9541939A34519C457C41964D4FBD492E11B2890BE2BE0E069  
D274621FABEE60934

---

#### E5aI Code No 30

4545989EE35583C07E91C0FF1F5FD605F39D51A0485105A71ECAF9C7EC0748F7FE5FB5C4E90F1  
A59B1E31F74912BA831BCB9C95A315008F4C7C72D8AFF51DD09D9E4738E72C325B128E03F7D90  
915066AFC3FDDE335EBC4EB34895FB9807731EE6E123A28E815E5927BC9FEB02AA960308978D8  
DB5E131A22CD601D88069D145D4366FAF97FD7B71F4B39AB73A97C715BEE20A175931D7108AC1  
FCEF63CBE82D9CFA3569883A448220CD92C433ADD11A52F72303BB4A5D1DCBDCDEF605913D8D4  
24F513EB8920EB864641B5833A39839822AB8ED011762756D6E16540D544B5CC8D9F8B671F19D  
E2BF7ED74CDF8EC9592CF1FF61095D0749A6404BE49AEB7434C75379DC02A87D213FDD6E0E6DA  
751657D7D221BC5EFFC8211F6C86B0F77096A81B1F60F51C23A5D525C3411DFF07CD5FCD54A60  
FE7AEA7E4C182885B2EF08BDE99995121FCDD5DDB0335DAC07DE1AEDBC9E988D7D90CD81D30E6  
C8E598BE6743D2853D975F236E6AED206846FE8F6AC9FF72C585606FDF6C25F5CBEC0C47567F3  
89D5F317DA01F4A801FA2E2CA60344EAC2CCDEF9274608D8EA0A0D6323A1510FBE7BDF1EB8C0F  
580DBD3BAD17B268BB6E232B109504CFA3DBA305C7F273F8FBB7D8880303492CBED0B8AE374AC  
DF582A945A1B1D2000E71FCA445CAB59EDA8977E5595734A508495F2A742E30A006D383FB8F8  
3BFF1D0DA35805B6CC6A54BD1A7C3BFE81DCBF47021D6813B0E28000AEEA0654D085A9D5A0F0E  
0BEF802AFCEACE79FAB3F85E09E968BBED03B00AD50D079D9290F7E18904ACA46A2F0472E64CD  
16429547D8A35C1B9D532D4223483E7CDCDD9E406B4920EFDD2E134B169A1DFC3F2AE54C3C  
E78A121F9F46F5D7B46BFDD9CA25FEDAFOB2AD447902DAB3282AA9339C235FFD874C5E893E7E1  
71CA838678C05936F9C9F794300DFBE63AA842A3B9541B07EF486C4823EF1EC56ADDA3143B890  
52D624EBCA9DC5A3A68E19F7E50E4DD71F4B11B24459E8F211053AC3CEE16F0D2C75B68E6F  
264A4E2874DFA99D6C6B3330B634A65D1B3617AFD7C32981D7C8607996F107211A7F37C6D6F  
1D72B56432D66A8CE99E30E16847E549E54E7A3EFDDE39741A55E94B1B735238093F856D8690  
A813E0ABCDB630747EC7A9D4729A6E0A70F001F5867E9AF613E9A0494BBBA59CD1D75C83265E  
494530711F18313B0643890492BD13B49296827D7444876A98DBF99A6FDCFAF7883E02FD4ABFA  
D610FDD2BC8306377EDBEDA3EFE03041101A489051431B91BECD6E9DAA5633C8E99839DFE70F4  
C156FC2B1D27ED307757E0335EAA699C3FBC43CF47E520CA1404054F38D13CFE0339D87FC1440  
504AFE91AF4088820F7A1D8128ABA53AD634250CBOC467592C27D1DDF7C64E7E5308567375FF  
73C02951DAE125866C53F845852C5008A69DEECA708E5A621FFC81C3C932319D15E867AFB67B1  
B1E07B261ECB56A013C441A7DB94523F103E93D95A7A0FD95141A6342922D1A7130ED95F4B1FE  
D18F3FC61315A1FF0CFA66382BF10DD284AA4B54B80FC2415CB8AF7F3E686AD0664C21EE9F200  
70F99A8A44A5D51D8CB4BA010659C3070EB3374DAF2168562D89FEFB10100670663E71D029C2B  
09107611C41B202B0815DA2071256988918DCE69B35F46B8AA4F11DE63CE565AAA1172D7CAC82  
96B9334FAEA08D3BFFB34264D3487ACA3C9781C1664E800732C387F9D65C152948FACFABD175  
C0FBA3B45F9892F8E98F2BAAC48E304EC9CB9D2A41487751B8E37F3B58F66710EA2A2CE02354B  
85E56EF7AEBE52388

---

#### E5aI Code No 31

F2BC6298F0B96E3B736B5A6EFF22ED079C8AE2FF586E0F4D53ADFB17300D11CA7B8C2E79C0877  
970ADD0579DD90187CB8095278FEA5F4BD3D9123D300100AE63635463FB5019926B9B53BA7CC8  
26A14EC4B5AA5E9B6C72685B4517A4564028FB6D5584994F8999F9A7E59D4327FD95C2A45E83  
A63E9D9F04B554C8906E0E2095448F75DDB68C8057F54630BAFEF06232F7609282B1EC5D0AEKF  
A93E8A7E3E6FFED7F6E4A2EB8B82D22C5B9AA7B8617DC13B69386742C09C2055AE5C2E71E73E  
E0DDF1D23E4928D7120B8C171A4F4421DDDE6229656295430B936F6AE18254A11612B9ECAED2  
3869178CF6B1E6ED7430958039A7DA988C1DA03E0DF5E1D8EACB7C726A9108E54723292801848  
61ACFEB110ADAB5ED03ACF5EE7E806AB0C850AB7E2256F817883394177AC0E0EF5B74E27CF6B3  
15D0F134B282EE527E32A762C1AD06991C733A7F2E23776B01EAD68363A361F28F381F6190635  
A6BB38CA9461749E8E3117CE4F767007E2C38FC0EFA4AAA693664F30A5704D369C9BEE225890  
021DF8450EF25B28CC123EB178D113B07B99ADC4AA47FE0078F3D750B2E600B09353CCCC8BAC  
FF198EDD2B3C551C21D005CF33763875B3753E14B14F96847142410DAD4046C9C8340946D922  
B6EB6CF2D2BF3ADA92A492D2C43397716A4BFEACAO1BF2051E029D5C664E4D9C3B7248A914209  
2DC25FD0DE44275AFFE90848463E7E68A7DC4ECDBD5325AEA355E111929BF700179AEBAE60E26  
AB2C6ADC3967AA55FC9A2BB1CAC49098C16CF85C569E2E4A146568C41C815C76629061A483AC3  
0DD27ABAA1469C1AC6C527BBBA5BE8BB0541358FEAB34B1E3EDD7E37EAF307AC213055FCF44E6  
5882CCC9A12AFE5F7FFF4262C19AC072C291ED636C3FB1D36D7B99F77E93A5DC2848B01595D  
8DD3C7DCB95075AC52168897126055E8EA8D1028AF2718DCDA34496ED6FD1D86B49BA42F77A71  
4D65D594965A748EBE83501D963F7B8D3EF55804B4FD5462D12571B77384E3D23C77ADDBE7F4B  
F667CECE0717C7156623AA6FAED9C1D2ED3C46403F750951AD8BD192FCB1A7FF95A590D085E7A  
733DB1CA0A821631245100FF92A5B1F63F53A6D831EE041966571EBA5914D81F838FC3CC5C449  
BC39709A489CF31B7CB91ABDE6FC8BA6E4D41E048D5C59377F4DE7BBFA2406C6F400232E6B50  
2A10802B420A11316D93638A926FD0BE4A368A223FF767B11ED73E6DD1AFDA6508D4CA6EF3517  
CD3362CD1604CEC574DD35FABF6D5004208146C93BF179ECAE54D9794FD13C34053FEAE2E7286  
C964BF2B2371D9BA8AE3F0114BC138EB3C304102846E65E7908B40358BEF9F290038FC6459799  
51AD82D98106440CFE2261C5BDB6BED587C19EBABC54469D6ECA9D9D59A92DB30868297CECC9  
0AA8228E28C4D1B074881B939C60D8A4530A193290C5E5399FADEBDFC42CEC5FC2738DB18FFE9  
FB20B7D443FA3F1FEEF91E65279460D27F6308B6B0F8B450452DA56E81D37851E8D589F9B0822  
ED525BAC86575FCBA54E67BEE4512A7F215820E1885F79A5406772A8241FF96533C644B1B5200  
FDD4CD1F270E6EC77324DEF0150183CBDE7D042C33DC0C27AC6F17D670D379AA778E6EF48D4

1DCB6C9F0F7C5E57BD0A7875D4B2D8E31AEBA58AAF78947683E373AD517DEF236B037F29C2A0  
9AA4D596609B7AB761FC8D7F566A6BC8840CA626BD36B1D50AF74342BE0B54475D0AE3E30CAE1  
46306AA540E0D63AC325252DD66D5DF50AF7C1D3A651E5A145192E1F05FD31AD2F37719B62DBB  
FDEB84EDFE0D64490

---

#### E5aI Code No 32

9DDBC6F5221BD70BDA886C59D62F7A95BEB41276DC3B5B505D883DCC478B697388421D5C217C8  
DD2E56A4130A28BB7176163980EB820899CF74F3074DD7E74A77B54677A35EEEAE93C32D44EC  
4D2E4196366E40FD0C2A4741575ECFB8FC927142229E63FAEA97C51E12809FFD336BCFDDEA3FC  
03A1FE99EA685DAAB6F27DA6BACACD5D432352FC6FCC323EA9BC72FAF2569A7C6D55E1260DF09  
63EDD6CD3CCF97A033F74201E4390F64F06F89080C830986F8D6E90AFED3BE6A54202A59ECCEF  
101E5DB790E997918DDBFA1B160D472490F3CCC2B0E1C10AEC61ACC1F36BB6A8735AA86C50D2A  
C986721C003A2A8F1056BB9910F5A8D62D358DBB31589280BD14319C27A13D847D84C02A039B8  
69B52669DDAD47CBEE6892E2A881A020867405FC1756DF2AAF2E5706A16F53E1E459BCDC430C2  
6403F60B979A4D74F78CCD34E48321E67A8B896A162C873CFDEE8D58BE234C34FA20FAD472F0E  
B570F5B2BDABEDEA0D0483176163E20E47EBF51262B19442016EE5867BD3345DAA7CADFB2FBF  
14B4EAF986951B024D876150CD64B7B0A188CA79B122F274FFB39F1EF88D5B9D36437AE8BA437  
70DD69E3994F8CD673EC3E1F0A51E798271AA7793CACD7E53E27A325193A9B9FA33ADA3BDBDB9  
A916DC8BC6188C3D4C38848E3506E38621DB57C2B0FA80BE5CA34C295159163F23ADC249FB1A  
CD94FF0A42054C1A2C304F3C515B8B44F2AB1A760E784B95D9FFA905EB5541D14D5F12B448940  
3645A15F004828AC8FD3D8B44C5C070E8A64BA086462E5CD447C58E0D96130E9BA3400CD7AC26  
6AF3E3D33DF214D3E98C6B7585C552979738879552FC758F04B122889E81B887B653FD7D4A8A5  
CCECFB0850B58CFD4B990FAE223803AE972D0C65A97960421D3FFB2B75079AEB42A92E0D0E  
C2F04967C91CCB84F6E39B6B136CB64424686DC6CDC4AC39C26BFC81478AB6429D4E9B4877E  
FFC8740FCB5D9968ACF8D69C771E9E48CB542BA5BBF0327A4C55CC83E466D6DE0E639A54576D8  
5A44F305958A325CE98A45E2C227A9E85BED652F3EA5CD31AB99E299930F5AE92B12E10D597F  
69272ACC8185C1E83412A67CCA39DB06A77329475A3A87A1D4586B191E2E8E7C3EC39171CE6E7  
75E7B369C8EED0B2E74A7233CDB5905F6AAC099820A227B6FA0FE5057CDCE6C8175F4CF27D70E  
E76CC0D769A324AD66D013A3F699C7F024C22C03B353177C3D721EC56E472AD6B383A653FFC0  
78774C728258146BD8D928B209C0A6A8CC60069F160D33F673C139534362B58E065F7D1176FE9  
5F4A6DB7CC75FAA408C4FB09B7026DD640BB08945B364646D9154D00CDF5BBE432390607904BC  
3D70A0207F696152CE6FC5A0BD79625E437197B929203CF028384558071B625E0F8801EC1B13F  
6DF17EB8135687F08071DFC3BB06C8EB4ED296C821CFDB7F2779B0B913E623ACA6E3C5FF023C  
58EAAB547BF1A67EA020F317658E1328FC845F65464D2E06ABB63F678A94614E3EFE281E41ECD  
6C85FE10ACE427FB1960BDF06630B20CF0401F450D71D3FCFOC477682FE342F5511DE926AA24E  
776CB9C798058A7576E1F76ABFD2C86B8C741230D6D95ADE980ADEA22547B88E607AA8C3462F  
A34114DFA46046848CB10482314D1240516AA7EC7160215A54F69EBC39F4CC97EF710BB7E8B5  
5F9AC158B7F9C87B738FD993D2F0E35E4E9969FE5FC4B301BFCBA8A28D7150602ABE7635A2FB4  
8AC65EA29B829DAE037D8711127F80CE85BE003B4F94E958E493D7C2236DF970D7DFE8495CE08  
3E79B777D44F96C6C

---

#### E5aI Code No 33

33282734E9BBA791CE9CAA5CD9F80DEA9EDFCA4E3F5E32FE046FA978612D25F79FEC5DCD02666  
6C35CAF0B5A682C9FC6C97F54BEDC056A6D900DAD88CBCA846702B0BC435DDD5ECEF1D3356E85  
247940A3892CB61BC8FBFDAACBC1DCA9208DE593DEE6944822EC80F823B2ACEA3FFF66E4CD6F5  
42CED77C81F29F144C9D0FCF3B61C4887C6B42EC97C83E2D2C5DAF28CB8C9B352B37255F54835E  
EB978966A14AC91D58857CB7FED677EB87F8556B343BE0056744655B6D97615F7F32BDA4537D8  
D58F477E6B2871AF0524F71763748C57DE63D62D6824EC5075498D492A2C621FCDA2A554003  
8A50E6765ECD69CDD45D10153171DEC85AD45A8A6D3C609E350023C32E1F72B8D5E1AF803F68  
E288CEB2F5CEE3F10B7BCD7FB15D11DB3445266BDA913D5930776EEA4446337EC5A50F9E4CB23  
0BA735B656EE26BD6BB5632B907CB81BB65EF4D85BA379E4C164DE83CDC023FD458606E09552  
303B8535B63E37F038F2AAFDDBEFA8BBBCF04EEB41BF126C20C533DBBAD8FE10771F01BDD14  
AE113760DDE4C0D71FC7C29E8D23D668E401B3A026C46913E2F08DF8434FF64B48036A37166F  
32CFC8747F13B656BA6D18300935195D0411E8B24E1F47298AE9F9617DAD3F39C4251566CD92A  
64860949BFEC05EE2EDD7F2DA0FFBF3D3C9F5A349130B7A5BC5B839000431D00FFEDB344C0DF8  
6073F73C6833C091AE132D121F4568D011BA0DDC27FDA5284478F5AFF037D89DD8EB9FB0EC06  
6AF20740DAD8D29C1866DA0998E580BEBD311BF6E3BBB31D89D2DB162A680D2AFAC4903F9838B  
616EEBAB56C2D0386C65CFC946D33073684FA119B2A6411E1786C723A466C7070E58248ECBE1  
D86C6D6CAA199944D9944BD6E8B108060B612F8F724742DC158BC1E5E3F71AAEF1864A7989CF  
C68CB2396D010E1485C3238F6385D68E20D36A4D3BB8A5A265E686DF558A73020588EA16B4B0D  
3F74916038A9954F75232087822BBD8831222F7B94968C5A324018192A6377661AD1E15FF05AF  
FF75FF60B60C5B41C08F001D85A237443EDF3E361030FEC44573B044CE66F7A036EA78EB83E18  
63259BA363D517049B13F61956740B1DA3CCB5C9EDF190C89A2F908916F9DF9B2BDF0DB50D03  
2FAB059309F3DAFE1723D8031C93F9CF657F17D1B214492786F0D297D3C4C01A25DF2B1C3892B  
6724DC7CCA704E9AF0163D37F91DEE0850D9F2AD4860BB2266FD7EE4E3D56349B90155BD843E  
BC0899FAD39C67050B5F8A1A9DB38EE821EF7561FCDCD6F833DD3C9FF3C5D978BF7E70288BBF6  
65F4F20260A74DD0D414B3538FCA93671DB4371F2CF6AD94070014BCD5ABAC89157836CBA9A34  
FC8D84090A3BACD7D641C5FF58A5E1489E1D2F410E65650AA30D7FEE4AC3AB37D5AFE208EF302  
3E88D96F4760120DB5FC705A005976BB27F580CF5C10988BD2221507F8A6BF84B19CC3BAA1860  
50870D88C6B14F98E56CC470291FC96AC5BE10704CAF810CCCDD8E3EEC9D58E448BC655A0A899  
C2FB39073CF28252FE3FBC6BB61189B154EEA37A797A8E6F329C64DE5836EA44F7FE04837E34  
3963FE89B0624779212F1E5E399427ACC8B8A83C10F3893C7551FFFDB62BE893DCEE02AC893928

E81A080CC2EC8B95C4F0F1A6B65723408F12F6E3B7B384B149F4002135EF114B67AA3CCD406A7  
8A732374CD7C72814BCA01F4D44909E6CA1245B25E27A67F2350D285E3B37218495CDFBB9C7FB  
F2C40FE31C57702519B5DF1D41D85F48DE4E46639104445FC2C078CFC853B25BDC3E4C58222B2  
F2C5AB40F5906C314

---

**E5aI Code No 34**

6E2FCAD2FBC021102FBD4F992C597E4B91D2AC56A22E8FCA938D9C74533912782F75670F31BAD  
FEA83FB93A0F6D449092FCB9236F50446A4655586FBEF31323F1795AC3216315BC9F4C92FF583  
AF7E977A996F10989067975A53E153364B59662B6CE9E1EB65D6D69B9EFEFE57ADD58A7921506  
C2BCF4D51A01F79A67D41436B519D314D1953C6D133305AC06A45428C0D6FD9228B7B9228C3A2  
C03EBCFAAA09B9343C736BF99022D1CA0B5C25A6179EC0ADD8AC95E8D6C00D6273AEC61E11967  
41DA2ED9436F353919A8D25FB8234DA7A2229CCFOFDC4C65CC6C0374A4ABB918E1B5BC7B929F  
6554C568DCEA62D5289E45284DFA975D5AF56609E4DCB3CA54A26F100E00D48446C4C35D1D91  
1CE7EBECC58347940BB411F475ED18D8A1315C069C63E59CE2F69E6F7B48B005107A69EBD9715  
303563F6A217E2ED4CD373648DA437E10754CC5636790930947650E6C5D1B3D1AB853A52A89D2  
08301C54F8E7DA8D419559555859AD1B4D096A1805DA251B6767DC2C0D917919E119E71C78A8  
84A24F5061CA1A999DA65AED69CA02C20B6EB163B2CF435135D3B34FE6EF52F3AB84DE084E379  
58BAA4EFC8165E2F5AAD1D84E9F7669FEFB6E60F1B9F69C79DE9296B7A01BDB04CAA8E6A16A  
CF9A119A8E577919CB22B58E8B7EB289E708F229ADF81E2350B211AB48043A491D4CEF1721936  
B71145F07A40947D2A89A584D50A708F3480F0892E331B2B73D8B7D88B7E85F73DBE5346D801  
B1904CD41A8070A0DC74073217AC415654F4170F42314AC0AF4213CBD28094F8C4FFAC06BB011  
4B2C1924A4A1B765596546857485864ACE82B8839036DEF45E88F341A5DA37A511D583C51DDB  
DD51577488A29D7663CCA7AB2AE8B53A4EE7F38B8637C96CDB86B23092FE0CF669858C5374F6  
F078FCE4E945FED340903FF26A6AD6C408E390F08ABFCA9646CF224A5410D0ACE93380314541  
982A8AB6443FC358B66B027A15722A0BB7C61484CA65A62E4496053C947D5F4744B69B4A73F78  
01453FE20557224878B8FB0D318E8B572911D09839FABFC267416B4E2245FEEA6967677C1C57A3  
F72E76BC297CBA73AA729B890E90A4B29CCA4DF5D959BEE30D836C859F4F67A06B4A47954CF  
20C7D0639D680EB61A2CA11B007EC9772293EB8E6525A56CC0F380ED4F088D8CADB0B95BDCBC8  
4C0C746D4DE3307AC7050FA2531FD24164D29294D492A07024FDF1B988060FD766128120226E6  
3F4973278DC9F07FD5699A1313002CC9F4A7CB44A72C9C9D740AEF0984D7D4C5749F9071138BF9  
3BCC6DCB601CEF5F60E4BF2361A083D158BE93134DBC1D4FC79FB866B0B215E230713137EB6BF  
F388307CF2F07CB07E974C8A874EB20B06C843579921ED0839F9454DCAF71BF56387E01F3DDCD  
BDE6C15C58BEEBC137B673F122179100613D6708B6B16AB750A3A311AC85E795FDBA002CFB2A9  
D9734FEE1922D984DA9F76EF65EBC9F647B280B0433A3C2E73B08A3669C78CB9885F65E97A6B4  
D64D2B3A29184EA87163B06F267FE94714977525AC061BC54F7FD95CC0C4285E45D75772AA354  
3AC00EAA32626CE2F9DC48862657C1E156E08136F3B1EECAD329072EE4EDAB16F385D736AB806  
157409496A9CBFEEB3F5AFC91E2FC5569DA2C5DF20FFDEDEB6BB57D18AEF1DF03C7D5A16BACAD  
645772C4C016D147EC11EE9996D2E791C5251CA8FB7719F2093DD2E4505B7BF320204556D06B9  
1D547C9C6B0B19FB57608934D4A4F748FD07F3F57CB108A310319F7835C082FAED651ECA42EF8  
23AD83D6B22375B20

---

**E5aI Code No 35**

22C6D5CF65DCB08CFEEF580D53CA6571787AA81CDD29C4918F5EFAF89E285A37DA51E01500BA0  
192D2F45573533F540BB1569E27A8865F94923B81AC26FAC1DD03DF79DB5B5064F84A2B15E0B  
E7CC53BA875E477159D0352CBFC374B07573FEC884A699E93497514E7375E49FF5D9D9DEFED3  
7DB89158F30B27E802EEE4E806FD61A46F8F7D7AFF89C9101A9375F73A2164C18B0109CBA1CAD  
D42E13C9170378E28382EDFD85B80A02469D9A78637494BC6DD284557ABC0D5756225EE3B26C7B  
CD597E9744FA1674C5088D3301D779B1C3A922A0723AE1BB253EF2BFFF99BC8BB4CE539BF6D2  
D0951F6C76BB001B48E52387C95E49FF1A9D1DC12FAAA2B967754113F59822A1E5C56A6053F7  
3A2CAFDB0CA0B58312ED54B4F9D1832FA089C5923133F47EAB56C56EB7AF20D8006F8D967408  
9CC49D37E82A1FFB88C97C3267569B5AD1A57CD67A0C94219AAACEF99A11B28D01EA4329568E  
42A7E717437B030D3B649DAB105C700F30AEEA7B8A9759ED54F890C6E9B2C9F3F1D1A7A14A24  
5817DDD4E2343BFDC5D774EC60C5C41362805281C3019CB2915182F525576B3BF537FDD52363  
00DBFFFBCF8A8C9489B1A119D66181A79AE93E7DA8AB81A1A3E8D5A888F5144AE0DEA33ED8B7B  
6392B789EF9C544F876D179DD822E3906F76FBD579FBE27B4A2752D4878962008B7873765B9B  
DD3FA581FA192C0C422C15153D7FF16F2732EF68B66042B5053E458518EB65C66E3955CCE4AA2  
12ED4980411D3E4BDC6918B30BBC400A8A338DB982CF55F2C3B0C3DC6D64DF10A8CE1BC117338  
DA3987965A5EAB6C2E8E368F59C7D9C77750717B4440AADFF57D0EADFE7C1A92EE72283D425B  
DB0CFA9F3BCF602634BD8526AA80E0247BD0A043D277A3E575C1D1EBDC0565330FCB30C63AD02  
F48D485AA43358D957ECBC6991D0358AFA953A41C67019E96576BF88122CA76D2804B73EABB88  
007A121BED76F33AE0E0433EA74FB2C7AD672D0DF5927D87BABFB30989EB91BBDDCA40ED8BCA  
F7684E8EC9D1017D6147039D3C3423A9A0081A17B70F56FA300E8F2F97C399498F4AE85FF2707  
B50E3A4492BBEF19E14834B261F700DF4E685DEFF476ADD919D5A157BCA06F382E1F0649B693  
4D70A80416F732552872BEA44A5A42D64844532DCE8ACD5D20039D397BA9E8E04EC4742F4E2DC  
AD29F89E0A9FF572579237863890DD13E7168CF2B4CA8F6A36B49A5734BC85F811087B9541605  
F44FBEB3313D3B56EA13676CB69F4FCF14A1BD285455BA516F20B2B0D3E8922B71C0731F2BFD1  
124067D4CEF2111FB754CEE5AB73DF629797FB5E012515609B1E9A2085643691BAE5E4A2A52E9  
04651DDB340090EEF578675B778D1E6EA868FC1106F19B0435BB464887DA311545300841E1044  
1E9316656698C879089FD009D3F8F49097B6AB6AD2D744AE79F1D15F0DADCA70C1177374ACF5D  
07979CED4F3173FA4ABF571F6DF2112E8AB26C257D6861923CD92CBDE33683F27D2CD542ADC62  
3230470FF7E950475EDB761E57ACEE78318FD60325B871936A51FE23A63C9B4B7DD8A72556311  
877DD6A8EE053D6CA28261BD359C0C997F2A184270847A13FD3C952741C5D1C47ECE09DEC3D8E

0223110A627084BF826548E60886D7EA15C585F5A16A813F030EF3D150FE7A4D271856623D967  
42E848F7797526238E56C102191600AF7756C562A9B627B1F05B56FB2C768F6B57986BDBA9581  
6E0842759438E262FD9BEDAFCB594731E9A04512A22D1EFFE104EB8F7E502B94FD846C71004E5  
34FEF2A30812F84A8

---

#### E5aI Code No 36

E881D91D5F8EBA0700605336E6BCA6A1B1BD1D58F39650CD55F056FC8360EC9A2CFD0CF440EC2  
C6E98EE88E6B31558B838E9C9D473F75CE2FB04155330C9FEE2C381F872C3A79331C536A05C766  
124E69AE1EBE9425387279FF9FD9CD28CE6569215A65F678611C96103D710E45029521D6EF7D5A  
2AFF378C9C26ABB52AF1ECBBF615561932791A23A3BFF2824CD3810EFE7143A79B4E14132E306  
C48D9B2FCAA475A7D2AA0BAD046314E5BB4839B27FF4ACB7F4B3CA8C97CE976F11DF6DDC71144  
A600DBF9AD43B6E471791CCE636D67CED546A377D786CB085D0E4E91258719A9233F342180C9A  
827FBAF77C8B5C1BF72E9A81E4E4908EEAD39772DABCC8CC0BEEF0812DEDCEDD7B4110C6A0B8  
9484C2F0F6CBAEDC219BEBC85903CD03AE727B1849735F62B385F4D5CB58C527CACDB3586AF45  
25BE1CE424A0879546505F86E324EFC4FBB0B9E86EC243432866DC9CCD4D9FB258886EA75AB00  
6D87CA5C10B5BD0E0CC4DFDC6B152D65D5FB268DB6AAEFC9EDB4954CCA7E88DE2269533D54AA  
C447124EFA9BA62FACD2FA914885C162D59BC6BA2FAA3389DB9AE4C350843B3361C9F343955A  
A616E661ED1A137EC0BF957BD7DD7105856499367E91849C99F0F7138CC7AE120CA36164658BF  
3B67BCFC1BECDF49606448AC8B38619EF4A97AAA688D3FA7FF169B8BF537314CA8ED865F39  
5E300E5AEC2CBCB5A8B5AA31C811E3968FCE32B82CE5EB1EE839134EFC48E4CC4C2957329A  
7CAEF675AE2F990C108CAE8EA5EC21F6C442CE1B818ABC203327087146D67275300868B95052  
261AFCCEA3EE854F38DE7CE1FA5649AD7E9083DF2DFB3ED4186244045390F0C843777A677B8A8  
2B69EBF43D8FD24C9BC0792A2336581F3B45E6F8BBBAC89A0314570084D683C76D32C2B0A686  
8A428DA7D72D9C6D37D99BC05D14ECE27C6C1E3F849332C1CD67381B6CC907E1A911D3C971B  
40CC11822257491AC9C22642C4FA2CF8754E6AB2574AFEC65062ED5C1E914F8DADD52ABD7A9D7  
4E545C362880F38A567BC3E6D7BD7156C87F698C870008C2AFC78F94354C2DB9833A0635E2C63  
E5A47A828610E2A5E8B2F914306C966D1EF8222BD8FDA2DCADA05991ABADA250B942F8FC82AA  
C026696D62BFB27C8731149C49114EFD2AC47250E0454E33383082E7826569AA4D6F5661A9968  
C1A784E0A080D6BA7F8956E37AA55C07257AB5971E03069E74D245C4A2A0BA0BA397376141FCD  
D486B2B3C865E97D1CC327E4E3320A131A91B61F5A78AEE77D1DA75A1F121D777DC4E3714B0B5  
15DD96F477E9232472353FF7FF07B0C23D1C88F7DC4516C36B3D1820AEFFEE62EC3DFB6143630  
E1C532A4FC9740369617E80312BF3CDD7E3723F287DF666A34FEEE38B3A1461E1B5FA03907125  
359025AC125D6E86FC6AAF0223F83F252AC0C6D578DDAA8A2841DC35AE6B6DAB2E7A31EF4282D  
F4E20D471A3A8B28EC6F510453728F981D7BC2F1BC2A8E024FA65BE18AE8CD272B05403E05C60  
06AB1E612CBD9F8A71C50D618E9FE46B243AFF2529F2A0FB42C7B990BFBCF6C4CFF59DE230ED  
D411BC93C398C49E76FCE8EBA3C2C93752B38886162745ECF4F80EB59AA3F3660C4B1D4B98506  
32548A6D5A9F5A8DFB5A74881C0E93E38AD2FD1F0C23E66AE4631F25DD442E1A010D6A04FB735  
59C76CB30494352B24FEFB1E529BB6407BA7B68535D06C7207B2126A585BD59C43ED1E36AF640  
8E33EA1CD6F43BA41401048AE9C5638077C8AA8A033F0C18E5899A6E9400531731486774E30C1  
A6292FDA7D06A6A48

---

#### E5aI Code No 37

74C4DB6B3E8A4BDA889FF8264534407C16B05809DB70004C8EEEB10156C32686ACC5076D21A2F  
583EAAC92954996BFEEFEB1A28DD699B55B5B94A122A1349C58DDFEEE9D4270368DEF85D86CCA4  
FFE81880739A934BB8831AD75794986D60A92AA6DE661ABAB1010F3999A57A53F3868026C643  
07C47370E0B82FCF8C02A3155E787DE359624510D5008E229E9DAD0005CFC9DFDBE5080BFD01D  
7342E570360E411FC27146147EE2C72931D0577CE6D7183386C754A6820BA97BDF080F6EBD063  
934E13B005CADA4D2D8492E143402C9D1BF8A04077C4BC7314532474704BEF9D24E4566A1409F  
085C76B65158E4EF6B30141DB42B0A96454E451BD63117428273D3629E2E5FDE4D9E53FEE5F9E  
A2F111A0FE5F50D2B72D26E941A57213EED915147473D630F7556CA46FF8EF1F0C88E6272D6E  
95FD3741AA675B0E0D839BDE162F9A308B3B092663B1963221708404CE8BB54F61BE9A8E987344  
228BB60921726D90FCC07D5F64BEF673E06B969511E111F0293BC5E57186B283AE81CB2803363  
A1266E7A78B47F5A35AAC2F0B3A348DE73C81D74E7868683918FFAA42A91B89E1E2AFF4B8E6F  
11867DE292A6FAA689CFF87F4A629FC354ABA202EDBEA3F08609D1A4C350A7BB7376A897AC15  
A1B0CFAE0D35DA71039A97B8C99A5367DE46C338D75A845A4CC7CA292DF57F2AD8C5E20D95670  
E3748E8A1BBD3D728980DED4FE0DEC90884B7A528D0B4C27DA315195B7D8D8CCAFEEA3D62AE3  
4B40F5049D06C3AC92CC59A85C5D5BD04DFE0C89A7DD7A1B6AC4F5F3D2AD8858B83C761485B7  
7F6D512DC2EE1DA402FC6158C644F14C2F6274E8113B453F9130BB6C24E36BF84C2942F8B28A3  
914110B3D48DCAA3ACB1D7A89769E0B9048566671760AD83BA7F7209832AC10FDDC299F7F90A  
3744F72ABFBAC19382EDA24D0BD5859634EC3790C7390AC2866B1379ECEDED50D5127324A4EE6  
AF50D9A6826DFB3E27B9922E4A8652526A6DA29A4C2B9B8465E3F99E72A82A27645CDEFF1C42E  
77359FC913A9074516720BC61EB171AF90AD427A574080970282539A05471AB7AE2EB027DFD3D  
496BD27746D0ABA30EBD9D13AD9DB6D405CA19EEB90CB088D9CFF93B20DE07F86B978C7FEB8A8  
C29FD4E257D23380B955CD79E93E3135BD14AA338FCA16560A123131DDBA8A2B63923860EC3EF  
C2E0339015662C3DF1E837C879969573E0DC4A63EB7C0D6E7419F079D4CD05A1A9791330F1F1B  
7EBAD8CE76933D54A224571796A3A046116964B98A7EB5D9FD8311CDD6BCC9B63F2B7302347C0  
D3407219228BBA73B8B53DC3645EDE1969D345D8C23E691A58370B351BD6C86EA6EC9349D524B  
D05D07E68F853FD9214414507ED507F0E3CED126F95630FC6A3B40152A318278B8605F30C389C  
1826478635753FCFA9D227325463581DC51EF4AC47E1C49EA005D5AAB9138706671D64082F6E2  
BC39A802685BD8E8001031F7C56CBE5FC68CA5B14109249C210B4ED7B9B2ABB4D4E83C9EC829  
11E9CBCE5DFAC8D4A1A6CC81B5378D29E8E339CCB31B85D9DEE3080ED75057CD5EEDBEDAAE7F3  
CAB4BB1BFF54042E28C8CC79741FB04246ED66B3E34D83F08D98D7070D3D6A032BA442E46CE38

F45957D7485B17B51C562B94985FAEC8362A8D6DE43FC0EFE1529E662899F1D21BFB643C22293  
E0A0F2E1D40EAC1934A0421C1617DDEC3D40A3AC9EFAF0F8D94FB7DEA085C8179290FB4C917C7  
D6F8B75DA8790404F8191C0EEFCFF9DA2208E7E5D382B5A9D1E72089B3C4976036AD530BFD31F  
6D08C2CDE5C26E68C

---

#### E5aI Code No 38

13AB0304EA5EC4D96147EB5EF8AEB8FDEEE70A62E36686ACDC275D2FCA1ECFCAEFDC4F8CBBE5B  
FC2BBB343742EE011379103102BC11E824732D147FF93CA6C9B0A503C49BB2B621B47D4C59716  
43EFC01E760EE958A9764397AA551423EF49AEC50E22FB9AE99659E36341361286D8452EF70  
C662DBB3A421898FB34EDA3314A1C7A6AA9E9B5A6960156A549C32B91246A9CDCCFE0FF278C3  
285A5F20081EE6FE121E3CAF922C75915DA773D0673EEBBB268998861C3018642A6A1B1FA1DD8  
DD54991254067B4E9BB95D1AE807B8A41B88B772B5590FA9F0D71093854C213283093D5EB9D4C  
7B1D57DEB27B1E2A1F0CEA306B28A5DD3D1B23EBB7494AF61F771052798C6FA104940EAA5698A  
C24910DF692D5C89C29F318E090F30CB12397B88702418C467EAD9599670DA2F993D5B6FD7A9A  
43CB89274719A2F1491FC3C3E1528EC00A6D3117C5D2E0CBECEB7B91881CB7540809B5B9BD4DD  
37BB6B94133504981829410B4F348A5A7DC553F089C5F759F032F0F45C13991C1F442F2DAA5C4  
3C5A6815383091ACA7101735A0A3D8E5E88A454067F8D92C4090DA1035B7880A303125ED48A5E  
4EBDD9308BBD45B77BA6B84093210D9B011E3FC5313F2CF1B20A9C08D3F4D8AD7003B32A49850  
808F1B78115D1E727A7BD387D2D4C4CBA4CB94CE71FF25229B37BF1D671CA50A04EFCACFB98  
0263EF16015A97909BAC6FE4F981B96AFA2692CF3603C5C655BBF7AD4DCB06CC3BBF8BC819CCF  
20619535D399BDB5FD0D40CB261FEFCCD4B0B0FF3684FB0D992ADF1AC6046BAA8C8E0F16B6E69  
1A23DFF7014AAA67C7F84A9429064139809E1569145F3CD8240D49BB9D9FEFC2176C697D9950  
F11D56979DDC01ED19EBC9690893D6D8E76041BC4F35982D5C535FBB883654FA3A2253D52F06  
B62022744442D8800F9DD4CC2141DD25ACF2EE3B26103D6A16710D8BDCD43731A59DAADC1B400  
92D9B166E822A8A7AE0B4323B8CEAED7AC3BF3CA6F24B79A58DDFFB59FC2E5FF634C83F6F7B0  
3441DF9B5763FF827D4E74764C3E0EEA21ABC1AFEDFC2BB9F73E3FBA165A7DF3ED9997A588CFF  
EA8E3C193F505C741C1863C3437A80B41B7668D12B0DC7CDC6A61923C102D3D9071D9937F36A3  
9484ACF1A2497F238E78A9D8C9C1B96CAB0AA15B643B81F6C5439C2336055C8DE4A392B8C1107  
53E060CE92325C3B67F0610D79D46F2E7FDA96538D43B09DED1D647E8289986EDFF482FF7E24F  
40FD489E4051F7D0C9267E934ED16B13827A8C3D47C192F5C5FCF6A8E82521B7062F6A23B4632  
62E425F4820AAAD8E23E85DF0448B00533FA29FCB815BC83AD29B32D12F614AF4A6C60F7F1339  
E639706C4C671B71C99B55056832544A23C996C6BE5230AB5D8AA6B89A0E05B4235CEB352C70D  
3787F740EA6B8F05CD97409EEBDC9F1F98E428AECCB124F656EBC316664376CA4B38046E5640B  
377457EB82A5CF0E81966865908DB4B1E9B482F8740A470E4F5F0333A11E1D67A350ED7BD9C83  
06186E83FD6FEA9A09BA1AE266A24AB6D3C192A4DF53D0A627EA2A2847AAE9D5EAB2DB183A45  
632B2145C3A2FB9C4EDEA521E4DFC5AD34FB6E2CFC2E5C38B30996542C09CE9542E2F692B863  
CFAAB27FB549BA99A1DD77CFAB7E26057055737E6D08E5592D17DA8322B0DB650AFD6ACF4ECE2  
3F1C9613AA7670302428512238E608B6AF8E0862452319E3ADE719928AFD059A58D39EA819F3C  
14DEA608F80D3C93E374C2170D2836E2EE9F600A010B97418B52CEA1592F4D6C4E91547EF019A  
F4BB4F1ED010242DC

---

#### E5aI Code No 39

1193230653E34BEC0CC617609C775D5DC198C2F533BEE5C3537F381DE8AD1995303FCEA2468BB  
E8713A3770F59EB4F58397BF63DD3AEB17BA59D1D906C853B6BB55030F2E0FC04C0BD746B7553  
58EF16B44A6494E65FA26A294D25E7567E7ECFE7A830896D9CF2A8D97DD5D6FFBC521907C1677  
F195AE7539C564DAD1D78DF994A3F33DF3F0400EA6AD3A742FE3EB8A1855BC78F5E9ECB5F6E41  
A13E2411902BA48D0061D318C1D026FD379C5E4D9ECC3FC5AFDF0ED8D99E35FDBAAE7DBC9E228  
411D203FE2645169B3E8144F508F880EF89D6B6B7696CCB9041BC145BE25FBE39017DE812  
ODC3989669DE5B587E5F2C5C057ABEF2195F5E0AA441E05E256B5BDFCF636350777392CC1D5B5  
BCDD59C82BF8F3F885C86F5E6ACED0FOBA503944A9E2F15E8ECFFBC5B2C144776A5FA7DC54EA  
OB1C9739E21E2ACD85DF739DD5761C17D7144039B3CD53EA47D67E8E8C505C39690D09E52127  
C8F055521E8E8E8ADC6479EC436B96DE2CF8784C71B585B1EC1475F16D92DAE9C29BE7375C527  
B1CFCEAC5FAEC37C3D892525F1ADAA164E1E90680EDF0876A0C50CEC8123CF2EE2CAE3C35409  
ED5C5E6840E004C9F69918AC8B39899D0B846590F17243210FB32D3CBD4E3F8AB4C7C42DABC17  
716CC5B330B009EABEB31FDBE086602F370EE9172D66A8B4991CC56A0AEBA3A623BB37EFFDD8  
E273DCA7B0C09649B1D0CB5F811F6A27ED3370D1A1E922A70214AD71C2668077E59C562DEED43  
C282333BADD38CF3B01E3C1F8A55B3822A7D41991CF4E4ED36D2D7AD71BF6BF100643EDDD23B  
6C04486DF1193F552EFE21BD9B5A6A1D93D4459CB147647052906599533AF69D3CF1ACB1EB89E  
AF3004B2E4CCC6D4CE8E3D6CBF8BD90E6D4637335D5939A3CCB8CBF6F6423388FDCC9B11A159  
813FABBA39263F337B3856B0A6B3102D920AB5D216FF4D370C836A85B753EA0E43E2D9E9442C9  
A4E64A061A0BE7CA61B67B0F012CC43E42ACD298B3057F9CD3089C59B39200E8B005772AAE2C2  
138172DAE25B7D54FCE9C6F8A410C50079012F069A97D6581CB6B2A3EA9E09E4F2C1C57BC9F1  
27B4EF8E39220371EEFF0254877B19B37E0785583683E5AC8062B438889130038ACD1F52098E  
5E4AEFC3717016321C263B4155BE8418F22E523F514B1F8BE7449A48EDB9F3B38D55E9C26DF  
D4C8BCA111D162DE23984DF208D5AB1B82623D2A4F4E3A104E3F84F65A020BE96711BA3B3BCE7  
E6630F8336B16EAC987E8FF10D97C62E9B2B1B10AE466451FB70D345A88A549967C367F6DC1C8  
7D817EB7B4B0A5032E1A72D2078AF3CEB8116B1BFA0BA64F9C1352577BD9D0C552084898EE52A  
C1613617DB42209B5A8406DA72EBA89CB8193E69BCB0E0058E4C227ECC507108152C248ACD03  
3DB3C276E77D80AA7FB7C7D3ED6DA7CA79D469B1F2668DF1278FDDFD20CD02668C429CCB2D64E  
6AE7EA6C65A52B49D2A18EB4CDB26861AA872D74D51BBF34C56F545C98E02EBA0D3E658FFB  
BB82960205A1ACC2988D274E74A3C885F1E1F0660ECC75EBF839E8E3D5057F7C39DD8369F9BD6  
EC41A918BC8A42291384E2688F20A7B78A96746263991D57BE8BB2A516D9FBFA2028EE46CCA59

1086EFDA8C97B2DF9CD939D99A87A0AF0AAC65ED40B6551E6F84E699483CEF2C9099693B895C4  
75C52C56598AAE7A9848CA6AF2E7970FB80768704209F117776AFC230158067B52AD83AEEE587  
F81014B0947A183F629D319FAD66FAC270A4D115F469833097897A40F185687084816F1D2CE61  
5FFCDB27D060331F0

---

#### E5aI Code No 40

594886432182182A60A8457BB3531920208BCA5F9B84F988DEC9D71119DEFE0956740D55AFCF2  
FF33EF9801B2C9EA25E0565F587553A9DB639F3843EFED712A9FE49D67C197615E1930423A24D  
464A113C76A8545601964EBB9AF89E236A2021D25D5A4F71E592716BEA4B4F9A9BBD46A835D49  
379873CF2B0129E236DBD2E510F2CE164F08307C4EB11CF12AD26AC9ED8863B0EF1FE28D2FBE7  
1859BA4340B13DBF103F6A1A855C4D51717B4B6435E6A34F7122AB6C214028766BD398C6A03AF  
19D67D7E9CE96EC95FF00CCB56851289D52FC2F2BB6CF27F8D7BEFCE6817A52FC06A468C0BCC  
C6E27581F11A9394226D7E8E1E7FCA24295275042F14FE0BEB7C1BFA5A1161FA57796F21C586  
0D6CC3C9F2D28F5C3EB0F18D27D9C512A4C7D3A3C8B55E0452405643091F679A9352E2B3EB74C  
0562DD08A45339B1517339C19B88D1E6B13E341C7B932D3613CADCE8B349EFF25DFB15B9306B0  
520006C72C01B8E1F5D625C76778DC8ED95D62DBCC655500EEFE96F90C8F5D83E4A9FBD2BE875  
94B6DE62DFFBC056824A4E4B61B6E83AB9BDFCC9804FE3E2EDBB788BF3E421E62644BCF44B80  
23213A8FF374A14B8A1EEA61830771C6E2B48AE0AC68B14601D8AAE182A840F98198A8BECF4EC  
119EEFC5D7FB4D2920AFDB10968F70E65D2C8D5C8102DF73BF6AB44BDAD9B8577FAE45C83D76  
A3C6E425664131FB3F38E5946B47C0C944416877D9FD7F3923C5EECAF435FC17A806C13D790  
55844164A8216A605615312EA5792592AED524608BF44DF569B5C6DA880DAB9C2B7C0171C78  
5ED77104E08B61C7B7625E80EF034EEEF7E13502CC6510A8EBEE8D7C2D6DD85A6DF2D13999042  
C0B3E78C0188A741B399E212F050539F9166F9B876B17AB413072CE8DCC6004B99233B73F1E  
9C494B23457767C2197B101D9BAA41BABFE33224B2C1C12E1C3C5F099320603968AA648B2792  
E7D0F009C1C7C33D6CB5B94CCA72F7CA5EECC827F34457DA961B39D98A64C0DF1A1618DBA84  
681657E108C8620723F31F04728814055924B638319F13011EBDA0289A0BEEB732ACBCB71FDC4  
11B9F981969023F6A3F8411D9D9681DA28DEAFC84195A442340A537244E69989DD7F5A0F9A33  
D9ADEF27362321D4CD3A6DD3624D98F8DD1709C3AC48167D91CAC26705A549CD2E0C62621BC27  
5530EBF37AE97458C3CA841E264976F2CE212462AED47D5A0F6EFB27BB657D47BF6BA303CD66F  
BB1C273A83EC36A4A2EE2AAE0CE1FEC1B8740E83A73DF7A3B24CA22BBFE52584824445B2ED95  
D8B8A0BFF28DA14D382B8B54ADF00AD82B3CD5ABBD4935738679DE633243B4C6A6CFDAFC43C90  
8492CAC991FE4000124E0745CBFC21FCA91FB90E6F1183E5E96F67240DCF790D87A569F6603B1  
85DFB5524BFC6959F717891FCDF39C7B66210BA5837A5645C62777D83C07125DEF9E6371991DA  
53E79A7B5767B6FA08450A806B2E2148B50F9FBC79FC66C47844E3CB6EA74C7DA86F313BA8C54  
F0FAC364F5C0D49F2C10238D44446AB58EA8FA3B5A5F14ADF3B9FF1AA225BACB62F3BD6028EB1  
066D7DF265BD210CB4EC7DE71CF028E354FF81B76E3C621ADDE054CBC1366FE069ED6F99BB74D  
E007B9E2BD31D1A96536F2260FC137AD11C5D2C2108C2C8F3C893F4A6C4A7FA2DE0AAC7931FB8  
5C5882933C128A9C3191C35FE3CA022427B6AD9447A09B6EA0AA9AD70916E9127900DF0457C6B  
901FA2740353988E26E4B9BA1711E451F375029FED9AC02564333761603E99A1B725136B54945  
38C88FA2357FD7D9C

---

#### E5aI Code No 41

9F4D899456FD3841B890A61EDAFD40C7B43FECF9D700EE269E58F40BF2CF47CC1C1EC7F28D789  
09A53C7B79C4E6AFD275BEA739A3617E8B3C3C77ABD4EB770B9E663BF154E77205ED1F2C5669C  
FCA18DA365B988499547B2C36D4A56582FC610E06E4D43E54CAB563B7E5DBD04CD04EA83DA726  
45F1F26422D416AA26CB2AE11C1EA270CF7E7AE3679FC2D69E012F0C950FC64A56C7B766F9095  
26EFA0AC383E4A28CC5C52A26CDFD2C3FD2AD820EAD3885DE63114DF5D19A2EA6C2BB338A2171  
C73A7C10AF41A9E4F0E49142B363AE9D306378B3211CA3B0F21EBA2E72BC131459E9D05CECFC7  
6D6E540587073B0CEA1EE973B56EA2E671353210885EBF3A6465C1D2AD12C89217F1ACB12095  
52F1DA1543293D61D273C4AC5AA5A4B9D2B368AA82A7FF8E10259FD1FE52BA14F45A40F72B75  
AB7DA9F73DAEF5642CC1744E6550ED6CE2E547F33598034E8970A74D7B1D58FA2D4248186083B  
FBB8BC1A34C744B6F08AAC374C28B1C0F9E8C2B220C6EFOB5C0400D3B725005A711EE66FEBA35  
3778ABD4552DEF9E5309FD0002FEA1F3C5AA3753CFD7CFD62907CAD3B1F68071C01886748201  
050E39EB0DB18240C5D598D213CBC508B8F0EE7708CED659CE85BCA8BE714DA5A607E023F9609  
EA3D790501C4A9969FFCDC7B3E7317F6AA6B99CFC32FF1B74AFBD42A9773EB0615598C943BF55  
C1E8AA3B85D5D2EA2892CC33FA809D71621B02D141C74722397318B8CA0F4F9DEA01096234025  
573995DD2F915D35F7EBB6F7F3A9E83C2D23D769B639042FC669BE9778390A3E4404C04FC9991  
FA6860AC811BC07BCAE69756FE9DAB27B91B91C51892D61E94DB2B486C25D13C225810620023F  
1B9FED1E89B002B7B11A609FF348867E1CFD827199A5F0D6FA267F60F89B09B5A1D8FF62744B3  
86709990589D0557F5EA477974CBB87A86F2E6E94B758607454E3937A539C85569B5E68ACFE49  
11CB053CE207394B686B962A7487516971740287DE8C51CFD26A14AAA3D974068D22708909381  
2DE910649512D966CB97FCDED09F4BCF7749E16E3391B75A4846F65EEAABC5A1CC89B1D9D52C5  
41DC65CC468B27493F76F6D68AFFCFADAACF20BD979CD63A42EA3B8961EAA2F731C6250436A5A  
739D3E015FB32E07D373FF650CDCE417EA85A6DB8A9A24FDF62487855DA1C807943154C162AE1  
7BA4E477531100431D647F2D8AE76DEF070A0418D2365549BC66DC95722801F3A77E435205E9  
19B4B349ABACDB2BD111087B05C05FF01E4BF04F5685665B361D37634855BBA312E96F2C63145  
90E298770C3CFC4207A0FC944622D4CD7280CDF5AA241232B6B5E78BBE5C6684319AF624124BE  
84CD2F1512E89D6CAAB620009206AAC993A9F4D6A67859C20A8B9307D8F8E370F2E600A9B363C  
2A460E0DF5AC007EE110F4C088CFBC2EE82D623D5EC42DB739C2267DFC81C830244A6DEFFD496  
6480D6EA8D258FC047500062F42446230456F9B5405610863500A8AE2440A00CD16E5B6136B0B  
F1611345CE7D70319962896B3F5E69583F8D305B760E0ACFFAD762DD06C54EBF8075C1B0ED97F  
EF59FBB48A7A65C2251DA406D5E9E5F67586C64E5F8FCC805DA4F33BB583DE2D5F85A348AFF02

15233EF88C310FD1343934F5AA2A2AAF8F58DED34D0E35D210FF01AB4114E18019A2F7D6927FD  
843F842AD6AA0E171DDDC2BCF6B49EBF5D91C35665D8F88C0924A453FE96CC06617D81DCE66A3  
C813F1D3DCD5C37E60BC672ABA16C2025C78E9A1A6B1CBC4C02249ACCF55862C538ECC42D016  
9B7E3F4B188F2698C

---

#### E5aI Code No 42

47A3C0CD552EDF50F80D3E5FE68A22F85EFBC41BEEB787E5CF0CB3266EF310BA5E1B29A7FFF  
0945121EFCFF811A1B7DD768D3ACFC21C4E6EA1EF06E851F2FB37A5F8E0C49F59A28A4CC2380A  
0C0B4043A7493320AF4E34A2A20E36A6BDD2AA49088FCFF24C84A4D53FD6D3B29178F921768F2  
1C5827D64C125DE4F7F435C6BD000BCC1C95D0F82D61581049CDF2A34A27F2D9DDC409895B974  
2443D0CF74F8A7DB13CBAD88E1F1D6F52E4486809E20AAFBFD82B297B038BE774BA13649ED922  
FC67F6DB9F0864B742F6B60E849F9A253E8B0B873C8501F72D3523EEF62C1430350852FD1717  
7203DD2BD4065984190EA2075B5385E1D29226236ED894DD10FF82F1DAF16AF55F0940415685B  
3A58D1DF7CE0B0F069F33E6FFA29FFE6134285CCCEA2DBDF1B901A700765449D67C24766A042D  
43695D1F5D241974E62817FF9259879813F37AB1E8E51F6C654324118E411ABFBB6448E9EA3CF  
1F636D2142D65775EF9FE046B80F0DC1D1480158D603626F7002290058E62DA252328927BD20C  
05E5D3BB0CDFB6C60C04DD8BF4A3C9413241339AC186B054B34B24D9ADE710A79978158F1E2EA  
5AF6FAE9077CEFA4E335473D29BEEF00624FE6A9DEF0BA52464028BA25D9A9C1BC85901F507AF  
046D56B17CEE0F2343395CD7F1085481697808B99EE619BD0500B55945186A81B89A9C6B0E32  
F1D5196C4787BDBB08A6F1D79AF329B38304B1203E9B8093146B15F1207C7EAB020B72B2B92E  
DB95377D698F10CE7737FA3DA501E0CD09F3FAE9504ACC414E63F60E2721E759CBF2CA1E2671A  
98656707F4629626219E4F16D8A765AF3E75DEC1B6AA82622916E47872DF33689D820DBEE6EFF  
26E70F61ADB2EC3D8FC9A0AE30F12E3CC5E9A8E1A820DA15952401D3910F6F500D4CDB7D85401  
AA4C8F418F7E2A166B491D5CA3B41537891B359112894274F25E9DD2B391A96636D468290AF2  
2FC6BD5C2E7842AC5A62BE24D80E6AF79C6F2118C126D60720601272FA89F966C812EB875052A  
0BCEC16D0E6C973EBB683214ADAC9BCD0541D32D33AFE16EC2BB424EC8BEAEF0BB8A3DBB812EFD  
F58EBD84B2DC8C7AD54B86E698BE762E73CEC7C1DFB290F6CC1B63F5257FBFECD9EC87D8DCD2F  
F393B1C1D1BB2EA9BC10323E6CA3EB8EDCFCCED055680109C03C5C668BB8848F38C4C3369A4E5  
C0515C7245B0C092F0B8525434468E775F40C4D4206B6420039BE1F695DE802DD718B9AE4FB41  
320C220F6B9971A4CB8E67C6B0CA3049C2772D2B3C1024A502B48362CE9A1B84BF4C9D47D6240  
9B5CD9BAF1E18DE57E9BA9CCE077266D720DEB23F192C70145FE201561AA2A46B55F9B6E5BC8F  
AF888FB74BF6510AA7E6BBC40DFD471D6CBD2FCC28B33EBC763E8CA58D5D74C1996D66CD827A6  
A6B9F22AE7C24B13799A7D0A9C9DE940CA217FDB870A1640B55C69B2E704EA21262DA831C7E23  
411D81773A965DF6AE015CFAA0D5DD3890D0327C514968C2F72A02A0A35243616AAD673DCF57A  
684E1C9A6B6F35E12C09553AEA89DD40CFF53EB16C5EB9F98B6D04674F8DE9B6AC125B8B0BBFB  
A71267A6FBDE26B64FFAB35E5C5F27B7CA273B901D28997E6298E610404C07569E906AF09A96  
8A9E40475EFEBE524357B044B964136C989FFF70244DAEC0CE3BBAC48B5A0CC79F20AA1E58DD  
EFE7BCC9B3C3A04EFA49769A50F81AA8F3D152757F33E935CC6ECE9959B47BB90810BFEB6108C  
8DE4643B24B4154CB7EC3889F5FEF9045A59E82300275EB4D379BD85A29915796B8125351C1CA  
84EAEEB7607894508

---

#### E5aI Code No 43

C9ED53081796789261D7D209BF086C92C36B574AFC6ED55C3410E0723C799696D9E7DDDAFB114  
606EBF4256461FDC9B86BB21A134F735837E6845571F6C2712AE42FE113878AA18C76D5383FB  
DD38E43FD1314166DC0B7CFC3F07ACA56740A582173D2DF20F7E94F0CE29693AEAC6B3D1E4B2  
2BC63395BDA6B49E30B49261FE045CAC9AC29BE5A2D91347EE4543495CCC1A38CAA59593BC3DA  
05611BDC74806284B4ED73013A415E6B36BC2CE31181971BF4C7B488E78E921C6AC1070772EC3  
6A9BE74DA8AC4FF68B6210A392866B689110D9BC2C7ABB2D82A38EB90891F264DDE5FEC75C6B  
4E539F971AF2728343F1641F4B05EE8F3A520DC170B3D8D562A7AB72C409995034F6CE1C258F  
486ADC9E44FEE47D5E81BF1259COAAD3BDA49E17CA9C74AEE77FABA25B3481C0317199D585BC  
75BE5A774F8D5CFFDFA9A652C4B14E29A4F2DB5ECBE682CA724BD98E05BBFC82320C8883A56F6  
87F840319DF2D8DBB3A8553BA3FFFAE0D4EE33E84B62228F924A86C5FD5B3E12672DB6377D80  
7356144009F741325714B5B6AF0803F3D1AF558C0B76620F77056A18896D2047C967BF69ED79  
2BDCA50409929CC2E2DE802ED09EF87433B978A850ED7710508889EEA4558097A7FD83EACB365  
371F80FB6EE1F7A6D258B97BF1AF9C321A629A5AB7559CF1B82311F816836E391BDAF741E4932  
98B49C001783921ED1569C149C90D26CBA94F8604BFFC94FE303CCEDD8812A95F7B0E71DE9586  
9D2515E524083C7B2E06C4B5E9DA12BFC47409F03A352C15DF3B79C3F2015E86FA527BEA7610  
2DCDDC863263F0C7E43CD9D49F05D8F6A124354036388FAE37DEEB43909E415EF9F5877D04CB5  
A86AFB74FCDC990623C9D4D034816E39B692B68B732322695C97CA93CFF0FE7FACFC1DA29BF0D  
0C08D93B4485D6664E96B09C8B011B3107FF5232DCDD9B3B8DE7BFD4CABF31D2E92AF686EB8C  
2FDFCBE80B5F5591B3F7AAEEE0FC7A3E4BBD4652C8E857AEE81F499D9DD537139B7A6275C64D  
DBDD17BFF7594DA69335C01AC24270403E880987F69D4EFBC2B2B787A631859241063E7EE106  
D3EFFFE60479A8BB5C11ABE38A76804D43A44327FB4D4F986BE3C52DF109E4D72A092F25CE7FD  
384B0404628936256877CDDF543099D5B0389A9E05CA93A2B12C3C89BD76F55084A03148E2927  
5159DD41A75FDDC75994B8E8D9FB10E6E80A4E30E2CCE8F8DF3FD7A8DD567BEFF109ECFE3B8C8  
43BAFFEEF5B70D5747471FB84DE2A26747DC73C9B2BE9905C53743159E489E1D0CC14E72046E4  
C8D84F893FC7EF15CD9F52C71D91A503802FB5A6813A7BD2DB705BADB58C06E0883F0848E44C  
20A4948119058226031B5731F36B3A9177065BE9A0294F726E80B5AD2F2723B8698D831DBA376  
061FC2029979F0EA7AC4BCCD87B6A432051DDA7AB2387260082E6D3BFFD3B2ACE807FB6792DB2  
1AC235C1A58D9E47D42EE055E716D389066AB0814B36291AC71B0AACB666F7CAEA37B89CB424C  
4EC3CBC68F97AD6FCCF5F3B5094E60D68C2F1180E5CF2141EFC84DAE7509490138E0EE466AE0C  
7469F4EAB2E5ACC29EBF2BB225E595181F96700B552BC0E1171428FB2A2F0448463CC86DA6F7D

D10FB5F789857A29FFE9535D7CA35F70640B9D4B9862234554770331B52E42002D123560BA7DC  
F9114BA9B8B23D08C3240E3EBCB7359D13767810AD3F3F66A8D698D17F20DA5242259090C0A9A  
ADB9385A2897A5A1F32A7B1549A45D4EA8787523AA210BCB55AF6B15A1F150E79FECB104CE01D  
AC70125FAE9D1B8D0

---

#### E5aI Code No 44

334994DCE050CEED5471E648F7010ADD69AA0CD3DBB3679C9D3863F86319BEAEF1370902CF497  
8B8237638507B392AEFEF731E6FB42DFC2A23142EDCECFBA399F9C583866B1BFD7C280CAA43C2  
CCEC29C6657654C251F7BBC0F83E2C356934C825BCCB36073A5D540AB82DB7158C7893AFF166  
B108363405B206E53B13A51BAD149AFEA2A40A37328D4CB3961C9EE2EAD29C76F70FB4E6409F4  
68364DDE7A2439D24FBB05719A6A489513B14229E1949142301AB538AC775AF71670719395941  
7B14A65E2D20319721FCAEE6364D04C480C07D732AE0182090C517B96DB8FBBF66B8B6FBB35C  
DCFC87B1C8C0F2E4ADB486474F842434CE9383A57B69D4CDAE68E5306DFD737AB075A60073846  
634AA6E2A6D6F7CE56A631FE1E3DF256A1E39F0C44C3EDC3A9457EB4FD447F2AE094979599B9  
B90EFD1BB9347DF2E654BB9687A2EFB857D9AC1306E20769FEC4329BD54804354E0235AE443AF  
3BE01E26F0D5998D7FC36DDFA5EDBD3958623B6F065627D6A4EC9901891E3C63522744C8BA  
C51BCC89602D66D1B3E0966398927E869E73AA8B986D9FBB428BB3A71AE7B273A16228349B819  
27B53DD9B7E96E3D078F25EE564495BFE7B7E6CC042E016499952DCD37F171C709D4734CBD8D4  
6E7989C2C497B5EB9613DC311643ED4B1B08C04C2A5854CBA30AA225C683913B5BD46E1DA483  
BD7EFC2C469DF017BFBCB5BB07C64A68E3CE828A537115A07876D30999468358869AC7681380A7  
E462ECD497A6A6FB6AA134C15C6BDF89A2B8D58B875C00892C50A791D8A50514029F790F7748E  
B0C1CDBB07AADEB920238F9C19BFA31097F9AE3B26509DE5C4040CBD82C859EE7C4D094CD7CF  
8F04395684BF7BAFADF75027B4A47A21CBCC6E3ADFA6A2AC66E3A2F670F49BF245F6CDD0FEC42  
01E3E7706F8E37C25F87B3040C0D8431A00FD4B49E7A050837560D458BB5C2E93986EBED1494  
4F9E92463C312942E6D8340BAF149042FF611DA8ADFF9DC86CD28185555E033F3E22856A80C48  
2D52B2EB21E2D51625FDEC689595EFC3160351B5F30E1B802D5F4F35CFA2C25D8E4101298E6B0  
B917B5ABEE5DAE3CE09DA595122AA3BB3D8BA8BF0D68EC99C2DE8B4BD7C2A0E0E32ADD32D7269  
6C43C7CDDDF92DACF13D18DE4A1403D0002454E7081B92EBA207DF9411870B91CE9DC5E26887  
A437726B6CE2B2DC51907FB108EBFD2F089F893A6D5B5141393C08F497C180AC4A95357E417D4  
0C5E7FB324F0D72F417F688D45B980E215DA436CEAD3794A135A719942FD0C998F3F6F165C166  
12E2B3ECD4CFAA9A18631AD9D878D63A8E09B0F82C12EAC730E6C5A083399B7A098819F2F25FB  
2CBD1B6E65E3C30302CEC61680B699F504E5AEB959370E32B58B9FBC832F85AB0846AE4BF678C  
272CADCB5277EF13A38B1AB787F8E5344D7DDB074A92DD68A2A2F9695FD52DD685E4316FA7E9  
13DCBF34C3F0D9E9D22CA862D76DF3B5E9E3B54992A7F731C893980F151BF29EB1AAF677B439D  
B6D20AC69A5A41166799FC54FA68AFF8D54EFC45B49E25A93B28E87E41CD7B3C61FF24F1D0BB  
74CB20D2A8D817473188FF8E56EE9C4006083BAD781C3F46BCEC777B2C72A9A3F551353DF186F  
F9D7B342D86629C4085FF2108B98D8EBC886CFE3C7A4B673D447DAC5B1DBF6BE6064936AAD014  
C0AEF0078C5D1A626830C480E8B72439C9BD0ECA0B41561E5B0D6618E77042FFEB6CA0F29622E  
B9F21B83A4560FB26BB98468F33BBFD5CB29AC4F45EE9D68A1E5DFA757DC218B536A9231D7FE2  
28925F96C32E0ADC0

---

#### E5aI Code No 45

1B2A30E6054391704DAD57B34530294AA46DEEA044EA5E707811036742E50DECCE891FF88372A  
4AF65CAA193E1D8DDA016ECC2A2E3F6D8F2DC9AD1449C614A70D253161E2B05AC67489E13345  
C779F3D36BFDFD7AEB2AA30604692969E0C4E375D18293D5D3CC39E31189698BCEED3290A2CFF  
EA79EDE157F2A52B4EA52FC82DC4BB0D1EABED2F311DB72EAA53A1B6811D03D3C2A30C76A863  
8E6A775EB3A51FFD4CDFBB4B961075E6102D2E5555ACB06548D119ECB6895AA00394D4A98C83  
02E02F8D4FC5CA34B0525D2B090932A10A4A68CA18D799C1DF1C86B1F88AB219D69C25CAB6A  
F6CA0B3A4AE390CAE3AA65D3AC95339EE734126226D1F292BA3ED968FD2CD835F621C3CB09E59  
B9DA5CD23163F573821FB64E296853A8263AC9DC896D6E355A4C4377BDB4E7004CF399C0891C1  
D23E39F03CDDD94DF7FCDA06261E923C9E0FBD8DE32B49935A03E66C13FE7B00E83674E64D5CB  
C14C0B9F62A842A17551E5E7001BBFBADAEC36228513A43D4864B8D2C8B272562A6B548C0B3E4  
610609191B807CE861538B9FA079217C91745E61ADA6AA9644A135D216FE5DA5143F55D76  
D44131FE6E329826F2BA062EAC329161C8D158EC7A3BD5FE57908C7523430ACCAEE3091FAD4B1  
4DFFE0DFED92F014D19641EBAD22052FF8D262D39D6FAB21ED66A82CF8336FE8E3CB3641F15EC  
5F2E2AC0E99CA07223868BAB78DB3A008B233FCC7966D816082C231C18165422F7123325F365D  
257FE69867CF0CCBBB875D5153B8C1C0300EBB1AFBA3371B83488143EA2562FA477D210BF6825  
1312A7EC26BC837F9D861101B580249FF24C364DA978C0F57C3A3C29F03F3696C04A3CD330247  
DEC04A385739D90739847867592B09DF211D8B349FBA760D64D5E00C9D596CBB8B73E7B17317  
AD315004B35E7F98672085811DCFE7C86DC0169997F2F9EC9B2B77B97FFA6CE2AA70E2A1030BD  
3ACC5FC3241F291D0304B71D727828AD824445226CAA77E210A48EC8F79E0DBCA01505D1AB9F  
79642716146F7A8F9EA25238FCB2F9C46BDC1489D35B958C44C7928BB4503DB8DFE4C1AF5406C  
04575C4DAB11995BAC0C7FD72B10ECAE376937B56A035DC0A4D7B2E1A180EDA4A84F97D53B57E  
FC5562643AA62C37211C2363EEBAB6A2AAC22FFD0BF623CE6867F3C50F502FF535A68BED2FC9  
8C50BF673B2C5BE8D7D690764C256CDED17E4023A04E70387EC53947395B00E8ED6541CBF0B07  
6AD2B2A26CBF220BC665598D9BC1D1EED309E687F7D1E7D71F4B2C1B5BA020EFB1DE4248C234A  
68670916EC8A72FD1EDAF0615CF3FA768FEAA586B08990E05E24E7D8E0DB32F4370CEE72D74BA  
AB68F6E57F2B9B0F51691990DB46DFADD7503BE7F64A13F5EB5D49788CE21BA768D028037BBB  
06F3573CCB244CA513623747769B9EFC776AD71AD1F5635B6CB73822A112149208F10E657E1297  
026113481BE7C862FA099F331FA5C6B1099AE77D4F6DF2C74736CCD9AE834228798642063A65  
845ABF45BA037441D967FA102134B25BC7F1F9E8BD4E54306BF8C36DC01A500F4A1184D741284  
1329DE6B27BA4D772B1B2B68348228037A9A048C0989AB12B42FBEC45C69203ABF843423D51CF

A2D67FA548BB39D0996D4C215157C707DC251032ABE51686BAE8F00E0CB4EDB664A3CABBDEC8  
5EA7AC7724A461F9F650F9752C1E5B8DF204C3520CEE4A51BF8D3BC9A0AA3AF9D31B95FACD006  
ECD27889F1D0D1B696DF57403EF0E6FD83164E5900691FB29B19BA4F64084ACFE985679876324  
83F2EB2CE76E1E0B8

---

#### E5aI Code No 46

5513F3F1C262853F074269AF598A2E43052CA2C0141729078A17BEE4CCD35B761B1766B3C118C  
06724B0459AF3E973110D7096044F5CAAD9A70F3BC7AABE628848D2A4891AD18CF4A3D9BE900A  
2F42F5D54AFC7FDC7DBFD3155F9D06078C89F8DB684B62E4CE0DC0AE0E4EE6F0E26A86CEC1DCD  
D96EE175FECB827BDAB3DD53D465E796FE4C49F46B0B6BEFB951BB1A679190F3FAEC58C00E2FC  
A744A97907765A3834585E4E00B952B5B7B5F10E34F43C8EA3F46C58F8E31B3239C0658F81FC7  
DDD5049FD8D67587C85C78C12CF122CCA327A7860A0E34A34DADC677F82014EC7217D2710112B  
6C0067AD402A941877970C95097A47AACB74A8DAE4C9B5F360B755FEC4546D7D63C580F108B19  
7375AC08EBB1F51E8AAC68C39BEE69EB886BFC2558F0A52AE16F514EC168992775060A5E474E8  
B2A1180C8F9FD6F3E106963DFA09D48007CC276C1464B00C86CEB1B7372684ED6BFED1DBFA624  
8F4725E7F8123904BD0552EF70A2E21B8A078CB90E8E75B127A1C887002D70E32CBFB6875138D  
8DA5B312A97AEAC2DAF9D6506FB08FAA9C334FD686F6CE07F4BAC70766C6FDB001BCDD43421CF  
70B8B33D22795303769B2C37D25752C9C4494A8E8A0D9A1205A03889946833C065AFECBBEB026  
E95987C022CFE65DED4F4CB78ABD4DB2CEFC3D69A4303EEA5CB2E8F39A2FCC995DC4BAB644F6  
5411F6809891DF1C0958FB281A7852C8330109EE9D87362F461D3266BA8C2D3E82C9B1400220B  
19277649CC804A9FDE4C2730AE11CE633975EB3126E8AF60803DDB5C0258F7974BA7C93499B2C  
2ED1E71CB64E61854D3FC18633328D14A12AC06586246EC7621FBF1BCA2578F2E16A83C9A680  
0A378C8E280C7F3378CC71011681C884B83A56865F138FE35C123E28F1FD461F60836645A9F9F  
8CE211A8FD6B07D477674A34F78E3B916A7AC73A0AD9C8323D0229706A8C2214B5ECE1301E470  
C37818D68092D5DA3F0794B8D476878A5B9FB33999F5422EAD28A16D8F8B39CDE00D14B659A  
D8DC33A46F64DDB8E4F142FEA8A9F55B94C40D62723CC51E718C0DFA6D9799AA1863498173A  
0659F816FDEACF2DDCAC54C1D535E1C0FD9922B333C780C1149C4B294AFC5CD23CA8EFF423A3F  
EFD0EE1A5B0CB28964B8E80C42AB660665C4B55E06E44557689AC22196CE641644959BC7F80D1  
AA828DE75CC21E0A8FD211BCF6185A7DA81222CAE0B632A7F98484AD6E83A220CD49D5942B7D  
16309AB1DFB705852A22A4D51EDD96DB3E318CAD7E96D5531193DB24B50D3EBF55DF8214093ED  
0491B037E1B38FBCED71199A063ED101C227A10313051F0B4BF4142057A73C491AEDBBE916CE4  
BC05D1A44FE7A2E7DD76CBD24C13F3758BF7E3BB8139690E33631F180ABA7425DE3E512B53663  
CF9A8D1B28C0B886C655AD3A03FA8698A5F5AB5484E3CE53CDE1F34A66FCBD734D15BEB727B0F  
DFDF68BAE40299C73A8F455ED471C82F6DCE240B3BA4E6364A56828F2E2D6BD8DFF03F35F5C6C  
BDF0C907F7473F24938016615835D801598409F1004C478BB1B2283AEAB437BEEA2F5FC51D8E4  
3F78C0092ED4D0B08FFBDF1CD60454D3BFE6EA1F41EDC5EEC06357DB41F73CAB2355663441636  
9365D13FC8FF9E20EDD8FDEC673F0BD6C8A1EF60E394B596B70F751F0D9D7E8D573E3526D2D9  
0325B52A08D25F18DB0E6757EBB6002251809ED47C85D4FA37C5890D60B40BAE3AD22258BBEC4  
CEAA1B6B585EEF32615F7254268DB82532BACBD9C553624AFEA6BE2AE9E1401F9BE05D68A881A  
C8D9E0CD437F60C00

---

#### E5aI Code No 47

7831C1BA1031B6B0E0CE28BC7E6A8ED16E3068E8F0006DA96B8740114397B19AA19370B1E1F0  
61AAE3895C30D0B7099668BE752BCD8B1CCBC497E06BB0F75AF47A36E8925A59E070115D3ED6  
3C6D7FFE54D037B4A818703F6D78BB37725D7F0AECF6CAF120A80C938FF44BFF16544C7847B1A  
989598F1602A220392CAC2EBC390FD53D15CFD3372426CA41DCF816E29C731FDCA2E84CF9018  
0039FB1AED0DB9630BC28D54201D5606906091A3F867D257C3A0F8193DCCAB2625D40DE5EDE65  
1C20F2DBC83FD551EF46C4E724D2C516560749AA89D35C7283385E98AB34BB88F8ACF50A0EDCB  
70888DCBBCFOB792A5D1F2F6977FA081B4EB08BBDA076A43BF1EFCF1C387DD5B92BEB5000B413  
9938CB0A3B6DFF47B729BB5826C7E188A177CF6DB1B88F051B537DA014B396645218DF4EFD80D  
A597B3A78E9884DE4A7B3D06C259C10B78DEA1DB711CBA8FAA2CDF37EF0378091E408960B011F  
4E4FE24771D0FF3B8DD01DB0527087AC5C0F64EB693D38E0A128FB8053E811602A05F3DADF2  
166CE49EBA13F382E90F4A143B2CF4FC12DD4873A40FF7354C6E648A56623457665402632C41  
942D23001C08470AAF1F3FF0A474AC6586C76915FC91AF074103A1CB9304485F92F9639399028  
EBBFDF9394B4BACD6BD3B2177368B94F639AA8D202D6BCA88D74AF0610C7B565067ABDE4F2BFC  
F8CFFAAF93274CBC913EE7DC5C77BBE978AB9F82B546462DB933D67E0C6748F943F39B8FD6791  
847C50A5A834A78C2FBE5D21448A035D83D45F9ECF44C21C4DE726AE8111CF277049331D78B06  
E9D7D3D0D8915C7C32CD6954D37045E7AFF8AB496A4827574C457523AD6B85F78641BCC4C9535  
D29B3F8AB4D944125E6E54B3B3F23EBC04BAE3AB102977EF829337F51CD833B4F5D4559D79E69  
5470F498EB4388E573D004D725FE41AB1B39F9526867BF7B99301E0E50AA569B3B23EF78D02FA  
53C4BB2A184B02977F2D2AB3B71DB09E3E8D9D5B13DB8AEB0A95F9296B7C49B1B3D6903BEEB1B  
9792B5ACC1A5D11672CA5D8E3825D044DA986D01F6E1E292D74443583E49CEFBCA177BE275977  
BB4A4F77ECD6FEDC886B4B83AEF5F34AF1A78DDF6B11C201760175D57823DDE0FA5C6A9C1A916  
38561B857E993779B6B0576994CE86E7DCCA4A89BA2ED84ADD1D8B4E11446C41DD4B1EA71352E  
26B2AD4B8A1C5C6482CE21BA4B8D7D6589FCFA906768A2BA0C5AD1758AE7B8A2BD757C8E4598  
14CBDD6375DC58497279C0C327F67D14FA5C90167941CF9AC642B1693D7DE52578AAAA56E0EE  
DFA4CC12C7469DBFAEAF5F9D3D72FF103918B6F6DF7E0DDACB208A8764B459EB01092A101D42E  
762FD5C5AB381AEA19BA6EB8CC9CE138892FEDDCBDBF818E97EA8AE9846C0CDABE9B4FD5D8043  
1FE03A4CBDA566314BD1AF59AF120EEE4105E1B701A4058F1112F2A5C8D9F68EECC870DBE78D8  
51F89AFACAA3A2A068C59654EF5E5BE2F6727136908D993434E5EB1B8433119DB1C02547EAF  
7C9DD479C5B326CEA6224B16A2E108E76CDF0C54D16E472D0CBC80DAE7980713602FDA31A6B04  
E4FECCCCD96AA3901D7B35D445BDBA020DDF1BE5E9914ACE600ED24E492138F82AE583A2EA454

EE7548882C1A192F11345A3F5A3F2CF64B85DF6306F7FD396C4E773FA66CC098EDB3CF8E5599C  
2EA13A6F726161BB0C0D6673F02E3DB24FF75A5698E91C1522424D443165B52C90FFECFFCE6C4  
2656138BD85409C45D8AC453D6742B42A43A7626E70C21B7318834B7D29CAD0C29F22E6AC3A5  
9359B1A75F727E1DC

---

**E5aI Code No 48**

30B93A783620E3E094D47590AA38B10FF12C3E421887E9081F9A9C5BA1D753F341C33B7322187  
317C6610EFBD0382DBDC2D863C48F15AC3FA86B3C5A5B9E7DB937AE961E8EBC3D880CC79141B79  
869F95D6E90C5C5E7D9448CDACCBE184F6FB545324995184770CD2838B61376B148ADF3A4212  
3AEFCF8890CAC7D3AA87A624DF3B883E86AA5FE6DB385778F50BD4E528C6604CFAE0E39BD9491  
18EEA3972327EA355EFB98E9DB563FF72C5B860103AD262BF34BE17295E37A81D1C98EE6FD669  
0914467048A50AF09435A68FF9A70B59DF8FA7A543BBA24EF8E13AA509C7A311E12773405A402  
4A0C2D7C2802025FC48E8FC12E4B60543001971FD20F1641B968CAC283BCF8140629DA13D1289  
B7130F3714B8318518770EE1399CECFF1D3074A65F8913596F92B269529B5FC63D824AC7B6390  
580C516BDA78BB1F158B2C69AD2FC1BC610AC24DA696F44B58DF813D9DA52529D325BF2B35757  
68DB43AC3BE5D0402C717FB587B6976E6701B0A70D04F3250B6C54E99983E2B1057DFD9EB7B62  
1504A1004E7E67B33B138628EC7C43A199D00D9FAB8B1990A5FF29E4399051D1C62AD0D86B651  
E9DD94D27DD6A7B09AFBF1EC737B161A4A398F7F424889C0BE6FBF8EBAE9F1A835FCF4AFD45FB  
36919D362CF73F0786D93552A7B4E421EFF9D6F98078F85098DC99A1009D6551F02B60E12BC28  
499A27FD7DEBE1047CD44EFC0D9081323DC08866DDE79F8AE34136B04787F6A5918F5AAE705CF  
DD5071ACF8FF54A232FE39E1D79D82EFFCB6CE1B68A17B4585817CC9AC33FD6CA21A00929F1EE  
5B9E3518B27060867624D8262EA18F1B01A525EB6CB337B257C8855FCAB72D7A83DE52E4F1D5E  
29EA697930C25109182B95A202E519B3757092239BCF633C4A7099290FF7B99FEBF81DF5AC413  
66D3DAC3384C65AD0EC84F0DA4A0ABF7D8E1E2F8B898FC9732587D911512F1FA5C24F009856D  
44123EE49C77370F1D58E8476542384A0E45CD852D19EE00025A8BCDCC011BD259AD7360D12B6  
A630BFEC8A97AC40781694B0D5B3D50D9E843FFAF7A023D451E282FAFFBC38BFDAFEDB34528DC  
792ACD499179ACD26AA3765523E91A137F52BC959D5969B301B1893564AB348606864916C8D79  
DE6FFBDB0C2ECE83B0A3BB846FC37C7D4D2A37B2B841CFF9820DB444FB090B430D9714FE2ED73  
1F097FD30C2ECDATB6A276990647741496729219F244FBC6F1CE02F24F98D0212AD005E54F242  
A77858622D6BA961190F97438FC4B33217A84B5EA9D3471C27D08C2D52DF19F2DE486C9A5EDBA  
2A56E1349C3BFD312B8927A9E86A97830DD0B11F505AC481FC6834F8FF7D0E67126033502EB5C  
593D15E1A56DCB03ACA1A5DBDBD6E6FA9DD3D7D152E8FC1741BD876760F99CE780EA5BDC01802  
2397587357614ED37266C69AFE4644D7D5259770B85B70E7E395D2ABC3FAEDD5AB32C4B61117  
BBF707A58530EC435D36370D6AD8F9DA503F8994F6CD627336A731BB149D3D3E96075385DF8CE  
B3D9B48757A79C67C0E0C701A2CEFA092D5462E28D12548FA041C5407AC321FF049B372257423  
45E065720A81098B5785AF12927167ADD2F72F766292F421C290C2648E270C34443ABE5B95B7E  
635B4CBEFF74478F65C77899418C8ABEA6A4C3FE217D784823CB448A7EC0739C7166F4AF733BE  
758B6D5011EAA9B05ED995DC70E3D5A2D2298801C25049661FCF4CB2E9F7501C86D763CECADB0  
C86B348C7BF31DF7BB0CEF84A2EE6861D3D9D441AFF4CDDB979465C1ED95692C5A46F5ABEC180  
ACDA140AD11BCD5B8

---

**E5aI Code No 49**

84D5B404488AFCC35CFC6EF1CF7A848EE5EE527B7D2D2081E8432414FCCB271A43FD618E  
F95CAF1CEF445B50F02AFDC6B41D5C1F1FF4B6B8F2AB94F90F259383F44246B2D400C3012FD76  
E2980827C9B5476C4651293CBE9FAA77EFC53E369B94F51BE480EEAA389D88AE421E75EC67C76  
E30A6FA7EF02500372E4C9AB875EBA1C357C003938B979859B0A914D58F21B3BF1BE8C33A1AF0  
79C5A0A4EA532F93A10F6D96D0A63F3C99E6F06CBC072CC5D71A517FFF40BC260A26E3A46688E  
79E733E1E2F0010846937689E2998BC769186E0B977AE0A1689245D255AE7D5F34715AD526E82  
4838B62546D9569009A191BA5192535E23142236F4035C90D1405C8530A57B402118FDED2A5DA  
4B40635D2F95AC7CEAA370686F0AB23AB31DED369BEFB066909B76F2C04039E49FF0CFD323628  
D03C26F0BD4054C127F21355C33B49F86895D5354C3BBD2C0D38ECD169289F7D8403A1753B39  
3AC06C887F98315324DBD78F9BF1AD8880D41D4EA98956EC89BBDAD08F7CFEBF26988EB5AB01  
D4E49AA8273CAB6AFDFA1CC195EDF85284E6570332A0B8242FBA495D87A01A945E61CD36E865  
CD4F430F04A3B3E74CE0486B5676F7A938B18E1DB2DAE2FE1C04B3D56892C7394D0B07C5A2F7  
698D196711DC83FFF6ABDD4E8131E1106EBA23245FB0E2A696E440FB6B0B1CB4DD22C9720AC76  
F09863711647A7E369FDE5D6911A5FCF987470B8C06C4EF7063B08A8320B4371866789147E9D7  
C5D477A662A501627F91E95C6E2CB6814651E9DFACD67CA0B1FE62F44081E3BDB964C1E5ADDC  
093AD185F0203B4C0F7E3E96811F14C79BC54F2919FCE5B653F6845CF1AC34DA9E4CF52EBA626  
B739246E25204F9EF2CCF4F5ADBFC53CD8F629FDB82186CB52BEB7136F105D3CFF9CCCC2610BF  
2C8F943DF5BD03877ED7AFA25CA81C4063E1B97452A937FCF77F1AA068FE2A26F6ECDF662ACDF  
18391AF7D627C2AA07CF5597B5F33AA0ED4DAC98AA73C8321EBF6918EE568ADEB1A823527AD75  
CD5BF7ED3EB5633A4EDC8C59DB0A91DA79C248D6894CAF9CB411F302635BEEF1A1C7916C7545B  
8BE7C577692245E285D32B4FD18E1478F88F8373E22A5CEC6D22EACAD2A41612F05AB2C54A1C0  
3C0512359B0F9C5F91615EF2EA80D0E97230480F489FEDA38D52FC84E2F1258CB20FF0E850639B  
31C2958BA6C064D0D0F4AAEFF313E43C65EFFFB47CF09F2A122D15F76E8B704DA8F2B8C71449  
AA49774EBB7B2DC97CF6004D2FF6D37B9C689261189B85CFD50C20C961F22A644F51497377426  
556B956DB8C899045B175A8B9CB22EFDE535CF487E9D958281E0467539853054FC3475D2E142D  
58F9201C1DC6B2C1A12B2878F9366E2216405069B7D03852AB37EE83112EF2EE172F4E5317A41  
653A656A06F6633AF59062A47263A9977A50B9115456A58F9C3424FE7E0CC57DA70FE0411C14  
79B4CC2E6720B01432CFB3C503983B37FFBE38C92E50D6C5795443F73244F6D28AE6270E27D4  
6A25621F86A2BC4259DE6C04CCAA657FE656C640833B290F00A1660329A3F09FFE60152A23925  
F4D8B0933AC016B5802CA863F66F8CEB5C8383B1180A515AE6C51B5F56597C3A004F8D25F8A62

35C97B4DE38468B63E3B859A487AFC4320598EB6D143E5C914409D25F6DFF6E957D575C71D3EC  
BC6743CCCC03E5F34791744637A994F3ADF86966B4FE911C06F7BA1A6C20A2971D82B64E49721  
A530D9D5A2319D5BEOF47B8119C5A835CABEC735A935E23CB439970437C6F4CCDE2525EF0D7B1  
555CBE70280D5E760

---

#### E5aI Code No 50

A5029C9EB4623226D321FF78D3C4EAB1F672A8B2B24A09CAEF21F561A851323C05A3C5E136A2D  
A7104ED19FBFFCAC3FC49B6D598F3060E93552EA6C700B837F7CE04721919B9C96A57B42AA1D8  
32307C7A847091848066CB84947BE5F6B54654479E39F654819D3EF7AF4939FB9F4C9B20CA7F8  
3DA0FDA2F171FDB72455B7ED0D43206992520CDD86B29C48BCC687573AAC4217D0B7DCF852811  
ADC3ECADD2B34B4572675CCAEEF0A1F83561E6E240878F229698185A80E6FECEE89455A72A  
377C24CE3FECAEC2A34B9CA98D288596D1C769CDEAB06871316CA7D1DDC5862E6282DECE33F36  
2C64A73E57AB266715068932ECC31E62AD2ECFF7C6FBFE213384DA086ADF49E30F432EE2C715D  
9AC4DEF53A7B09B0D722CAC560FE8CF0059B80428458282F7E81717647D72E321A3E4BEF16FAE  
F76009BD988B8D9822B771EB62F1D0748E462FB7F3BEE9B12AA86D9629085AEDF8E43E1252EE59  
970cff66A6F865C7651EF83F8FE10EB0E2615BF8F5C7F12FC601B0CF795C0D8B7057F54408BEF  
F86747C0F6F23EF212A9086EADD464A25341AB71FBA4ADEDF8F599C38FC15E790A5B86E64977C5  
AC718DD0B47C1A476AC9D7369396144F6288E84F7FFBDE02EC00EEAE8ED415C84648364ECBEC4  
2164514D3E26BFD3187E0641C216FFC57E00DD752CDAs51686916221DCD1AF07582391C5FBEFO  
47FD1B7B956B458DE925C02A756F197233E0304D0E034FF9A176B5B3F5B683AB41D2691E13F  
97B3F4EB33238851331197C49C60233232DA0E2610430461876FF6F77FF3CCAF1BB2424B8B347  
588667B48480476D40BD9E487468CD5AFEB597C750A5E665B4E7C4C169ED08ADFC731FEA92805  
2C4FB85B3064EC07B0CB988E324893B3F084291D964403F0350B7E1B06DFB73362C38318B762A  
972972FB76CC5C08B5D47DBA0F3A2473D7749DE9F49F50C4C1620A9EE9F56296124D7290649  
7411DB87D4D8EC4E1F79BEF27232008A2299F5317C1A6F455F1B827F1712BC01814F0B9D0CC1  
62B25B804278B9C7BC5616B317F2050234A7AF92FE35A59E22C959C7163DFA5F142022BE5C  
C4D5EF16D218216C57C2E29DA926436C00DCB82E68E16CA5A07158D8B8864D38A765D14E82175  
114A28CD97D11D564C8C7B87411589A4FBD49F9900D08939B7A73B5E6466B6F607F8AD22120A5  
59A02BFCF6456E7AECE8C9B7C9D2B322D2197124C05363B2CBFA58B74CD88877F22A5E5C202F  
C2C33531125F1518F4F0F38FA788E5E6B3307A75EC73E545391CEA200243DD6D25A5B8654A00B  
82BA57437BF0ACCB0ED37ED2FED221E54EC12B93AFA6E3939223596075F4C47340355D7222A82  
34A1F65EDDA42FFF5D19F7FACBF09AA77E7962F4CFBF61A0F26FB18E31A504B371714048874BE  
B286AFF71B43E4739A17E8AC25FA77121ABBE6E99754AF42F1D0021EA1E3FF088D0734BB191F9  
1A520C96E22B4A28F9A2BD7DF81E8079E5E5D0DDCB517046F12098FAF6920E0EBA10DE8CFB391  
C63C60D62C1F4BB26FB86E421A830575731F67D306CEB5D6FF04637144790EC4AA2F43590632  
0114CB81EB40C22B271FBB065474687AA5880F1DBAAA1744AB3E9B831A932A9208BEA9F5D526C  
52F5FDA56320E123CFB553E2B71A595DDED2ECBB6E890B0421D765D2E9FD0D3995DF2A9523A6  
5FE2040710DF16F2A83F510DC0A8493DC138541E5681B51EE87D84C9AC11612EB5C06F5A63E22  
BD6275E35216766D79B215DBD087E9CADA0CEB09BFE435DF9B7809A76DE323B373682B8C58CB4  
F08D9C708EB050DEC

## C.4. Primary Codes for the E5a-Q Component

---

#### E5aQ Code No 1

515537AD5E5F4216C16046FB0AC50DCDBE5CEE7E3CBB51B6ABB4E87A407B90E0EFD49DE1DE5ED  
29184E7FF0DC31F75FBB94F46FF6586B36C7771E5A68D060A965ACCF8D640C6B6E4530FDF19DD  
2491BCAB69ACBCFD3EC7281CCC31253A471B652E21C4C80B43613EC542266460F0A6199B436BE  
FD95572DEBEE920A915FD854D17FFD0DF8C74E23B21B28493A0927709709B07C65878C43B69DC  
501E9D0AA21061ECF173876CAE708C764435832D9D6FCFE62DDF2543016D6325A56D9BF100788  
6E62E8A832BC32063CB0717D723C5E8C5F0C0EB3960577D364C93060B64EE04A539B7601CC311  
3E0AEC53CF21AFAD0154DC5CCECF038474E0F4004A65B1EE2801F81968B88C3D35E87CBB126C0  
2D770CC3D32A552883D351DEF47847391484F80646728221F993921BFC14126EE3D9527DE6071  
52724C6D2DD305D3FEA0AAAEDF6509A2FE3248494A54FDA8E3CE7E6B8CE234E4686BA5A19724B  
A2CB78CFE71A6AF45532E8FB286C5BB47BC3C1EEF4E4A8C757786AE974F30A86CD60EBCBFD550  
2AA8F643819CBA4301E731ADBA1345B61C0B444F7B817EA86F8DD749C451AE7D24A68D914F26  
C918238953E8A61CC8553213DD6856C7863F9F6B81B4C84B225911E7B92BFFC12AC211B2B2C  
D905877FE976E07057963D47C437FE47D89648053F81AC39E8FD2F3A726866F6693E503CB6F0C  
3F0AA9B3EE2EA3BCDB16D726E1C6D8B073AA15F64EB68D53B1F8CDAC19C7AC33361226E81F1C7  
93BF188755A3FE1BAC38B91ABBD4F077FA28983EAFADC346CB941D49492625893453B364D07F  
E06FE42B160C16FE0462AB6366FFDEE54DC9CE4DCCA21E4E4AE5E92C872D1E4EC6FF6D3063C98  
A5AA5EE72481A0BDF15152E2A5425AB722101474D0E1EC8401273EA1BE1DAF7403190A94305BD  
1C7DFBE1F35F65D5CB97E82B7A297047507FFA0012FB73360FB8719C174E78A989A96E60A9184  
B3F3A8188DE100AB361921D38E8142859C8F0F7D441DB1B2E9687BBD1086643987C83DEE0BE8C  
ED4C83BCC82B62B45311CE4F13ABC55BF5EB1ECDF15F5A07F8B2C42F07FACE0E299E8772E2D5  
34FEBF7B9C3894CC3E2E4127A294B9FA2A671273B174DBB81D247CD2846116500A072DC3962C6  
5FFEC0C0B46DC2AF52882058259C26FDE50BEB319AEECFA1FABA34C069680B9EBA9D96EEBD7  
EA30E748213E1283396A2AFC63527624641D4E1F1022A973B1898BD4CEF4D712B49371A51D60E  
08F42ED1EA90AC49EEFBCC53E7F9E899DD1AA4056F11462DF1A4C81620A73C831CEB897430A22  
252B901EC3D6F3DF58EF26422F796EA31AA4E0E9C5B4A9C312A22305E298FEB3B3628283D405  
EDF726937327D90C542434BA3B606845849DB244839D2ACBCD7EF147A541E35687B5B8F5F077  
64973112D20D1ED75DC31F6A938542B42EFAAEE0F11B0583AA4925C3132356200E8D6BDB3127B

975F4115A7A8A1C471836E3C5450B501A24D4A1308BB319AA827222B550F253F64B6F7D2322C6  
A2D3012FEC265A66A60102A3340CBDAB900DFDB36693D41DAD8DD8875F8C3BE76AD5355DD81D  
67AAEBFFF9458E522BE0312E60F63DD92F25C0D7CF82F223AE0BD7456752CBD5151FEB5368F  
8857EAFAA90E8C7499B75D46EC4CA20BA8A24C90C016B5BD2CD7864828C6140E98EDB9509AD11  
94F56D49675D077DE92CD481B469E3A37F7DF0D5392DA4CE4CB282530F1C73482CC0926B877B0  
0B0CE49FAD21E4C26194C7E950E0078F3854EF88755E08E9380165C584A3DBF1ECEF6A31B224F  
C321326B93797BF8

---

#### E5aQ Code No 2

D67539AFB80711A0BA3CD67D963BAD346BA813D35A2EEA104D36AAAB863C656A07AD61BA60598  
C07744D32ED01EFC928346C09EAC2D392E5655F0FEB94807064E2EF0C420898DB96E3B99EA9A0AD91C  
D9D42636328A50998A2A3BED3E4B34D0DCD65B94807064E2EF0C420898DB96E3B99EA9A0AD91C  
63857DEAEDEA5E644E62212B23D72FEDBBA78C6581C677B10689C4AF387626DAC55F4EBE1893  
D52D28D20EA365702448A64A0C553ED337C3BB911DDEA2A91727299D8064BEC880183064574B5  
E3631E70A0590210143F4079C572B5E2F7634C2D53B1FB1DABE79C484799E7075EFF98F033F5  
B2EC66C373825335D883911CEC9CFBBE2E38129B7E03D9646A7E513D5069043BC62AF4C524F12  
D8F98D8C9DAC5D8642DFFF48CF6737AFBBCB9E65925F55F03BBD5123C9DB47AAC780301DE91FB  
ED3C01D03E6464C2C2915BFA187A4BD93E20C24574FB91F0358CBE0921DCC8D6B7E9976763A1D  
2158511861EFF5D1C0B71F608E7ADE91D9DCFF5640B55BC9BD1BB322C879C7EB5C06EB2601D06  
241D09C9B1BC1695DFA55FA044E0E2E4BC86EBFB6A55740C4640512DDD6CA069940BC0FE1738F  
D376C68BA8AF7CCBA7D89F7966B2935538836372F418D149EBF3AC104919D91BCA2F13E79A7  
CF7684A4DC0AC556A2843E041A71F97C94B859F009659F593EFFEBAA6F6C1C57A5BF22752613  
AFB26379C42AC25804AEDAE22D63B230FCB858F496B8EA6F37104D0890525DBDE06AD988BA028  
7B0938572F14A98EC9E60E973FD693DB1F2AFF671AB03FB12B729D0867938DF6B60EC69790C99  
2C6C33A531FE56D0ECC1465F65E3E57FC9E45F0F65A1061CE6D3190B6C1B8708A85A47222369  
AE889D264999CDE8F0548B8D7071F2D4DF6C0F2418BE449552327981C9B054F792F29A71E30DE2  
57CE1B3A7553A22275E4C8B9FAC3B8D04E9912B2B22B0A899E7337513C7ACBEDA15FAD3D6919FDD  
D941CA659D78B74FD39E2E2F622691B89CA82FFE602DB2578A20D4665184456F32DF4DD6CBC41  
2EC7C6914CA427CEE02F6D9810AAE1406DD68ED3869BD8E3947A2B3A803E875FF82005D853E3F  
43A6BF936030744C34C8B71B7722BE0AD3F475E531C9249A42671D5F3A5C77C4C28DE29AE953E  
BFB572578B17B636F8365FC755C22871E7D53A1F1561C92909305C9FD36AAF79E8844B63370B8  
00B25CC1355211D9919B830A988926829F808D2C66400279E6AC14F8EECB8E86E9ABFA3BDBB  
38A49535F64F719EF48C5F6B2738DC6F71AACD70274FD40A29BFC9A594AC3E7D0C3C522E406B  
A6392444C9F362339E8FF34BE330911DC7EB11A47FF3A62A46CDE961A40CD5B24020909E5B034  
F45FE96CB156FFE8E2FDBC12A7C12D60D24BFB9E596544E4F03AF26F086A5A667496B7DF302E4D  
CFC568C7ABD665E47EAD8A7F5A000DAD9F43E68C4D8A14742E050769B3CB270E3856D7E8F4E82  
7046D3E55A52F0E02C883881914DE87A3C24D93E61A94919B40398D3EABB1B5142431AB91920  
8A9785962D05061EDC951C83C73FB6AE8DD6F839E631C9FCF6635FA053DBCF932E359F83FBB  
3EE310281569741E3A8975FAAD1E573E0EC3207F6DBCB8CC90DCA1CE517C8DFC1D31AE4841F8  
7A5157792738DAEE7C29240DAE26C6C3E9D8A899D2271B0C374BD2EE846C6625E31B2F8379A96  
F601323039D281608A01A1844E5D1D20CF1D92C52107CDA71BB3B7EC4DEA958CFD7A79F718681  
16CD1DD2B2E66BB94D1373B733F324BE489DA51BE72B01A8572880AE1E61650B839D03B0192D2  
90D5B36A9CF93B304

---

#### E5aQ Code No 3

58B2E58A13D4D5F84F37A389E6B01DFA66DBC6A25338B2884EF08056BF0A9124DA29254AA79CD  
F1B0944DDED4BC7FE683EF7A3C7A1C359E61E959471E30F9D534F43EEF274AC6535C616ADC745  
5BFBFF43ABF268F7C995CE020CEC73BDBD04007562F2710498AD1A324F25A6233B2DF2D9A429F  
1C39943E45F934986D1979D293F90CFBEB01665C98C0D72D09A382348136980B31F5D4696B85  
C3F42D5C445996804159CD4C4CE7547C4A3FB718AB62D9E9826D05C44C6BD21D708CABB01F465  
14F29FB7E352866EDFBABD0ADBB6093E1A519D0E11E27737239A07866752B6D864686A1F3084  
81C53C635046C0756E8008D3CD26DB970C5D6E8CB9D6EBC4339EE9F88EA45D11B74A1525E2F1  
B9F91567A78E403F7ECD47A99E95C098870B928E1B0DA984CCECA13C6857F350E808BBF66AB4  
EDFB0F369F6F009268D19DEEB377F7D0C4ED6414EF6D23A0A5F37A25AAD3CD62C2115CB704090  
49CFOCE6D4DBCC5C96767614C6FAF73E9A76C7550BB970AB3D3ACE0C07FAA9F36F1935DFCD522  
8427BBEB5FC7A2F951D9210A5BC32ACCA7E78AFD5FD460CE2A79348714E5542BF2D453680B070  
E85F3244E8A6B4EB6ED49F803E60B8A383C8BE6283B1C4DF79E0C4A23D5DAFCB26DFC5DF1D152  
0FB6CDA23A05A1513F751EB0143C2B9F5494BA474F9F95F189C5767C6F5623559D9F20CC9B9C  
9ADFE285FA4E1BBDA481A52ABAB36A5393370091A49A59B968CFAE89BEAF33BCA5C2A9BCC1758  
CEEFC2D0A175C8A5CAD5C7E3FA706C2FEA55F4971A7B8A0C5D1F22A26D7DA970603AC34566E4  
929AE78C8F1926239950EC0A6E1B37D919E24431E53FB08B2F7DCDCA2EF4177BD7D2F81BFC784  
FBEA0471831CDCB9E11D60C53D0E062E8BB8D98B8EE5A40960E8E10FA642751B96E1407B38A0  
24DC64D5C2005E71198EF394673A4A0097187D2475CF27B3EEA7955AD9F412A89B36AFB27FDF7  
FE699B2CC8C03F7FA40549178DF8A3C1A39441EAE869BBC89D583ECB18E310885F33B95B71904  
5CA6955720CA75D5CF0B29E5F1B9E9EAC5EC92980B2D37EF6509CCA6E67544A8116494AC7EB90  
32E1E8CDB053B5AC0F60DE59BBFB78E3491D50C7ADE95042A8885F284E90C04FFC0370B92B6  
8379B2E7D52392A42FEB26B2419CC64412BFFC036C01109B9EAE5C5FAF485F0D61C37A703EAD02  
127611F9D25E4EC515CABE21247156F0779CAB57C35581646BB71E87941AB5D06FB3C06C423E9  
E83E0C07E611C89C000344AF49498EF5C30305DDC8958F45A45E1218837269DEEDBB0AE51D2A  
D8B41BE425EB7AB798856911B6F0DC721756A8154B9D1CCD61092D16A3E9E1CD5E1D7C2C45D23  
6C9B21A0ED64AD4C0660FE42FC0B543A34FB545B0D88D42F696D53BF54A1A259486846E81B44C  
16EF146310AEFB3933BA9F9D4497E74AFE1449D69105B9F295DB24B4563C3FC0166CB70F104B3

360BC0998EFEABC6276F570F7679865036DB59B51AD2F91C0CCD3BCF5C07492765D480494AB5  
B87E83FD04B75A35F88656D3329AA5FD550DBF493B0CD2C19DEBE4358661C72A71FB17C812F75  
BEB61302AAAA1F757288C1D8626461F4162A2EC6296B3CCABE21B4F0695F2D2CB02B86035251F  
C9C5F2FB5BBF28237417DC56471629B3B4C25AFEDC4C9CD108ADAD9DB1330AB680E4998C5B3D9  
9BCE8F08156B630A63EF36A51C813CE22A6B178683EDA389ACF58653582BC2AE8170ADEC4BE03  
C04CBA603C0E4572A74BD9599A8442E894EB504F7703F2353A8A3525EC5535E750303AC07E08D  
952755F97AF236014

---

#### E5aQ Code No 4

3059141DB31B84555DDC1C5F40372C50BEF6E82B433D87603BB7803FDE8FFD74DE06809357F11  
C1D6ABF02D4DB8EBE1D5ABE7F30C91A451EE3C1AA36735FAB9185C785F05D28BD470D433ED4AD  
DF36406487CA1710ACAB57EA0DD577A49C841F5E78B70FDE90BC1087E79E27E53A4B131C06BF3  
3843BFEBDC0C2A207510590E52158C085C40146AFCB75DEEEB872ADC5E77CD1DD6A66EA96CC2  
23B3295C136E2766ECE9F2CB807C68C84FD04E0A5179D58473860962083DA8D68B70DB95C0EB9  
1679CF5E1BA468786725EDFB179A2C5E7C28B396A53D89A98C7B79867E240176A9DF9FB0BECCC  
22A526B617CB8FC2B05A8DE411C8C5F9BE682459B487B26643FA894F9B3C97282EAE397A03DD1  
5F07FBDF7432DD95D29E6D50CE95860BEC2649E482F40F7B83A13135A7C71D83ABA44A363C864  
BCD78050AC69A8DC0A9E601859087DBD49AA01A75053792F74D9A8EE726608D1F009D06363F6E  
5A463BC362178918737C5F3E71EBF130691A2048F07F3F8CDAB70C9D0F7B9A1180046076E1B89  
4AFC620244B30A571DF359C7D60969A9436F05417DB5759B2D3ABDF6A238B5B5DCA8A0E4C27F7  
078DBB6600FC0105463E745A321884A4F6C5963B188919EC24C460F1B9CB9C063B2CD1F5D5F49C  
06AC2E61EEA55056A6ED08B6C7C750E30EE66508F243FE1B5C494E8AEAE5467AA0ADEA834523  
C536855D3BF5ACFFF0802365B3889C31910A5E63B9457E46B4B7E29189F1BC21E7950BF9FB44  
BF5D76078D8602FFD986E1A1F1A74C677BD8811FC6992F39384CB3F9B2C91F381DC01D4E79D2E  
66E6D76796728E0C48F71817ED182759D8B10F7B5D361D7138CAFBCA3234B9F2F4A76FB00DEC  
05D67FA8E7217E488688C87D59AB4FE7B13C793C1A1711C401B49C381F76B5CE120BDFDF30A8  
58DE62A3F4331E4A3CC167030829906935FAC167A7327B5FC0527E014801A27FE0F2D40EC13C6  
6235EFED070979576DA7268D1871E8487C4DFFC62D27B83488A73FDDEF1470832EAEFF621CE8E  
126267A47EC00773922BE480C7F26C8E4785D886BF8E6518DF13DA86BB2925A432D479E8B8FA9  
F92442891F71AC7C05C0BB0E4396158A492BD49E42AB4C4737A952D6B2B2780EEA73DEE13037D  
659A43DE1A8F0E525D7F96FDD1629FE51560F77E4A1CFE903DF0891B39F50B71E0F84965413DB  
34B1EE95CC1B6728AC3D1924B34D1BAD4A4E4F7D98D1B938C567B6F3C95770068775F78EFA147  
ACC619AFD0B6D8C66034C21B2991419217256D88F265922FD49B4BB38D2955305A8D01D01758B  
01134196C525315726D9BB6D77917A57F2C46A05DE91A3FF80DD2B5AAAD899D679EB55341FAC6  
D5C2E9C6B703806E342B2C11CF84B394BFDFCA378B26C7E0CD23C8A87B7CBF6828D9E023B2B7  
060A0FEEE0D29CE59B379A02AAB7DFCC41A35CB9A94408A321BF78A54D2D4DB0E170101798F66  
22D8087A2022A993E85DEB5CBF0F4DC2A047877EEC9DD145471D57015DD59A37BA60C9BE39A4A  
FB92289562601BCE8102C83292E2ED842470D715D34F11981BCCB81ACB443FA732F792C5F11B7  
DA5D1BCDD84EB80820EB2BA3813F5E6EC5300E622DD81B1FDE8C786387864D78246A432CE245E  
0883745D9A1DE9D68253CCBF7C00EA908E452DD3B9669F1E6812E40D9E2C423180BCA98F4591  
307CF8B8E98B7F828989CA7F3F0BEEA4D408898364C6DC160C94B89D879B1D07286EAA3FFBC6C  
D7FFE5700304AF3FC049098590DD7F6D4770ED66FF60DB2909C2DC6DC67ACFDB7CDEEF1B714BF  
E4CA04F2D5172137C

---

#### E5aQ Code No 5

4427106DF31EF72E43B6C75CB84BE5E375B6D4D21226D0FD689E8F14EBB81372B93F5455ACE  
6C168345234B378500BE6612FC10536607E85B884AEC780550F2A26FB0445E0AE9C0F4C95F0  
1BBC76652A9E6FC457D6BA425E8B9457A6F3C0AD2A0F7BDD1C1CB19A9F1A8815D84EB5843AE  
CA4DD005378111E9AFBA9C3CFD8080C03CF2B39B1962EA44B0848452778168F7F60034A68E598  
0EB63B94E50D170C680FD6345F12CF30E9089A7C0A422661DB7B1BCF2480238AD043FA1D0DADE  
E998F7CD69FF04BC336BBD5985315D4E1CC78558D4E235CD7E05015A5734896597F16E65E45E0  
C819CB0B895A38883ABE4F439D10195D8366CD14F45947716AAF770C27FAF6374CDEB53B118  
277906F7E61C583E8C7C3E733541882C511936076DBC65094E37F2FF54E0977595077E26  
E03711FE9054E2D31AE7F99939B415F46C05BB55BA7BC4F31F337D624A94C9629526ED51A9B93  
B1B3C5551F9B92A30759D7A40025E98E50128232A706CF6C3F6734D00571F91307EFDBC9718D7  
8B3B792909C1C56BB8526CF5B229D4DB47E61D962538BBB17E6CE8CFB7854EFE85591CDFD5DD8  
BB22FCA50E4D97BFC4C36E2573C0B495FEC9830FAC229976FB651B82DBA34173F5635875B1460  
A023CDA65333138C89DC81275F7F3446472F5F8C5F93AB130009F5B797D9ED536ADF5A42ABF63  
45B1457D5C96CFCBFFBA56CF124E78FEB8A8BCDFFA97831A589D177AD260499130EECF8247FA  
5C44B3C0C19AFE6BBB0A7B87080E14F3C3457C8424557BD9078DEC09A3A6704E1D77049A1A443  
1E423B28B9476EAB6292CA1B3B4B43E18EF929EFFCDD574417B15A4DC1269E593F884DF5D492A  
464AC3F2436B8C691B88658180E53228AD83C4FB843F8571D42A9BDEF37EC4926DCEE5002A121  
44600C9CE7AFE483F3A64E480CD09F8CAFEABC9710E01A8120E84BE5861D75705A8D18F02756D  
8FA78392F1C89D05F37CB9F768289B8CA99E22E86F8200770D6DD2D76951A45F73C0730162C36  
3886282524436D029786E7CFA2EFBCD3D05169D362DC8BD472AB376C12097443080F3C83AF1EF  
7339D8FCB85FA098BBCB5EC3645A03902B758DB263A21C8CC4874F96D672EB192BC1A183A1B27  
1BC1D6429CEAA8208F5CB240F451A71B6F884537ACD49471010ACDF28887F6A02A04E738CF9FB  
5B00E0C474C460EED1F791F4EAB3F9AEC225B40CCE223D23D07CF0B60846C111A07A86448B9CF  
119754935E8C350752CC60AACB55C71F4D5F5F2BDC3E412039D336ABC6F3D46EB0D1C2080CF26  
0EE77F5C73A35C2339E2324998B7DD375537DD35B5F27C3B545492F682C4B89F13F65FC4F725  
39E4A7763BF4AE2443FE0A2F683A86274672FB9581668CD2B075C274B242536087C4DA1E69D07  
12161B868ABE86C98468FE43A42DD2AE30089ED92B7A750C73B19A6D70FBC0AC08299EE2A9BC9

4652B35D5B2D679220D34D3372AD756F842861470CC3A3F2BEE75112B138613A40FA585E449FA  
DD6353A09363EB6025D4B81F9F224817FC2DEEAE01D797AA8A0F8C945FC69D5891355C28ACAB8  
997A0518C8F4465953819113914A7CB472EABDD1A8D943A82FA41315D006E54AEA4CAB21601A2  
ECF6CA0521579A6A92DFB6B77BEC6D5A05B0A72F16B0328C860FAB66A1D6113B7098FE50F3B09  
C2306D0B9D00987B351CB2BE099A7AA7EB7AA691A4E2D243DD7D0D864CF80A4D2FACBEC3C1CB2  
22883CED667477D189100A5677CC3FF0DF31D1119D5F31ED2120E5DAAFB99E8F36E77B3B078C4  
7B3D527DFD6521D7C

---

#### E5aQ Code No 6

593CF84751C21D591BB62FA0B0AB65E993408A016415D6296E0F080FA9149A4C31D8B2EA68CD7  
209E2FB0B4BCCF654B013D92AD7A4F6B1935995FD106663CD5760E63702196F63563DC994570C  
1B8E9B0A7705002ED56D335632ABE3ED8BC6CAF109F0588040DFD167DC364E7F692D5F59C561  
6A6A7DA0C5EAA4D9FF017820225D5B164B6106CE9307B56EB08C563F123A05A4C9348DF63A6E  
4274BF5188475E8F7ABB8C3E7A8323F689DD93B043BD98BC948A567E8C6C95FD3788ABE728F7B  
7E299C460F9B35A59BA4429BF417B9F8C54F2DC475A7109B9C25C0843AA86ADAEC388A9915E65  
EA08C96C4C84022368E79A3A466B247EE6A37918CA0A8DC6AFE291CB9D360D727B6E7415D360A  
C414BD34DA40A1D995EE1303896465D52707A4F31A30C7B7DF936391435A5FD3F06E336CDA36E  
473E3D990A6F04FB5E6340581AE86D8EF81B9BA68979058BCFA1363D3F711D33EE9E3A8402A14  
AFEBF339BA7C34FA4EA2004FFD09129667646A79B6322CF00E1B46C1418557E0E62E106901176  
CA771979F4B6B299BEEFEF7B847F4E3ED99F56D44F5C73F00488E1DD862BFFE5290DBA737FAFA  
0C9D95C8307A10DD309C177BFC46A9F6D3BC86F598DC1AC69B070B9AF1CA2824F456E73747A0C  
ED38631F9AC222914825CC3898F04F6AC09B01E4F4C09A63C9436625E2D0AC3C433A31D86948C  
E34663E5462652980B3B57C0920EB63879E28CA9565BEADC47F29C43F1718CE34CA571D7AC2C  
EB6758A16F6D769CC277BDB483808CCA3A6DB99D101888BB6A49D325891B5D6B4B77B18A541  
33AFD5E8AFA4542710483B52E3D51D8A4FB77D2458C4FBE2DEC1F6D8C0FDD8FABE2130297D06  
06F07B305B2CEDB39204E2B8F8507ABD49C0FEFAD0332F8ED98736FEF5AE4FAF8515CD638E28F  
1555F54D7A64FB38D0B47734D0AEB8B55A792259427613733F237FC57DFC1AD49930D9844C9F4  
4C3D6265BE3102D93E2B62D3B0D7760F613B1F5F5176E0C5EAE47970D30D211403477894B8D66  
D03CB3AE8992E16D52F6B2073DED09D504B36289644241EFD21018C570A2CEE6D59667F274CBA  
5733E41BE3370DFA47464AF850B14DCC32BCF1A5A8385314E8B38B2A642AA90B8A5647DF9B32B  
83D3B4B2AAA54472BFE84EF7DF68ABD0236DE171E5AEDE1770F63823EC143B30FFC69ECC464CD  
755F5AFD2B51AB5F05B74E96F6108810CDA94F99DF828EDE147BE061FEA46CF6A84CAC7207177  
33A17677BF620C4963DD1A08512CDB6A96DD3ADA995D84A934C9825FA3B588D916CE1898F6C2F  
75B75481383B27204C343CCCE41E10DFAFBBA2BC6BCCFB7BA4C460147814014F9470ECC8B99D  
677EEC872172B72E5839D263F55B9FC91AE6143FCD1BC3AEDB12312ED10647E011A020B27C69E  
35CBA94623960543DB08D67B8CFD06760450A067E3F868386975793AF43AC4D0F3773AFF6C2CE  
FC8310C0701CB934098D842604E38370182BF05A401C38B6CFBD19CD7D4BA186A595ABAA48B87  
40DC321FC031D76F82B4F5FD6949AA101D70A702E18D8C2BC1283C2E2CB138699D507FAEC5B6A  
092E5AECB0AD9BF2E59F175DACE05DC18E485B04DDB963426A117CA0B761EF485B234971B6F68  
1CE3CC5CE58A9BDAD9267E5C075D1BCEE2C88637E2A10AD441E9B1CF4A324B77C6623F4DF9FC6  
C4AAC068F66017BC82D562722FC93B02489DFBB5560BF60F57B736212DD8A0533071D10ABFCB  
4EEAD5AD9E36E856C8ADE0B9C4F6F5116EED43A39AF8FFCFA01BD558D7575AF0E36F2AFF74E29  
435778F4BA57A5D90

---

#### E5aQ Code No 7

214AD702A657F5A17A601D77E0F4C6A67B7B8C074514548FF89A781CF2E0B5225D95A944D1048  
338FF3AF206D331DBC3F5E9E89C7E592A2295CB783F416C4160FCFD26983ADDDAC52BBFDD6A7  
125BA4426715F82AD9815F30B2DDA972A2E814D6BD231D45385749D65EE1B4C2025F61EFD8E  
12E50A3719899C611682E7B2AE0CC85294542DCD04140ADDCCD5DCA315C22E5ACB196531A3B00  
71DC787C2753C3069F5D302A9FC99B71317FF2749749C6E00B73F382983E1C91BC8115FEAEFF  
083434DEC7E8A22ECF2D1CDFC7B7ACB80FE0DD1EAF7510F694961E09882E50994169BF60C47B9  
5BF37B5D6F13CFE48A9405637F87C157863C58E479488278B918DDF041214BCEE2ADEF4242F5  
5DE971E1A7F2EC566B362F89DABF163A690C8A8B80ABC1217C7D49933E30272A08689F7519B3  
5FF8C1CE0F338D0B75332D163A5DCDE714B821AD3B8393A1740B6BE4AAC6008EBBBA30B8E5FA2  
253DDCF16B3F87B4FA47C1D36AC86E2FC39DE8BAFA79E7D58A3A6CD83FE09448EAB6020BF1212  
34B23A72BB7DC02A2E235BB5DE3B2AA97D3931CB800165B93851EC81A1B4B7781F23E5C946F03  
5026888C3D8C31170787F78333FFF8ECD8835AB5E9D165A8B1D97B19936940EC4C74D115A3412  
0EAC800E8D680B36D9E29180BEAF5B3CFCC3913EE7FFDC37AC881C441F79A39F4A4161F3B4035  
64F654B0E7D8D5415DEB9A6E11F845314421CC59C6A90826974B4CC477C280ADF4FBEB368BD84  
8AF7F91D12E9BF4AD3E9587DCD7A280DEE9A7F2B6F2D2EBFF7EC9454173B748D2D90A6AA650D3  
BB97701EAD27D6A1D05B817603EF1026E643C8816F183AECE863968664E01D6AC58C2A10AFB5  
1B1A19A5B7BDBAD77D651B78C141AE70B074B9EF74BED349E58CF8A80A910F6DF8887202317BA  
36950F3B7EBAD45E6E940921043476B0FBC136B397DB44445706F032FC47C454BA08DBB8E71  
D1E7D9045655E1039C3C3D199EBA21596335BB04078DB6B39A4452662D282C7AC9B76D92E112B  
0027B711151C56A6459FFC70BFFC86941736EEF705E8DF5197B4D3AADCB31E421A90FD5179D9C  
3EA3EBC8FD7E9F4C29D736076723E2D4146EC325CFD616F6B0B70AE0DE179FA8F33A2536DBCAF  
AA2BC0A9740BBF41134655EA16438BA5F8FC96256A6F9999CB1C57B69087C0612FEF4E6CF0BE  
5D1FB77258AF418EE0B90E8AF3DC38B7A15F6B8D2BB739F7D0099AA4694781E581A8F7A49BF  
CD102B7880E97B89880FC41D0890C33481B01D9BA991BD41B8D6501D34E0A401474CF89D089F3  
F6A189ED80C3006515CEB7F9DEA85D0766D2989B88280FD46F7BDC7C32C2294B2A1FD435102C2  
D92E85A03775CAF11D05F2367B57F651C7586FCD32FE920B1B94EB431AD2497E75F4E3C408A0F  
EF89907C6C830FA14402B1103DA4607F3DFAD625AEBC235D2392954B8D3BAE8A6D02CAE6D12EF

C73EB46EC56E13D2729787CBB5C64910347AEE384972A5716B5DEDDB99FCDDD5660E9453900DC1  
AF1B76D151C00E8E4BAD38E84830EDE92CC3099861C92BDBB59D8DE31AD9F4B889D480FC8DC70  
382E8494E1A25D2140740A5F327D51D0D3CA4259F1CF5DA3474FE28270C9B4E7F8A714F7C69D1  
F65B48D7C9C69A39CC58E2C77D7A750CC0B0E5D54B2F3450B66994DB524F15AF77CEBACD3CC61  
1B2C95F6C93EDFEB652A70748DF1788E6FA2D45AF171C1AB59B0B2A160C075AA4A9227BC0F22  
631A24EC94C5D38664B08B46DC96B448C351C77F81051881055ACE0F364C80372EEE5BE7C660C  
7406B03C8F5345A04

---

#### E5aQ Code No 8

435EA61E7DE31409D04501BDF0CFA57A84C1387E0684538E8BB651C7CF4EFD6113EAF9383BFEF  
DEE4C702FD5A070FAA3DC7D644CB3D96C8FF65F18C88C43A2E66EB78FDD1EA91E9CB519CDA9EE  
1806F0F10653F3AAC782810776AF25C9CE1C580C381D00B95CB02AF3F9892B4D918FEEBB01E7  
E730079266C4FF0AFOEC305D3A168197158B5A0D4B1C1FBE4FCBA947A5CD2E5324D0C4182069  
C6F328465EC2900B468E145C0F41D724D65547808BED468256EED76431E715A4ADAC80D5314E  
CDD03177AD9175EEA9D9149128DE8715534A648069F5EB9ADDE486029C69C81B1ACECE89FC468  
887962AE2C063C5EC7B594D88E56F2F3FA4A20963F3BC730E74923BC2DCAED6EF38412E909432  
6930D2D2E3A0FFAB2217E9059A88882E2AFD3E62FA4DFCB5B084D0CE53655539BD0931BC063CB  
D4E660A0B1BD9C7D6CF2836C947CEF2C07B859686424B57FFDD0DB6C34DEF824D835918505F36  
755C298A09F935A2F95328248B5E923E55AA4C91BBB0733E4940A34AF5226C21EEE9B0E0C3D15  
397A4D8C069B94C2C38F61FEA2077AEBC1F7C5E0875B9A7F2041BAEACE95807EE05A366016B6E  
0FA2E7E722BA34D3654DFECEE78DCAE199BB44E164E61729CC7A924CA6C7A6C061C6DA0936B4C  
70A02223EDA01D7B8C0D2E012F998C3B94D1387B6CC65DDA36360ED765F0A23EA562626E12145  
EB2FAC0F49BB0DD7D1ED3E9B2860DE1C54FEE8D60EF56D4382497C36181E864F92A95E76CC516  
E2E1396E2B0D880ED6CD14D2410C9BCA159F57DC9B763ED7CAB73F9EA5D42F4BEF91977C11490  
0CB0F249B10DE8F4FBE220181D4FDB5D836AD2FB70F06869DD7F197F121FF748ADD6DF6C48ED9  
910F51BD7528DB60FC5A42CC0B72DCA6FA66B617F12FB2A9530247B1709DFA7729A6C9FF5B13D  
073FD7165033C45B5B7C7C66045D1735979132C49CA4442986760CF8F0FDEC0C0BD5E99264107  
5C76168B8316057A993F513536FC917FB783C28B2D4878D120889945FEBAB84BFE4840C61012  
043E96910A374CE33B45F461B5492E2F96F0EF91E42D7DC755F37117852C4FA99B106F5CB5C70  
BE5055ECEA5DF90B517B08252DAD6F20013FAD50F47A1682CEB37AA0DB64E4B699E126CEA7034  
969FC5468D19455A1F2BA4011AE5CFC2544329E268326345C9970756F8712E7793301E9D3C92  
787FD10B7637F5511E27A16B8DDC21C116F13B0F27FA2E5B6DE60837F011937A986C00A4D9551  
D37E994DCA480493DCD5C4DE6F40D0E25349284131B9E0B3B6B9BEF6B9DB6DDBED89CA329D9F3  
B032E2C05BA9999CB02D7896258E3C4504643DBF49A155F96A69148A51F243CFCC3B2BEAT8BD  
534308E752C675CF478A231CA99C2EE402EB5DD5BE2AF5F4FAAC783141BE8D2A3BA44156A3D1E  
E98763108B9EF4670B25569DF3568FE0E183938FB150FB79F7F28D51C8CE40089C06D6A09F25  
845B50E64AD231B367C280883CB7FFCDD5E4C044BAFE6C0915A0C52BB14876088267EB84A01B9  
931C03DC799995B6969E65CCEC63697F1F0E146B75EB6987550C23DF2793FBA8F04D019C31AF4  
AA747F3BCF00D6FC86CAA707F1F27DCB598B18ADD6BA048B2B174FFFC20F93DD2F8E860885A  
15CBC2F06CB10537C205E143ADDAD33CE8CE5E6EB22C6A917172BF962080290AD6FB88A91C7B6  
3B64047BBCB60309C01F15271CAA73AD93DCF99400BEE17F6F771AFD156CF28B788586A18C21  
739AE5BFDF8F6B8FC94A9CF1EAB0399F9FB53FE70FE5E4278AB909B2A00F5A181F67CA7F7E046  
209A2394C5583CEF4

---

#### E5aQ Code No 9

C1A7D5578EE6929147D34AB5B29B97864F46686736A0966EE7298963AE2704F4598E0AEA235B  
562DE84BB1943891101155AFF6D185D9F66E5F9DD037B048914D7C1B55505455D08DB2E0C5871  
6AA4C4E779EB7348D486F445CB8BF499DA3054F087ED95C2561770335DBA67F1EDEAC600071AB  
5918ABEAD7E55C5C6E609896ACE2426C47941C1FBDBC4804D8FF4C9290E8ED35C967D65837D6E  
2B153A3DD843712AA34BE1FD7CE0D829B04DDA036D9D16063E28F627491C1C37018FBD1EA3D3  
3899BEDE421C1910C2957C13B8CC4B8A06C8D3B2264E8E1B8FB5811622A9986B4B6F673994F6F  
5FA072ED8A8564C2AD450CF801C9992779F292994A98800AB12A9EF07F777F441F19FED631440  
4A9949218B2ED4E239EE677D8D1425D0547CBA99C1333FCB1620A8D11DA5CEFC51DEF5B3C4862  
E17A6BE3C194F88B7BBCED98325D638877757ACD448C0A970D63603B58E3F4B8A361D36EFCB6A  
AFF2858E14B1830F0FFF4C5CB08BFC21FB091045B9A7F8DC0FAA02A62D1FDF7178B5DC90D211  
1A64CFAB0D83680196B21D75EB91A5B3E2568C7E8A6EDC65048C88EB34F6494CB697E44F89501  
2AFCD7AA86DF341CB9C63A7EEE8E5F95E3D60213BC23C5A83CFFAD4225BC731F07B34FC4550DE  
26E0D6DA29F03A1D9C4233D9A0633D31AC5F55A11C1208C8B85306CAD41EDDE3FF5EC3A61194E  
724EE2D6A4C94FCDA217BD7C7FB328A9CEA8064D94FC66049B56AA1DB9F977216AB4242D0EFA5  
9AD18540F1430A6F4EBEC5CA7EA81EE4BFC6E77F9EB6352B71275D450843304F073AA82D77EE5  
602B43DB62B9A733320A67B2727B21B705B86D5DC1459B5EB688D37236FD37A7163E78E8425C5  
89DC600609DF3E9F36F9094D06C60731527B8ADF58A95E40C1390FF657D418D675F528B3B665F  
B5F3C56504DF40C1D3EAB6F3CB85F5C7954587F87744775382517B4C652B4259571A8AD219A65  
17E2D6D321AC1684404DE7CF1478BEF7819DA24B09A11DDAD5717CC63995BF83DDA735C3A50  
F6B164F26D6A79E3B20A1488DE2AB44347694DB8EED3D957B6B5510C4A266E514164D23F1594D  
84487757EE6F4353BD06CA7F90912AAF5188F217FCC11A62198E2DB04A016D36A583891D346C0  
D84241027DDE80090356ADEE1AAFE7CCDFF983FD7F8827BE286280BE118FD9FCAB26A10D19BCC  
63A9AD9D202036193CDA36321A5A7252D0E65FC0D8E588D70C3B629D830CD1DE2798309A6B61  
13FC2A16B341BCA4271B5994ED767F2064FCA7DA335BD1D6B21F54CFA0DDCD47E2A38CA924DF8  
5D2DA869F6DEA8FDDDBD20728A21034355728DBB4287FF0EB59DC113A71F7C69899EE76BE7D1  
86B39C7C868E78C03E923FF199246908FEB48AE45261B3F7A8D6E4F0DC280545A9E3A57891636  
4196E483F57EC37439B0FC9FC37C5CF56E21A5CAE0B70D25B928EEEE456F19821DBB974781C64

6E860EB3DDA8EF8577CB0E3B9E96245E14CF4E51A5D11F7AD9A77B932467808FF55E588455F81  
0CD50367DB1621469AEE8BA6FC052C75BB027521C530A918F9D646C69EF8DEA1F7B14354815F1  
1E0187F01F677E2A0FBF78ECA2B1E51E898E26CE55693ABC8812F4CB4C10B9BBDF385C6AF0B34  
0DF8DD2E957D877DC1AEC30D4A6195F40F09B4CF4010E810C764EBB57891652C156DD20584E42  
7902DBE82AAA3CFA728059D31C36253649FDC00CCD29517AF2FFF4F5050B0FCBB73B2888C9897  
61A7F0551375E4D3C54E0C9F8A4679E640A73476BCC6587195A82CF5E6F550B0A85D57A97E3E5  
D0B9A194EEC3E41CO

---

#### E5aQ Code No 10

F0E94A299789538824A90801AE02D93A78EA914B9A8F10FEA2D2A7D0812009C732665D48F6DD5  
8CEE4CFC72513CBADC0E171F837E79B8776B39B2224C02766D0468E513D0BD1BFE6ADD6C0437  
4604503A3EC8539CC707110D18FCDC8E000EC1A3DD03F7008D37C1FA02E419FD4FC7A6C81157E  
07E353F3C4882C2AEF4A0CCE1F7A5CB5EC753528152C521A2ACF7548F19862EC31D8783BEF406  
EB7F756E41CAC3FBAEB9A901F9268E78E06ED5D6CB19BF4606C9DB660C03A9D5B06BC235DD793  
6ADD74268577256F72C7F36CFD7D4D09D3726F1908BB3277AFA69C7166EA2F4CC9387B13AAA81  
31D9F21A5D97C13C7DABEBC61D72556466093EE0F87E9EAA9CB42245E1BF55157013C4350F38  
596CD26D2819F98698CE98F5D4023BDB3C974B0E61FC6E6604CB1707BB22FF5689F3DB3AD4831  
BFFD3F93C702E0DDBEBCAF626FC265547134570B7150E030A3524A6979579296CEE062D18CFA  
FFC4474490DA81268B27B60E9E9BAC2A9B7D2E2377A2006AA5C439C263E8F9EE360B4E217646  
F7C44EBBA6D9E3B98AD20B1BF7CB8CDC62CA7AB139BC2DD1C85A837F51AC9BF08B3F36CFE176  
A03F358E237EB5ECD0DD2D544E58D203910613EB14744E914F92C5E9274FAB025CB6D8AF16E  
E03FC86AE3947F7A30FD8C1EA23E7EDAED4054174E4E6DE048C563B1832F8839927ED3EA54B1  
9BA41CC144C8D8A6D8FB66032BA6F4E16DC81C98D37129B3458C2F2A6517694FD8816E8C71E00  
D77189768C423702612D9863FC2DC1C4593809C74D0AA881DD7477BC584376DC6C177347EE17F  
3E17B524D0DFB315196035FE6AEE83675494E23BF2433310D4C72E84DC82BDC9B791D5BFD620  
212172AB2562B5C36DCA28C5CB8078CF41F2BDF4EE651B04243326DCE0C51ED88699CFAE4DA3B  
478DBDB92DCFC8D2EDC4472691173B6C5B9E5E116C30DFDCE7B0381E8E1013CB392056E3BC74  
42B2A2EBB631ACB65DE639B3CFD8EF3918531480A35314F3F23F9AA6CA41A9B8F6D08F6C589DD  
2584B6B8285230808EDBCBB99C0E918D4E73A7B397328502F2D47078CA2FC0BBACBF9D9E491  
EFA2A2DBD69D82E0D829F74D5ADEF4100E6195CF3D7AAD2041078AACAB8A8E62FA42C6AAB620  
3D92794F77D4E30B84BD16518A9A0BD0AE4B372A537BEDE43B31A6FC1A58F9B43AABD485C55E6  
30FFF8A4359DCD52552B8A090DFD5CEFD972551714E5F0A2A16442345B33DD9D232AC8431EBFB  
CC5D5165D12961D1E954D01C0379B5489AC0DC0357667325AA864D44269799DB710BC6A25D90A  
E8E0C9368BE911C91D68A49815850B4B29708BAD74B4BF3590E6488655622DAF3A7B52356C804  
487133223337679B33E583B622EF873962E8FE259DA8F5DF61748B6799A14ECC763A1B54542D6  
7E57BB73E411AC023907E54BA0EA8B7F20E55739BEBD7F83E408238B73249CE69FD2D5935651  
41FDAF12BFAD3A43670935354ADA4067DF0AE4150AF306AAD3071EC4DC0AED6F568DCDBABEC  
98E4D17AA99F8E881600D35B25CDBDBE5DE184180A9C35EE8B42F6890E068700F06E4829A742F  
FEBBB214D17BA925B5C0B41244DB5BC7AF49D9A24B2C135131E553CEDB2CF4E6E2EAB840AB377  
88323024123853A19CC04F6E344A175A4BF1A16776B7F84A17501DE4A594BC515E788FD0AA08E  
D4BA3602838A6D1D485B1CB80BD24D97905A9A7E2DE71A9A4CA32689C46AA9EE52A9EA985C85C  
9289ED1577B577C444FC73FD1BC3DE03F9FEFC10E6A17553A7E3FEA6D57AB71E2379C9C5F8904  
EC43E57D5FB119CDC

---

#### E5aQ Code No 11

A8C2390D6C3F0B9D01B9794A4207DE3F62F00A4D1188C727B2910153D9BC6337AA46D2D79D09D  
B7656C0B28654F1FBAC5C3DAA8A75B16BEB5FAD8A256E38EF0232E007A741028319EBA4A6DBD0  
AE1C1F898924676AD4090F94F560D0CD72815FF6AAC29C8674B1D366120EB3213300E99DF39  
0B3169A1CE03D2A5E471B9B8DCAA95725931B97817088B486CB680047359440DD39386DC2BC2  
4AD2AC30436A08C335199F08861F93177640074A241D9C5884EED07EF0C0FCE8CCE08BA302211  
50C9EDC6562344CD3E14D3735B41DE2CBFAF4DE0F6D417299FEB38146625F3C70D8872103FDC6  
970D9D37D1CAE92375F81B26566A78A02139CFD83415BFAA5D328674797DE51E4AD9B3B9E1F9B  
D18A0FCA255CA8E7E9E192ECAE5C60E9F5D578E59F7F7074A12FAT7F9388CAC0A148CE922368  
1A93D62A679254AC2F41CDD871BD73BBC6C4E0CC9DA67633B61BFE815F4E15ABDF639899DE10  
5A5F4D74CCDA3EED32219BB447EA5C6411CEDB351DD76CF11456EAT62C2F300671A12DD6ED8EE  
9AEFB4D0BD86D0CF35AEABC9B9E7822478A6DFEBB887DA0E2D3ED4C010E5031C4332FED83480C  
21ECF904B65925C4CF64595F20D072C7C6AF12DD3C76C682833CC6296DBDC73DC8C979004DE4E  
CD749BA45D9748DA728AF757FF5422B862223146AF86AD4AC4D4F407DC2025B8166E2CD64C8E1  
543E046ED91AB1AA5524E88AB6851752AE5A2F02F933DB3CB7EF48775017E000386805EFEB8CD  
CEEBABE13A87E0C554F99DF0C8FDE49FE73DFD48379299FFCF738EE21B9AA1AE4DCE7BAB98A  
356241545B6F7D186AB544F77CB61B6492BE1F02C4B77DCD5083DE4319D1A1B792961D11D552F  
8AFA649EB5D2AD64227524722B0CC97260A8B3B6493B00D258A570CB238D3C2511C0582DCB478  
F878528B8A88A5B33F9FA6C41302DD1BFAC664C692001F7F7D207A8850D6FAF22ED8875894057  
39EA5B5B9812BAE617889A225FB2E6F9EAF77D3B3758F9ECB89637D1FB20C428AE3420C3679B8  
34EFB0F89A389FFD72D7420F2435D118045FF7B7361FFDA0BBB6934F81AD8513A626C25D9A5E  
2A5FD1C51229E2D5FF803B8983B672E92A1FD72C16520531C694F44C9C99BC3385A610239F696  
3E0BB66ECDF4CA29E1C175E4145D3F9E9F495F2D03A073965643186C46EE9BDB41876A41ECDA  
224719F5C76AFA6E955061805F023498AAE965184ADD6F6BA1DFF0B8EFC3D1EDCD40D8F55BB51  
8C9B45CEDC95682B24F281795CBE5D8E504F088563C750524D9D238E4110AEAE095E1C545C  
2989BD7E0BC0BE8AB750A7D319AE69CB080DA562F7DA7068F38B14AD7282E041835B58E2A48A  
340F993D10FF4F805280C183A3FB45555B8D54EC145CB7B9BEE71D7BA652FC533ACE1BC8D621F  
7257422B363A5AD2798FB0E6E536854F2BD25914AA0B6DBEF1E2EF71FC7890E20FBCBDAF751CC

B0DD16098D96FF22961B6141257AEAECA339750950F6895107355F04F9BB3EEAAB3A9024E4C  
B79B19ED7947EDE79958B669077E6BE182020536F7F234AB2332C2F2790DD96F5816AE3FB5F2C  
CD72C6D177845DD0CACB44128F6EE6B1C2F673A8A50842E13C8FF0087CF71B8BA0715637A4002  
1998652FEAEAF5719ADB71EEAAC8093E525602599278B35600C743AE81EA78CB0427D089415  
8DD4ED564C4742033324C58B01C15822B97C9634FC8F320C0B103F0A904D98C9AC529FA799B30  
F8B2C0888E47A3BACDAE5A3DE6DF39A693A9AB3D95E7C973C7125C0F7D8C59B37EC924D7B973  
7724DD92818360F2C

---

#### E5aQ Code No 12

2EB63BA5756AF5865AE33947E311A5EED4A0CD056442E19888A2B8302ED8017085DD5D137A376  
9058F0AE0476AB202CAD822D6A781291C537120F316E90D2C3CAD13381EDBAD35505A5B7DDC41  
E46771F460E501B9BE17DF8D4DFFF631C365AAEBDCB7D5CFF7010BE2EBAA0B99820E0BF3D290  
CF27DDACF397A5E4922EEB7D8BDFDEC96B87F8202BD409F31A200515EB6A05E25A5FA504093F1  
D82A83A777F5389B5C90E66C369BB654598CBF3F258E9E14DAE819837A86EA775A05EC829B488  
9B816154A2B7882EC7FF71BA7CDAFF873B5CA4F35011DCDED8C0CAAD101F7BDCE1CBE67E081D9  
8EFAB71490AD12AB7BD9B4CB9331B6B04D6DA2C12311F96E01AE8BBB350BBC7311E8AFC9A6F42C  
D541ED40E2D7BAB44BF7F1E4465CA942A0E8767A38D89D0231BB897A995627EFF71B3E4483ADD  
CAED084B402A3CB23D5F91872BAA49AB361281454AADA57AC838AE2B34B799A1B46595AA02A9  
738019EC3644C63BFDC72F72FCF35D48D83B831E6EF397474C43CF665D64DC0376A437CC76886  
2A92C941B9BCB8FABC6804C03BEF7BD2C5EEE4609870803A5E9BB2FBC42028C5619C3706F7734  
26CEC39D096FAD267BF5E6C7C510B0D1948FAC573C5716EB4D6AC6EEC492B347497B47C0D18C  
77E7C264E9A04A4C3DEB83B1101E40A0A8653D9495D4A7C13A5BFF3C6956E668DFA9999262318  
11F3AE84195B65213FFB824478911230719E8EAF206DD99C7CD7D3D7661E9F39250793C139103  
3EA99A0E31D8CF83997ACA08C43B47240BF1E5E9D1D741CD9E6D3F5DC2043C9D3D68A2A689615  
D39014B75FB53B4866488C4B37B68B5DC5F9B9D6AB9AF190789CD610E939960ACF607A488964C  
33DF0091FA4EE86654142083F68436D9700B3B50949C0D97098D969BA25622C2EC15FB7D7C7B  
78C1C49F671672971E38996C2D77A024919FC1A87BB9BFEFC951EB75326CE48D3837068F31B95  
92DDD8505AFF1E0E31911D1F4E311CB1B81DD8A03D68A5EC075D8ED7D69A1D595E7AAA70928DE  
93B979438315A4B98EABDC8B5E932257AAF79A9CC74E6FF88C02C33217FCB3FA8DD72AFA1E54  
9B9E5CF6099E2DABA07C91BD3BA6A9A4936556FFDAD89D5F080DD7F818EBC8ADAFB3D51D8BA7B  
48209AAFEAC184E1A869FC88BDF92E77C6D4B8B983F4B93A52C473F1BF27B4D7514DBA522ACA7  
9463A0B9C2E0D9A2D47DB238AB9E2A1636B9AA825272F2B9C8D36D64614A4CCE2EF31B67682F3  
28B46D31FAA31DF874FA15799B5D53E143C9E9127AF358BA1B43A9418FFDE00CB16D32AA137FC  
7A5A1CFC2070FDA112DE600F3C05BA0F50F8AE1703AA2CB64135C29FA621385C803673A4D7719  
5B4B74E554B043FC07B106533D0B41F7D882FF3702692709A64052C4AAE51CDF8B733A92D86D5  
07B6FF4CFF5F3BAE4D0D9F3F90AFFD774591E6E14539CAF99C833D2A1D9A12F7E9CB1CF74FCB3  
53D11E22B8216FB91564DDA8F1D2C9865080422DF0E0D8AA47577F31A7682B54E36BC834D5F5  
F725C819D3DD3A948F4E6F6C893491127267145DF1B286C18C4F3EFE0BB61541883E413EC3E  
3BBF99D83E3919501A3CD59341BDED35BC39B655D61686555CBAD7A1B033C2E326887249E6E30  
AB12E43793DD1B72E8E858B40ADF4400A59363BC56063115492E114688F47447132D606F2B99D  
B9CA4083A91E35AED045C513EAFB7A3F0040848C1DDEC0FB3C2CFF717BC4CA36C425EC3CA9BC5  
1B3B3C1885FD8B4182AA22AD38CCF8FE3990DA75CDF5712B358BE866A6435329677CED89571C3  
877F9ACD0D3E66884

---

#### E5aQ Code No 13

8FOA4621BCBCE418BF2A77BD47D671191216B230C276A0D081C4F79AEF839857586F9DBA52B4E  
35AEF22D86FBA66DAFE801C686F03342849B5C3A492280950C7F3B725DB4BD6984A6389CEC1AB  
86F29D653781EED847D7E69C99320F8584700E662070E9C43957F4DDAB28DD2427415FEC6F150  
3551D972DCF11BC4EC3B3FE745DA7F717F35832B8CE373A00AE6572D8FBD7720E00517C50E2B  
634B6BC3942F9A8C035AC80161CDB45AFDD7E9C473F8EEB4F1FEE7A677E820874F03B54646493  
9F3EFDDA157C9F478988F3ABF39BEC02B722C559CEAF997A13AF66BBC0BBB4DA7B68EB6C6E849  
8129A95D021B7C3A072683593C2990627FEDC52F66F3A16A0860418E6618BE5D7C63BC622DDD4  
A15A33EE19E4161A50EA38CF6626D5A088FBC5721F567145CCE30C66DE60CAD79D31B703B129D  
27627BB5AAFBD9BC7D43944B9B0D255D8F338C7CB7EC56D121C3F4E61FC0D46CB0E036262FC18  
2E8F266741842DE923D276CED79D4A25F7AB3D2571B1B589E01583371BC8D8196A1C991BEB90  
F7FE71B99EF9E100375D3E767637B2BB1FC907846C53550DC4E6C7B8AD7FFB9DBB65ACB30C964  
4FE9D59A74B0E81A5BA068CBAEC9D6B362BA05202260B1E86EBB67BAE2D74F60B7E1C0B510BCE  
4EDD8D71E342D5465A8032E87617790ADE2770D0DEB1ED26D62A863D030C781D2FB02490718A5  
B55D1BF6B3BD1E3B3C163361B2F13E616FFC87C1BDA47D7C88A331511ACE5A45CB94DBA557EC4  
7A670BFFE839069A546FEB7183C27697A56B65AD762735782FA009350ED52819C23AEAD72A715  
0DE845B899669EA37B4A12D63BA7D6DFDCA495A0957BDCCEE6BE1B8B296358E92E60A2317CF4  
B7542CDDFBADFD18C88F5AA4984614A113E992DEAA18FA172C998EE6FC8E936E69953EDDA3FD  
233182C7B986DF90386B3661C649EB0F9A7E65B90572132408929968CDC39D18020C6D81A3665  
639CD2A3612FB2135A6E057F0F68B10D3CC1C35DDA2600AD1C0A6FCC0C5DD0D82F6218F2C1F8F  
5B714C47636CF68D5361D97DD1367681116F2A2A045894A85F5FAF1BAA27F93A3B88094041810  
40C24156433B3B87467B27D7C3ECE44EB763D14356D6EBC7542E21863700505B8A10D4B4B6E9D  
2A4C2EEC9653BBC0D9FC68DCB53A7C8B6CF3120C921B824765E7641A3E9CDDA804CF34101296  
4EACBF55D6430673B83C12CDC53100DD8BD6B18A56B5AB68D83EA484F48D4641B94AA2816BF06  
EC1D1285C11AD060735509367FDD0E300413911442846DB240612C1389CD4554DC8D7D7C7E4D4  
B79145D4684F1FB75759E2D506F9DFE7632CC553B945D91FE0F9A829AD6A9A18817B09B986B18  
FEC6D15414A0FD6B6070B15F2484AE8B3EC3DA36D7F8007A7BE336B749104C2695327A49D3474  
1D76752DC943897B29C9651EA3C034BC4B8E1F380A9FB0F9D2C23B627D9DD8317894AA754B899

8573F025A024F43E03EE86A1EF583CE02DC7EC2BF2A8EF9A3C7743DE2E6DE38D72B5E33BC5CDF  
CD12184C9664EE7A3F4FBE9498F59107BF8B6DF69DBD6732AA8013FF8B4525EA9E40FF6F96FDE  
A2AE0C3311D6E8908D426293E369D52F818233FAE1C2BA2657B38FB82E7864CE1177D5E21EBC8  
AB773EE928EBC4A7EE9F4A9CD2D9F15146C08E4BE0A77CE272A98AEA05A6DC18D5B856EF1B402  
F9851BC84DC95FC71320D2A5540D40BEF67EE2709147EAF3C3D5BABBOB21090BA4C94CF72429  
82BE35925F691847A7C296B973EF2172F83AC9ED5E0A0C91AA697305F79A3FC6A8EA4E7D1DA88  
A81D4DDBC1F604BBO

---

#### E5aQ Code No 14

896DD4C837F11BF155D4605D46411A63FECD64D7AAE873E1DE22DD62CC2F8982EAAA66BCAA8  
DE8DA687910A03200FE437BB87CD5E6D17C6F5B8CCFDA073F29183A1E12917C5D78CC1CCEC5C2  
B04040D39E1E74867B21192EFF2629AEEE22427EB5D2399515D892EAD80934668BCA906109F6  
ED85AF29E702FE6C112992CBF851232A4C140BE6CA9C8DB383D1729B41BE939704297BCB41E4B  
8C7DA5B24B93FE7E7D2214287145A764D3263C9EE136457A2A270EBD03408ECB657B78CB8C0A5  
C1767521D75A8E12D9FCCB3CE8F6321B55C50A6102381E95C12644549A0E5AF29183316016B89  
F6797BD89BA8F1E932F4C91C0460F35EAE32F46D42D66F639A87C25AC6E9B9C4E475B7A4A94F1  
0EE0C1043159CA71BA3FB4F794E766C5A7C6F7B85088CE1A2584D4A765D7888F1496ABE23ACA4  
2FC001E2D30B3959AD7BD941916E27DA648833EC82004AA0937723CAEC0A8E7FE3C6742DF8E1C  
A797F13FCC4A07BA75874FDB6A66014C0EC688C5F5E0D1ACE231B32A1A14A2503155D412BDA98  
FBEB450D35797BD96264D141EEAC77550408F6A63993DF3F89D1EDC90DD0885227C273546C2D  
86D3513AC3241AAC96C137B69970E273B73EEFB8668B9946CBD118CD1977445F87557DA03668  
D4F3A6B5DE6D0088982F6C5DCF082207A99B376B155FDCBA8A5E47F2CA4A50D48DDFBE05F8C1D  
28A080147FE9F0E4FD49C370DD9E4861D8E553A22B7DF7324C51C20F10BCFC18EB59BE931C692  
32419F5E037333B52FCE4A138617B08767506B793A430CB3EA0A4D9A2CCC813625FB2F471C3  
9DEB2FD0792F3374A980FA4B208185332FC68798DEA1728054F28771E0AC3FC065645B3E996E  
A729DC6A29CC23F872BABE6A84911B1B6C256C38C0A62331EB66E2F8B9A77ED79E323B4A96728  
F0ECAC851C3E9C15F2863CE6839D3752F4F206C72EF0BD60F087315E6AD3C7C836FA3C5CA6BF2  
B72D877E33C17EBEE283EFD62F395637E784A84A3E4EA174BB501D2CC216306673B06433A05ED  
052860666A3C3D7E7D7C991911A56100A31048BB81FF71110697C941CD0ADB08705A5A73CE66A  
A87008B08B51DABBBC3FCE66B11135844BCD8CCDF4D010D7B135AC764B678CF307154B5A96D15  
41B75FBA65D7A0D5C2BA2D1DA48BF0EFB9BEFB5141AA6D30A59695EF7FFAE250AB52DF0969FCC  
349E1C7B8D90099E0410A861FB05E37D7156991FC65542B3495CCE223CCBD383DD4432113B81  
7B0AC4000F9EEC55EB377CF48B0F51B8D02359449CBAFD6AB69E3616D6A3806BF67069F2572D  
1AA0E7DE28042DCA01533E1C381449E22A68D901424498DEA67F0EE80FAB6FEEC56BE01950969  
550F01D62ADD52396E927962F209B262674D2F079D0E48D1C994864BA90CC4CCF3CEA06A59950  
72904CD97313E82D3CF76F24E3B3946D11FFF45319DDFEE619D2B5D777795567A44767F12B41  
D84A4BF738A2C6AFC0DA08356DFAC343EF090176425CDDEBD1264871CB7AD526D9B4E469E8668  
17A1ABC9973C598B1724C8C3185DA3C999636074C27320694F0BA758B0842D2D3EC93DA9A9CD3  
F65B321E378D95F003C744EBD7BCCD4712B6FB084D9EEF0C84C70651E3AD999D64BCFB5E8F7  
D9582C290CE59176072A5157B1CEBB5684D47271ED482B9FEB7FDDE78B424988E88627FB1299A  
B8B96CAA72239BE6930BBA4396118041D6F3CE51CEAD81DA54CFDC8BBEB0F6C8E9FAF93E2C40  
4D543A0F0026C291CE992CD71BCB0C6E9C459143D995C92A41C9A6AFD36E1CA87E1F8EEBD30E  
C9D209BB3F6410018

---

#### E5aQ Code No 15

0245F1FF6639D3C45134190F729CD06608426830011170C357160EAF351BB00AAA61F254B939D  
89335881D5D15F3DAFAE92ADAB2B59DB7D3EBFF526D9A6F44E1D8DD779753433A9A32A541A798  
805AD307787C1832385D8B11DE57BC3ABA2A81B70AA2221C8C9247EFB3A40943D8A0677F1D4E6  
F9149D97D6D83173FD3D3114293D628AB97AA4C0121E2A88BD5B5C290AE7E5EE4BCBC1CE730  
17E3C58FBE575701C919ADE5E94208789CC2BC330719F022C1F79880B1BAC4E377D486ED467B  
C58B13F2FF97454B1F4F4DEFEB3B5998FFFF604EA0BCAFE859CABA133AF969827887AC252B9D  
21D8AEC49A0D77FC83B4D9A2930732E9A22B7B823E302E469B52537DB5341AA0979642F450515  
1AED71B690430AFBDB09A8454183A23F86F598719B86D1E3FCCB72DD6599C9895CF6AC28FC5B1  
D4A821A6F9DD9BB7AA63DCDA1678AD816D96B919E47D0D0E95756FBDCC71AE430C4F71E521701  
452709B6E670306A20C2F60F84D6009DF6D749C5E02D3D5495DBCCBE9326D7D302E2A56032F4  
CA5C82A107E06A867D09A2E5DE7DB9C250E25B5279A4867657AACAE0E3D601DD3BE26C936BF52  
7CA9EEBF3B247F75487A01694C7595619FE6E90AD78BEAT99B0BB0C126ACF3DE54F805725CA01  
879BA5B8412D4FD3D3CBBB37AFA955CF90248CC521B0FBD0214A8D4C9E4A41705714C8DF5EBFB  
BF2FBDBA93707B0D779357E3DBBB20D5CCA707BA7BC5D21D4C23D72AA231E83880867FFF3A6B  
587EDBF5485C516239028271B5462F78E3B226B057F01DE2D348C7D08108B990DE8484E839EDA  
A174B3CA0DD6D1338513B3D1E4ACABF9C14A9E03CB373D039645B6447D7853257F74665CE10EA  
F27DC1640C0AF88FF4C207994AA23EFA97D1CE707AB08E4A615C580E3AB971D64371715CF0BCB  
8421D8178D708E4D3DB24B2AD3143E2176B4BE37DBD8812116E134DC9B72E35E8811F7F404485  
ADD7321D3DFCDED23BC8209A9DAA198307EF1BC0E204CA42D7274EBFA74C88251398D6E479D5  
3C5C6E7528BE5BEDC8677F6F5A81A07BF7CE58E4AC38387824300D14FFF131A54390711F95E0  
3CA59DFECE3EA4696643A16874F98B76F6D280F7328AFADC455C51712BA748D33741998838D33  
F65F0166BD4D9788B129CF7F9F0802758631E5A718A5058C63B0D38D9E687778FB8CD8BB7AF0  
99ED442C52DDE7D3C0746BBCB8595C35C815E80C71E98425FDC629C7F8084BA2556CE31E7074  
08BA6FD7A2F0AB83286A93E565FDAA34B7344474EF48FE5C99017887C8086AE4C891691414215  
1550B0222C5FF617817EF86920F1FC00B9D9E5BD95C604773137DB142398EB7E5F1B29EFDDE4  
1ED1E9BE725C2748EEA2F7A1471AAB6C15BC4596B6C6CEA5CB3C9F1E57179F96B3C3017C2244B  
179C384ACB93557170F4E0CD387D1D3428A7030B4276F8D3FD38074E9348033E3BB3B4A05B336

6064C68E0B25F36C2E45FB0AD4606CF5A6B8FEAD45CD9790BF5BA1B0AEB5C67196C05D637E878  
F6D3108B36ED2CBC007F6BDBC7D74362085D651ECFDAE47FFB069ACCC7C55B726C0C6ADC2760  
DD3509649DC58189CD7195B11245D76F64DF2D61B07E0C172313F39961BBC410E4000C7F7BCC5  
2593AB7915D5B5B3E746CE8F15AFD2AFEA8200687BD1E0D767ED297347A1B0634A4F006033322  
F787FD901E7F2492E1B491D4F5B901FF12CA88B2B2B2982D7EEC9DEC4538F8E946172AC82CD46  
8812EB9E7062AED4075AF0A587A92E9BD971637B3222CDE1A8965DE1EF2CD4A36F2B7457D27CD  
328016FD2D92B0560

---

#### E5aQ Code No 16

EB01608B4B6324D02441F4094E82D3DC8ED644FD9D7FE96DC544276D7E02568453E8E37597499  
0442B96B85A9DCF163A5974EE96274A6AAA9EEB0C83AF9A2E27C4A4174EE1D4A4035782AEF837  
74E93F67A5A7B91E7C8E05611BA6747FA9F83A788DA50C9D4EFA17BCABB0361E055CE6D07DADE  
204EF601AF3D1C7A54AE1011C2AD46C27FC060A27073781A221D182D4AF531D3056401D61024A  
29FBB0030B8340E91AE3A32468CA48183567199F34A76209F7846ACEE0B5DE327B3A381087204  
DBB6FF40E1463CC7BD38311DBB99FBD05BDAF3B84D9E64958F67421CFA09903400DC87E212FA3  
20DB95DF83AD6A6E247E92151AEA0638D3755A6B409E5853E1A7FEB54FEC711D75AB9CAB21DDB  
34D7115174E01E9F0A3E650F852666D06A2A8E133C872FE9034BF9A61E29CC319255B09E40096  
B6D15809FCE4C8993A056E4133BA1FC05933B643B5D476D3987E7BD372412852D439D38600BE4  
A7F22BE1777CD86F70F05DF3B260B41DED95653243419C5BD9B6288697460A0FF7C0E2928D707  
BBA41E46D1AE11BF3751852DA1516941BF67E5C1775383A7F88CBA065Babd2235C155FC69D3C1  
1F5658B019B089A9B3A983A2D2533BFF7694FC271597C42EF35F8AEF804E18AA37E3F42E49D23  
FB9171A312A562BBC9B093D92D45EB6A1A8A665257D596174E1FC44E117397AA7C4C77FC1BB17  
6C8284DBF4558B5259FA69836B68322705CF783121E3C4513EC11B76329F1310731CEBD2CC8B7  
F49AE8D87BCAC07B1CEBABE872B5F83D71FD10F300F9FA30F4054C476F86EE75AC68F1F80E352  
D3F9753233E53F67C3917C26F4B0E8A61AC0299FEBEF95D9A46BBC9F5C16B5EF127EA18BFA60  
9B99B0B362036F4AE14D11BD7EC8ED2B02C8BCAEE2CFE409899E06DA304E23305DB1AC0A7746A  
72746C24E6D073F1FFFD3BFAEF300299C8009043FA392DE2054F237A098EA5FF0E537105F25B7  
D85355A44FAE707B0A3D1D6B30356CF1BD6EA3BE57B3A6147B943D1C96C4E2C871DB1AB64D935  
9F1F3D15F9DE5F45FE8E03269EBB9759AC78F47D7B913F09402EE65271859D623908D464B1B5  
E59E4580BE30E01C553DCC79B190A809C71D8204A735350C75C3361EF3C89C07B84270502BAB8  
2FF089793838B13B3041A17AB396C09C4BEF716329318B95C7C4779889956961F8D2200C163C8  
6F45C1FBA0567C8615F4E815AE8CE2E05589C006B4560D66A67495C2B99E3A951500FECF953D9  
FA7FB5843F102FE0F82E72867A65C09318A52D4634A3FA28B032B92160CB2E7D6ED156586D071  
B8CB147D139212BC47774CE580E80791C14FE49DE7688B3A99E966A9F869B0A7421062F18705A  
D23AC238B52E6D80F43DCF2B43F66965F6075469E0E789B40687D104DBB5CE5A12C0B741EDBF1  
A3E57BDACC92265D592FDD63703E534B78DBE9F13CA04B9920EB740FB220E01DC176C09CA51EB  
905E32398E739C6A39C02043042C5FFBDC9BF959D56842DB894FC108AFCA51039A9B28D19D671  
27856E29FBA3812F764D31AD4E2FBA5F00A828F85087B4A5ACF24CFA79A3B60C954DCE40BA6BF  
AAE4466C88A60293AB46FA2FEEFA2E3B0DAF0CD72B0CF914848AE6A9BC26F6578D08E89647987  
9D3469E0CF39E3EA6508A412853C83BD33D0B993678FA08DF14AB40F41CEF0E7A4B992DAE6F88  
4E193B10E5136DE079BF85936D3B5A586323B08FA8A39B24ADD2D7E1EAE1F2F90A39F26B130  
F060ADED352AF085F9169C4E21093FB2256C4E17416F57D29CD37CDE3BBC8CBAB280DB69643C  
86696C3A6D3517150

---

#### E5aQ Code No 17

ED28B364884EDCF3082EBC5FC0D11FA0B0823DBD808FA19BFCDFB42BB1BE2B73D5D1434C95DD48  
DF1ACDFD7D17C741A387F18E7D78B2A9A894266167897AF1C8FED13D463B6BACDD81BCC2F3BF  
B17D2DFC0D43DD04FEFE39C801C8917D52BFE8D2E6F8C0C5159E0185805BF9DF91194AC97F644  
8B9189028D50B27484B429AD4DE45194ABC458485617B59FC5B1F1606DB20283A73F41A6B367  
31F6F9E798B276B33B5DEA3BF8728D21F63787BEB1F6FC0D3B21004E6FA79330A3345F2C01C8C  
D1FE661FF9AB5B484B3260F2332FDB00216DA42D2840D3180B6521B01281E6D0F09664675531E  
ED14A5C1794F3E1F634EF3D6E9D1B6F4871A45A83DB56FE2BBC52FCBC1E05FDCA884F98DEB4  
36A9A238E086FB339E1A7AFE04A511073F021C89EC5DCA1168E5CAF92A04C950154F6209C  
DD01B287FC360B93E2A5661E7809FF1BDF3F71B40BA756411894B340CBAFF9E0EDC8292E7C316  
ADF4F3B827F1B82A406B53AAD8D2D660F00CD2D6A6C693A7351FBBB97612A8CD3F0E177EE38D  
46100E64C4C540C834DD87E062DA2C6C3BE8A0BBC46D2070FB8D9E1DC396423D2BD1DD22F1F4F  
EE0E24F48CAD9241990B5F48A50B3B178A9C1CA71F71321226E98D1F79DD7F3CB75E0B0C16915  
E34A92750BE9EA173C276421CD0E54319DB0C4E5ACB4BD599842E5028F613067083522F0D2A8  
91BFDB190855B9BF36A7F2EC81EA89AE11A37B6B89126DA7C51A4BD0C902D0DDA55A4286E3683  
5D2EE95EB46AE7D6B919C05D42E543D96D22CD241A8E6985A18F29184586E6A7C10D4A955D0A1  
983EEBEDC5A9FDE306FC366F77A25CFC10E5B8732D8F40D068224177288E9A13408F06AEC841C  
2E8612E6C794DE216A2B758C676022D4C0B99A4A54166CA1153F43FF66AC03F183DC30E9C83E6  
EC3BA33F63F262F39838E5C044625B4CB1DBEB7ED957B8F7CCCA6C63B837ED93B2C260F276175  
F2F95B235D4D1DC0C9014192D72CFE014094F29A0AB8F0A9BE896067D74BE5489F7ABFBD7EF44  
2579875CB1795669991438C0B6FF13E06D5BA805DD2D0DD06731ECA45FC8CB9D7CE568921A60E  
68E31F31392EB82A39982BDFE8D953DE2CE0AEFFB0243E43ED202F6DFF9E075A90684FED84A4  
334A8E709979FD5B60BCD60D41907D1FC5D927F9CCAFF2DE85AE1350C8EF8D68EAE38EBD0DA0D  
252F0B5C82E1C3EF78CADF92CC78BD990B06461BD77B78635C406B4109FE58850D2A97A6C23CA  
A18B9AEA535D344E41E783B767A439DE0762A23D18244E76D3219A10100264EEFCA45F19022EF  
EE72B856FC34E59ADF6DFC78D31C8690CECFA45321AEE33DFD40943B158BCBEA764C3579FD5A0  
6BE297D363994E6B959338A3B48F14A3C58CDF1D91EA1711FB39CF78F04E72B293B80847516D  
A41D5024CEBFCB39939E59FC4C89BA310377AF576105CDEB4F6DA314E990B1513BE9DF738AD

35B1460DA23326D2FBD86722DEA5D37CE5E34C11408C01E1881BCDA250C7FCAEBA9DF85AA08FC  
9503546A55F2B4D6A7D0FAB2F50CA8667C7456DF6972273B62A0DAF38BBC7D38B5B62F2F1EA84  
76F300D0116598725C0903B0323779E02977F33AA8C45C2933B412490EC17FFC2AB2B4130CE8F  
ED8D34419FD15971EEA5759EEAF9F3E8FB4FBB26615B4286AB4C2AC57A6E4BC80DDB396043251  
DBAE26ADB03767DC9EE4ED3E0FC7D74C58175BC1F393F0CE5D16589879C6D53645B861B079B29  
8E056E4539B2E2E70920D3A273398B4E9247771B8A23B276DA9A06945DCF343E7A4C9E7B06960  
A1F624A75B1B48AF0

---

#### E5aQ Code No 18

CB9F5B3A549646C4555D2FBDAF2A79F9921C54C6FEA316D7713D64FD790325A87A30DEDDBFOAD  
E3B7BEA52A0E319A57084A79DD706228989642E78BF51B7F1246BEF6F1B8724C57B0A3633FCF4  
440E9D57DAEEB343283D642710266386DED8FFCFD68B32949FAC691E66FE9B8D736EBCA6F4551  
B39E79557154E9AF590B6F5CA1C6A0ACA82FF4B839B6F9C555CC57255F96B2C963536E48EC9B5  
BCBD270110EAF7C64AD9DAB53BC791CB11189117A34A74B4F23A8573A59886BF974528D17B31  
CA9B6A6B7EF7F923B8915B640C599D2453941CD16633383F36F9849C0165D94698D793A58A786  
9AAC8B4C007CB9E43D8DD100E9504B1942CEABA733A242599D5B8C60AA42F4C8BE7F040877DA  
2648D083A2272A46A90D215D96DB2FF1ACA6CE24A2936C18B7A283615E8E6B729602D01817427  
6E2ADCBC869C43879B6BD0CFC22CC0601F7491862971F65D3E0BB2474549FA18964B14D9EF8142  
9F08383F77E8880E858B3F350076B709046284A4BF500A6C7D9D694F03ADC9753852285075197  
FE5F30F5FEA91C7740AF38CBF5B984ED852C99FD27113F690CA7BD5CA46DCA330A7E30E7AA3E  
E8CB62251DDDD62DDCC29C94D79759357FD92855279A8516ED0B07D8F2CF6509DEB6C180AFFE1  
20B1C06A4DFB1CB76B9DF3113B08BE85A50BF76480D2FE05E75A4F77909E0D146EDF0D751A109  
9EB2BD019520548BA145C7E0B3FEBE21A13A41A9BACED48E1A4ED32A57FA061243EE840ECA691  
91B1BCDC0358A86DDC98920C45F1FD193D529C85B33E0135DCF2B81C7FEED32E07A2431755F3E  
F3EA685577A6884041C6600CCAEE0E4182CF54EEC1B078D74A18D8C81E0678A7D1309E4949380  
83786C67436FE55FA955D3281F7F6C145B7C769D9019AE1B8666834B51AE95BEE2A8D606825C7  
609FD3F24057425B27D01573FF353771BD47902A9BBC41B2016086A3F9E366F96DA8AE3C62123  
DF05113980D8FDEAC5B2C828D44C69F2D1420BF8E7913E59FCB88845A7FA6A84AA296875CA6D2  
FA21A4FDF8E75B5CDF0E1C0D84FEE983A469FEC80F02923695640FA0858E9B91812DD4D91AF0D  
FD97655C7FDC60EFEB19DB5AD7D7D0A5F93FC88A2AC1205D1BB60DB2F3BCE203C802752350B5E  
8240B6FEF4A38D8F35AE5868498DCCF1BA047DC56D67F15E3C3807BD5638A9494DDC268378DDE  
D39A910A6C7A59E6738DC68D1A531C7EFA68BE06AD20BAC86BC36083E45AB0A314ADAAB741C6E  
24A530B3E3FE318E4A1B3827057F944918664A96277528D185E821093D392012803ADB63A4DDB  
14983E844392542F2C5A978F1911A2720E201FBB862AE98C3CCDA720A244B5B58AE601C1ED814  
B0753FCE5F51E7ED797AAA98FCC833EA272D86A238524C07349F5DD0BA4A2F6281B2EC2D29EB5  
46EF52F07B832053AA433A7E8BF81C6C9F562B603421787BCFF621A69ECA5CF07CE8512BEF945  
DC744AF403B9DF0FDD48AFFF264D4AEDBD8702863B5A345A733328466B22FFEB20906543639F  
0F6F85F3F7DBBD28034019F4D517676C5D8C8CABD4118768B10158D83BFF569D3B71F30AB57B8  
337C50674E2290C950E9D48D6527E885A0F7CF580717CF467759CA0D41CD03A91B75648DFCEC5  
C5BDCEFC2EB2007AEF2F01651A328DE030546933C1BF88F34AF14D0C1F0F37FC8FF4E015DA5D2  
5D4A1D52EEC44DA8E832F01BB1D9FF6D067021D4703E8F2D511E73ADCE564EB53A04864D191F  
21C759F0B629E0053845D7049900924832DB7831CCB80B36644BF23EC71847286C959BF54C6F  
9EF075B1EB7F43898

---

#### E5aQ Code No 19

576592F533BF0DC0AC52CA27BF57894E407D8A264496F2196DEA6B4706CFDB4E108E07FD18F5B  
2253EC3BF1914BEA0E7B8EAC0EAD4C6A3D2E0162411811F8579262AB9F3411327C320D27C7DAE  
C764EC5277EDFC2635ED39B0C497365B8C363362E66D83DBFFD8E24BDBBF09A97061D7F530F6  
9D929DEB7AB12488951D753EFF9F8C8DA17F3F4B17ABB9A1955F40A4EDE9D058E6F48BF1B5533  
D91B55D333CE4AE379E124CFD375D82DD97B682D80704EFA3DDE799DC6F7D5E55B72A99DF2A89  
159CAC16B47F297A467358EC67A2EC72A01007C47D757DDE274893BB0E141337105C46B159B08  
A0414A7EF8DE0806F90B5C5A9362E837191DA4573B473C6E4354E62C5667F75721370F036BD6C  
A025A49C15BF63A8B30AA5D0A1CCF9746222F2113AF119DA4370DCE98ABEA322483C127CFC4AB  
990496CB53BA7D20255E63368FFDA40BB7022A1FC115B91ADE56B2711DDBBDB9FB00C5FBE928  
F3121420288CC9001F865D44ABB4D78B3A1F2B6B1B2C251AB1075A65A233C4472A460FBC76EC  
F191313D700F73BAE29795EF9A5FBD0DB5E2E04DD172C85E15CB0A63EFC2A4E317C5FF01965F  
EB3BCC81CBADFB201C670F4C8AAEE2E7E75F1AC4E4AE0B826FA9F87B300188546E42F3F142AF1  
9A4F91192741AC71EBF29A6E1BB0D00A4534095A8B9885267F27DB9B676009631114A2EFF9B2  
D4C10111195F0C178D2634EDE70B4C0C87613C9344BF2F62E9BCB42C4CECE15AA61A0C7915E5  
1A5645609620695B4D0C913337DEEF9195CC9545A8B1AFEBFE5F21BBDFA2F140A4D146ACC25B  
8332861C2EA55BA75086FD948BD27923BD2590C62389CFBE89498C82279258D11689613C21CA8  
F1788C4926EADE381C9CDB41D09563890433AC4BF9421475EE42AE5735D1CD10653713BD62299  
F66F793FA095B2E04EEA1CF59EFA731143D5849032DA833E1660A95117A2ED97DBF4D22FC0BEC  
0B5CB8EC32B63BA18B63F737F3ED775B6D91E052FCDBC0C33A6F4498082542B039A26BCB25CFB  
1B23088D9BAB9DB12CD18BF2AE73C78792BA9096AF766114337FBC06CD63BA8D1C0A5E5C6BBF5  
AEAC38D6B4EC2922B8ABC930F58CFAF2C65C43422193F4AEB436C05AE3213CD19F58C7623886  
525FDB77DAF08CEDBD5D48233D63F1D6BDA7DAD15E817775DB4C9DFE754F4AEB2A94DE6F88396  
1DF23801A645906BEEF9128F3F6C9FDB57E6D7B5EB46326C4C39F2C0694230CC28852D5428141  
7C4D24470B9EBB625AD1D144B4889D23EC975CAB65A855CDA704128A61CC7C50C5ACFD6355570  
E07CE55578E4453CEF4582C368E585CE0F08BF786CDC2C0158E1A10971AB769872C52DAEA5D7C  
8947A2B6300815B42125A7B8773E6E8C79239D32D7AF37CB9D4E8688CEDCD71A213795B0C1BD5  
ADBOAA337989ED3E4E65DAA164C26946978C9468EAF74617C47EE4328C51F41418F2D35BD33D4

7A9A1ADBB7C4F5A968946A7A900C293C65648C3127EF62D58BA9995B19B10D931C07D67164B2E  
685FB840A019EF4752602DC9317714D89F6D9318256EDBAF002C40D5721525AC0D2BD2B4FC641  
38F0FCC5EE648E84AB6908C1AF71408D51D31F7587F1BC8E19D1C045D8921B447CFA9287AD03B  
4EDFC3FB85C7792CB2C479BD5A14B72EB8D3077CC511B0A7364C80C32F11CD1EDB4B3A0806BBE  
9D7765B091E04F46620C23DB801A46C544A935FEE00F0A07927171D37D3FDAD3DFA81C40CE60F  
93EB65E667FE032A79DB745EBCD7EDE57FD51B647CE25624444199EE2D9647FAAF9F43554433B  
25CE78098BB33CF24

E5aQ Code No 20

A888113D9682BAFE58B278C036FC2EF41CF8C156C39D67C378E4E0EEBE750656D67250F8447C4  
20E6EAEF139A11EC90B1B50CB582E5089694A4BF843602382C022085141A7B8AA1DC5F68469A  
2C2AB04BBE91EBEDAF42A19C0538AE9D47421C3F98084073F340F0292B8946452251630987DD  
A49E56A79F1562C1EF57134F036A5DE932B2AF9ED5D24D28463DA55F4E7C29045DE9CFFC4372F  
7A6AEBDCBF35DFF2D952D90BD4650FDB3BD68F25B65A7876B65C5AFFE8B9CB06CF91B88A58813  
6C80D9CD361AD83F25B6D1E17D161817E64CB06262AFED0417DF26B9B3C0AA80A06B1310A7375  
352C46A410E167366AD768559A6DC618B416395F432C0CAA8D10F88E9765F36B196B37EEF1F1  
C13C4AC08150C9E4CE45D9B1663FA317263672875E0BB5CFFAE2A132A6B431AA7099E47E7FC83  
49D04EFF0B84C3E8A743572C4B1EF38F760656E49FB1A4DF4E2D1F6B24090EC675D299B32FC5E  
BDE40BBC2B1DD44CC01D1935F1FC084749DF9713DE41365D8CC9AE5041D60967B25E16FF1941A  
9A7336DC2D46DF5AB88C14A4BDF077EACFB1F08B834AACFC75B5E3C1BAFD3EBC73E187D862  
411AB97D694B2E557C47E5093FC15780805518758B4C5B548306F92B559DC58475464C6DC18D  
2B3905FE5F60B4530F87716107A1A4EB40090C23527895582B02141386A726FFA11E9930B6099  
B22816DEEA2626E60F4B17C5E175A852A2E174D59FE8219C190D0D6C50C14A3C5215BB193FA56  
209CA4D14AB2DB5CEAC2B3B20CEE6DA1F798B681D2DADE8DD13674B9156E5C3C4AA09B1932CF6  
9D62621DEF990AD264996069B01E6F7A21F2E5996251D09FD955CCA7DAA902FA7D46E03AABD4  
FFC5A1A873711FBDFDEA0935C399A0178CF2516FD03746B86B5A80576A34119373EATF059A0ED  
A3F0D18CF33ED63DC27C8157E0C43C537E86FD37E58EB5ABEB5524FE8E19B2298B9DF539C7C31  
FF0F7AE96A56FD3806B81088DC13224131998DF42066802ADC2A08AF6F69D36A7B9B518430C55  
32D3AEFB20BE0BD1BF4B2C968AA78331C614EE51B8E677B19A98E30756B39B6A1AEF0E91915B  
C91D98E86FFE7584BA6ED8D6D51A132EBC124C056FB89363B8610EB3D7A77A3E581C02E7D2518  
4ECE47A688E718922E4672CA9567BBA9BAEC81CD8DE7FB8CA04D20B51C850DA2A4AA63E87FFB  
27AC89D18FAC40AABF21331AEDABFC3545333E57C73CB7D6B601B7180E4489269001A6786415F  
4D1ACD8EBC3CCD8E78F6577A9E107ECBA3EF5EFA242F80202C1EDAD26D9FDB8F43F70D250D899  
EAAC973042149B8F0BF7327D72A49222B5C403645BFDF3FBFA78F2AAC71B9FB582346CA456EC1  
83867409C18E11A1BBFE6FF5B681B0F893778C87A9B8A67E196919945F4F22D70FF5D85C55D2  
3893E7EFD9D685C41B28B118EFC905C450A9E91112C5CEA2475EBD07DBEFOA125C298F467377E  
2BF8D4BCC2A52DCC4AC83AF877E1FC820D09F31888802B3226FB0129AB9E47FA65BAC527CE7  
4BADAF59F95CAFBC6EFBDAC889EE8075CF7C71518535DA63E7BC9DC5668417123CF11DAB1070B  
050DEA01F46BD86E59C5B3175EC1C0C1244E0E7B5B6FB5D26979393E430C7B79893E3BF819380  
D206438174038764B7196DC0FD94D4A9CB8382CED4490C43C19061D2BECABCFD386F1512EF3D  
635601E8E9CDECE9A452A0E6C6AEE0D6BBBF3AFE226A46AB3285531C7AA9E0FCFDE0D9A557F20E  
9802139A7C8EC2B2872CBA3AAE87F0BC6DA226B4AA5681B114E080A399BF7480E8583DF2505A  
EEE32E45C4112FC48

E5aQ Code No 21

D D364986DCF106EED4C8705C1A9FDDF9480D337BE5C61AA3F661C6968AA01E3E454698FFADF36  
6C73599B987DE85005C9743A2416E637E4BBB67FFC4D35F26B7539C33256EDBF680939CC8986F  
5BF32D2ECE4905A4F6A1727BE1131771954856A1C66A402FDD0DB86B51E9C02E6BB136465FC42  
53C8D98FED1582EF8AD22828B6A35580FD58A0038A9D97FE2F661F312658041839969752C4ED3  
21D4EC8229C5753F399029B0BD5F065D5A19CB4548C86CCC1F3A9873FFB9E4F421D033E4EEDD4  
ADBAF302E24371EA97D817AA33C72708C1EDAECBDE7C06AE0C95D8237517666D0FB43B2434BC5  
0EC2BC8DF1E3CB46099BAEB869B251E79E9B175B75FF62F408A5FCAA4F6DEC90F97B926272389  
696B5E38D26B946E0575907C358DB17D046D58D061683E07F1B075C10934FC4260043AAC28928  
DC877D27DB9BAE618910564EC3EDE3C402E86BC3981203CB7DCB9940C37D948556A57A11488D1  
332B05F4E5757D470A22D0B86C88DC456CE014B673CF5FEECAF26F4662C9B243F46969025692  
E445ABF375AECBAE50EC9E48AD25EE1D1D0C16624CC5BCD1BEA8C8FFE3579C50B732625A38100  
2115A1D69DAFF5844731F41AFCDE42CCF1A13FC98A64FB9769F03CA631B1C3ADA6A98F40343BF  
EDCD80966652292B60DE83385FFEA9C8CBFFF51450C768EC8C4FF6FDFF2F76FDA7D5886148168CE  
2BF693BE0179DE250D41DAA80553488D4DDB01FF97329E94C7DB33005B498FA8408E13FD5BBFE  
079F640EC5C8B735EBF9914B932A82441D9D5136C662294956CB52939F4F7E335A3B9749CC1B  
9F374AAC89C9AD1E718BC469CA21D2CA467F5DED54C402BA0CE000DCCE878822EE3E1D329CE76  
E421305178FD31F5DAC177838197C5B46A4F96721139695EBBCF39F04BC1BDBEAB567E8FD812  
C355CF72785CDB3A6909F801BD2F448B3EAOCTF96D09DBE4EFFB1CAAF2A47FE6BB830FDB937CC  
5ED2B485AA6B85DA799C1266562DF181005A345C62BF94004C1B8D85AC06D114C8F2C5E2D569C  
709251EB929237C76E9CCFB9CB39206BE3C391FCF5E814E42AC2BE1576B9F0664B20F03BDA1F6  
431D1D1CD4C0783CDA2A7AD32281A06B2BEC53EF1568840277EA4341F5570388045526AB214B  
477EA23023C13F4327DD0C84CD1744677091B21D8F95F38A8904EC5D6542AD6E3A68B355D688B  
1F6CA50DB7181272B3D564B1DE41C14575217FEE44E5B631CA49995EC2CA787EEC4533657FDD  
E7370329C9BCC301B8785F7A307F1D06F88F21F5BD19F94827C128F799A9C354A021146985256  
B3D3E8BE46AF6E370EE193BDA3494E0FCC7AA287C3A5B93B638AAF9BAEA46288DDF690A464017  
765FC2F769A5A930FD3E5A5F399B2F972EC286E81062B6BA85FC04DBBBC05B9971799225E2F08  
67B55CBCDCDD3B85D6D56C6948B03E91080FBCE3B2C5438491050BD2E81C41D5C2F6790AB1F32

7D2C7023FD891F8D6E13D6F69E7AB1604692F21ECC7794F028A8306657D72B5858301F5296A5F  
FDCBEC4863D0503749E9B483E4760AFC05682304EB17D67E016553FE9108895DF3EA98890172D  
795009AB414E4539C47200C56828919DBC1AFFE040FB3319A068264607CE51D387B9291B7483C  
E1C38C1F059AA86B68BC7F852D21BF759A56557AF5B4E8CAD60356AE1D9D11AB49CFB9F627DFB  
1AF5BF8A6D85A775B66767616FEFEF6488C383F5ABAD4E06DF0B6C82BD2582B284BC1D4B27168  
525C69FFE8117FCC38FE758B2DF09E38DCB1688789B2AF3A050142E50787EBF2098C229E6965F  
E134593AE47AF7FC4

---

#### E5aQ Code No 22

B59F424CE3388B73A01C7279251C7854C664803D834E8E40CF3851B922071026DC17B967F06E  
8467AD73F8F70440CF20178BD31F8CC315AD8B3D213029D08746BA9FC70AAFFAFE2F393D0339B  
BF28FC15B8581667E9B43E0A1534AB70BDE8954B30AFC4DBF10B91B8BE2AEDD6489D590E0947B  
6155A1E0B4E7DBB7D5DF08A340FE33DEF34330EC77E65B57FEBD4745B0A07CB8BCEF0ABA92E38  
7E2C2F80230818DB1F70F65F872A2C5580A6C39B9EF600C797FF0C61641100903B5243D847C72  
43EADCB69F69D75F4B1D921C72A4B5B67D11B78F84BD9682963E075C76350BC301641E76BFAA2  
3EFF0FDA33B1A41729AF935C09C1E5257F84A4AA0AA3A54525BDF1E3A51EDDA6A35A2C2B6DA82  
E5C7FC989475D99585A9DCB66325B98C20BD7550871BF66979BA3D58562C1125EFF230FDC77A3  
BE8A7A8CAEE2F83C62688E0EE5D72D4C858624C7362A57B7C0065670DD8776D1E97F67CDAE411  
0E53E78BC17793CD34F11089AF317407B5F43E26424A752DA5AD58470FB8FDC193D2B28FD4620  
C879BD22A24DE4EFC46D7A5A4350136F43D21698AE1B4C318156D574E93BDEAC252675BB  
1F1819B651D08E637538DC14505779521CBA1C5695C7C5F9BF3A7E68E14ECDE399144E6D514  
CBEA519FFD2C677310214DF222CD79C9BF763060C48D8FC4E02DCF0D6396F6A28BED4ADB4F6  
9FA44BF6F52E7516E77CAA981712F10E94DAE683DF1CD858492A6B7C1FDC92B3A8A4B121B1C8B  
8791E18062548BD31DC544FD94DA7BD77A0BD18B3940760A3746CAEFEDBB6B99562E836421F  
24C2F2A99F686DCF9C57E910748031521E359D21A69933D3B317D520E7B8810035140A9F30DE  
CF99A117B8C81990473378C58D1313E29A9824034B86D46BDF15479E8273B8FC4710958348B17  
C8EB8EBF8581AA9D1032AD591B7AB62B3E2DE12F36BF0ED71CB0DB342D5233243F466291DAFFD  
75971427F37549BC74CC8EA2C9D61C55FF4EEF46EC74F37E30AE9227F9A346A5A379A386E4706  
FC6DADCC80FC7CAF6164673DF6B7505C1CF8C1A2C262F13A65CF1DA6D3CD277494735E5E0B43  
66804A816373AA0A33F3FB3566D9811D26380EF7E049F004E5540E3A984793553B866E364BF3A  
DE51ADEF86D37A9392B6D0D518C0F07F80E9BCF795C540BCF8BE8AE72C0A0A67160F296E30A0F  
5727391F82DF95DBF2376B82EE6DD6C87C05CA191AB8F32671C4E404734D6626DA299682D9A49  
788A7D961B737282CF16DBCBC233124C5EF4800E1F25316763BDD92F090088218C071E91EF2D76  
D80BD05D23C6C06EE975279B0505CA18623A33A4D94EA882A6C0C5510986D537B49BAE93E3638  
33A8571F91C47F022A6E05FC7673149128E3876AB6F423CA96A7F0F4D5AC1682DFC05BD4D3ED4  
78218D40A42A894DAD908A587A83299D9CA685C4E25155760F53B27EC3F3E722E46E63BA2CA0D  
353C60DBF985F3E10893A0BC01539FBE6126215B090F1355D211E833BC019C7BB351B1A51E528  
6A178F70DB39D3A8DB65E510A0A93FD717FF30BB586B8FF49D62ABD56F0AA4B01D2A8E6A3BFEA  
54FF1D36C8ABA385D0974C7F29B25BF12B1036E4926F0E70E6CDC93233E211693F7B315C15594  
790BFFF88ECE21352C8FDF906DEB1085408C877A98BC5B145BB1D0945E33409EB01E243D38649  
2BD62847AA67D4EAEF5E8B84468F70457470C1FA15BBB44AE4D77BC401BC4128654B52B2B8CA4  
8721DBB267EFA7F0B2ADAEC8C2BE9516A42BD2FC2C7AFB8D0D71FBB8A6D7034892078F4FE50A3  
B63105B31451A7910

---

#### E5aQ Code No 23

FF81F6EFB1CF3169B63C2F2544105BE42B20467E1FF2E4204601A486928A77571247AD40EF058  
003E423521B4196118088D773BD1694CC83C02219F5E16C31BBC7350A023E4F0E0720DCA713444  
B455DA085653B539A555F37AEE9357BF538E3EA6A2C3B2D30EFC32665B597A611EE9DBDBA9A9  
857FFA648CBB75677DAB55E8528DB18C4A188C693A9DA0D7DD736401DA333DDA13F572D4652D  
23F9016CE9D39605B5E2F341F487980331D88511836C7560B9F3E8DF6FF4CDB7F74459BA199E0  
81FA49BA205B368B4D519B2D0ABF92405409EDF1DF280A04F398758E5511B6E6325CE00C57186  
A0938974207E0059B2B8C81156E2FC0A76E84C5BBADF4FDFABA379E6F960DFF5DB82FA306535  
F0A8C4D925246DF1D9B8C7A711554E9087A5FDEDD656CAE74357FC6AAE8EA0C72B74BDA7BD489  
8C6FC7BC50367FEDE6D5261B0B7E171043C89C8C2149D01466B226F6A1F3F3FF378E34A3956C  
660F0FC8022E15EA68DE5DAC57BC370B30F9DDCA6404C5A152831230DA9EC3662DE701767953A  
E8DDB9918598844202DC2AB41A0ED711D640F3C60A8CC69BD8D9340A32330F9D27E7A023CC99D  
173BFE6CA4F0604FF6E5B4C59EC2E1BD4FAEB3321F755B2494343BB6E647210041A1B96A02B77  
55EFB6B482B3C7122EEF9242FD64D0D7BE24D320FD33ED0D4DF2756BDB13BBFB622E7E928676D  
228DC395DC32465E0E3480B7ED2EDDE04101E9C0F8020D48F3D43A0F756622A3DD866B966B7B0  
BFC1F40B1D460D6A54A45ECCF5AFC93DAF8541FCC62A5FDBE907D2DA6397B3F7B535D8E30D40  
0610971E4960859DFBD4A441F209021E9E4B05D3EA0C80A738F0C4EE9B03492692C543968122F  
E39BE1F2E5D682C1FB8549B12D6F32AD5938FAF63C5F490EAFCD97DB70681B5650081B098D0  
BEC87013C70F890666AE984C5FD92F6939419AB0C1E981FF6EB03B1A48D708438A8F6AF8151D  
8C42E0DA5E13DC07D22A0CE018105BA075A696BAB7CAF420A65E38EA1961B61ECA43AA0085BF2  
BA6244EDCB56EAC6DED736712045911D7724E9DDDE1C05DC7205580FDF52143C07960AFAC7152  
8C1B87BFD9D21EA5DA5F9649AB037CEFA5713647DBA70A2D0456A24AFB0B5B8C859F9C9617E8  
3E12C0D963397DDCA09CB16E22A47EAD91206E8F3D925444AB85D76DE73A43AA45BD3B0412FBD  
F254CF273E5F20F6BD0D938E30ECDFA159120BFB28FEFC0FEA1DB898D5D1E674452DA86C9AD4AA  
AAFA07AC6A304CEAADAC8AC2870313BBD56E746E7C9C183EF5B53BFB5A374B955D053D1CD7E8E  
E25108BBB8F2A60663375832213D1B9064C9F12CA7785ADFE28D1A5E1E65FDBA45147F052948  
A507180EF21052D5FBAC2B3F4E46DBC4ECC7DE08D6FB3B6162432B25EEDA07911CDF4E98A2196  
03E19FCAA8142621F546C898181E1761AE7907F624A5D01E36612F06ACAA157BBC316E9AA7568

E359803A408B0C36B4593DA1B4D4D6D1E6AC290C90D19635394E10F0BE0B51165777517AF168F  
38B702DB2BB43ECB3DA55D9CF9E8166D99B971137F6845653B8CFBFADB778E16A8F64BEF8DBFC  
6DD4F6F9093FE629C99585D59445ABC30DCAD609903A26C181FDF481642043066E5B0561F1393  
4247D19975F136C0EOF4CD41ED3F8E22739FE2D88358CAED503D7C36FE755ED34B9EF871F2323  
AB593A0AA8BFDA8DD3D86304E206E5B4FAA6B905751EAAB46FB576C3AAC9387E38A02A6AF8EC7  
2BC953C4831FED1337EA65241E4D94F90A0E99018DA735E1CD4C835AD9F301A618395C8FD4C98  
2CB5282256F8A4894

---

#### E5aQ Code No 24

CE812897E0C0F7BA13D73227DA8D57F576A25F233384DAC16B5F3AA455222CF8B1C3F0C69F6E1  
EA86C6BE0DF818820D7611EC41F6078EEA4461C336D02847EC3C5644B85EBA26B68C5927D67E3  
6BD381F8100B6BA90852D529419EBC8118A5354706D2CC769C2402E517A86809687BA7E0B1940  
A88F0B2586484EB7D1B63E119D489A41691D0C1A88543D43D8962D17FCB8E91A6CBE2635F4D08  
14A8C9A4DCD7767CE7D62E8BF17117A6650E3E8933DABD4CCBA43F40ECD46EFC541CAEF6271E  
87BE92E63DFB7C2E5B7D7D2ABCD56A0A19E3C9F75894860A850029ADA36F990DAAAAC5AF56B15  
7475EB18943D7CCB8D99CD14813A27036ED1F4DE3234BE28FBA413046A26113124B5FEA24F407  
4E991E163AC879520669ABE6B1A0203FAD6E4082CD5ECE201A86EC87676E350021FB2A1E04AE9  
B19A03152F8244542B4D21B4173D05F159EDCE12BA12A5767363794DEF4D390F56208EAAT7680A  
B527C2035B065DD58AC8182BD5660DF7551EE1E0F407F4EA72AB3FCB028C82D8FA3003B034EF  
F4DC1C179029C452BC4B4D75AD02CE9E393C15872F8D130AFFAAE9A95640EC68771EBE628C42D  
A59AE4AC2E915653443D00164E3D2D28665B2D2DE6AC1482EE3475F7E00F41078B672835B4357  
11C560166CB4DF17B56884C8A66DCE5D4B42AE675335EF457AC20E4BE7FC32FEAAF7EF4CAD795  
ABA7F9A20C6703E7DADA30B63CD6CC214114242C81A9614712271CC05867595D9938ED5570077  
13F36D1A44AD2285A564C9B242AF6BE9979F7C474385680FD574D9D33B8E2DBC1318EA71977FF  
83E8977B93B2E3AB2401A136E021DA182B1AE68007FB36067507FF6900AFC4743A9A8503B7A2C  
EE04A1BDBE9D661691E5E8C6E5568D16F70C15D156F45DC41199A9C67FAAA36D8CF67672717ED  
0124E996CE855392F5A8BD24EBCD644AE0CD5B1AD2711200130AA4F8D3B4599AE660A56EB6E19  
2709FCB8890510FCB0195D7FE794B9EDBCCB25ABE6F3B6AAECF3FCAB9ADD6D270D3D5B934C46C  
8D6800FCFC99617AAB8192C28AB627EB0D6234F7C68F0F4241662A9F062B361FE89E92BF9254F  
823E4164AE54661C2991A56C4AF8884DEDDB20EAA02D3097F2D5BC45FAD616F2DE3F37FE2DA9C  
AC838ECB3BF649AB6CCC38675126381561D546B37C743241297476497184A861ED1FCC75BD508  
915AF39752866B39F1BF00799F3B254C6710D15F5F79E29766E3EB75B93CEEAD0F3D454A3A0A4  
B9B88534AA91B604424CA1F9801F7F16E0A5489CEA18CCF76537CE33481328C83F3205B59AB1B  
AC1467C56A28DA696DF2B08CD380049C5E0FABC6AC8C5C50F9481161C1D60B0976FF459B2C116  
79DF8239AF63C1379997A8CDD47954DA1A9ED1606A3D1D2700A2B9B0C9FEED839E011D52752CE  
543ED224E5241340CFE1219A1A0117E033F48B262A6C83FB13BAEBF036C2ADD4ACC5D1CD9C5C3  
34F4EE7D964851D9A5B7CF5A38B3C1CCD6DFDB5D1AE3FEAEFEB72A25C7CA779DC4602FA0E6D8  
C4B35900F634130D48BDB8291B7BA751256EF38FD6FF0D5662C1691B825714442F5B633B30514  
058C778C78BB6A70A2096CC9A375AA99CE11E8FE4388ED8D403EFDA3E604EA77820D4D7A1FE7  
C51B73F286520D56DF828B659FC636DE3DEC09FFBEC46FC143D943A09634A91194D77FOA70DAE  
D26ABD3F6B51457EEC61F9AB544F544B21A1284F0E70D75DAE0B9D0FD864CC73236CB64EFC7C  
696882B1B408B6B02F35EFC4B5DAAFC600330C59B1338DC593BC22C86A1C4F16D72E7BD622A3  
561F60362F3612580

---

#### E5aQ Code No 25

DCD55CF8406A7CC9BA0A5224797D74777689C4FBC0D202DEA8B9773A0F20DB0438BEFD40A996E  
B2E3F49CBE2E475DEEF73F112FF742269A701AB43D8E47EF94DA4056086D86B1FAD636D89929C  
60238133A5B61DC4B7F8DFC765CF0C8C7206F3E0DD3DA13407CA75E20F172AC38C42ACADC946  
B3B18BBB30DF871905777CFE0D3BE5363574D2545D0214D6A43E2D34B50D7FF7D9F2DAE705373  
6B71FAAEFC2C355C1DA645A995981E1D617BDD414EB9AB230D10085DA1E55D1C9E55C225997  
D128CC2393D6E5BE9F1BDE1543DCAE918B38AFD5FAE6031E105BA12EA4162F7E24572688C5429  
1A61635C9DA26BB367348473D4DD4AEF9A5C4E8A6512B149D62F625D8D45576FAA4CE28E5C3D  
52D293A0D5C48821E1F5CDAD7257C97B3C1A6DD83A4ABB55F780D09964D4B3940D36B6709D000  
94B89F319E1C2CB83EC33A6F0398880B8079E6A39DE697D76803B04C230EE980765604929D60  
733BBB6382B4CA4B13AD3FC48AC9F944B97133C5AE6C3B9D295A760D786DBFF346C873C2DCF3  
D2591926116A318F63835783A33A17C452AA6C620284BA99DEAF023972082AD2B370CF3016F07  
39103A518B25AE8D59BB017C8199ECAF3E908F9F144C778E0F5F47FA06FE8A22E3B2CE3493EA  
A8745478D653F8D3711F832D9212D060A7F0B0B62AB9A3C9BF012B61A9B5E6DBAF4B48D903125  
0419627E96076925AF95E2B238E8CD227A0F3D8C9C3BC68D5990952D6CB62803B8D193FB06120  
BCA9B195E92B995B86B92C455A6145D3F77898E457E1B938183E1D76FF61C163057A4D7069750  
7BE020CC28BE6527CE306A5D2506B86152B5E3B954D5A660C79CDAABB2EEF0D135C0D4AAC7FC  
3EB5A3575D95070B168FCE4F9B36FC3D55B84DDBEF10DF6BA659F70CB2AB82FA001D51E0F04  
0F9DAD4129C324BE8B44316C0E3E15B27C2A8D54A948585834C2DBD40337B61F58F3AB99B3303  
D56EC1D30ED82F29CF6A68208B07DA120AC4073F102F4D796E38628D344384551810998F6211A  
082BA225A1B7D63C9A3E8703DD945BE1D979677FEBE715396988A873B88EBCB10209E4DAFF939  
776AD14C5DC90B8E9C1A57581A145BE0D4BB47CF50721EFECCB50C96E824DF93D675B1A1B4D92  
0CB1EE82B0369094DD84FAB4A3FA94F152F87525ED6D17A800EDB1BA6C13A2EDB5C9B7C5A82A  
E5824AE9BA63156EDF78517AE2B357C1A1E8EF6CB12DA415A914FB69FA633527B8A1659292D07  
9B580DEC210231BCA77465BC6A9516F2917226957DDDD9787313FA599BC2BDD14DEC9DCAF0F25  
20318A85C55DF40881FF65E4AC21F2C9E3CC06651309E1F89982D45FD6EB5BD588B647A80D27  
433EF85080A7AB2FFDBFC7D2B54B215E7D27A333D4942CD23D53142F04976093CC0344C19F9CB  
3A5A4D522E26B7E2C1C85C1ABAE1B4A360945A46D097A1F3676A80E3BB9CBED0BD363CB70C2B2

50EA053B183CFD1EDF2F6A211CE618F70EA1AB535E96CDD0B2FAB7CB7F0396B6DEB59745C1BDB  
CD452FFD70C95E45B88325A82CF07EFEAD7176FAF04C8C3E0CC4458540BED99ABB9F52AFBE48E  
42C636DD076A37C07C8E4EB6830FAC011936EC047F6D5B5857AAF90F80B5D33B502A116828BD2  
7E30B3A69F351E22D943A482BC6BC41BE7BF941F3AA7BF85A2BA5C38FC930680FDE5A4E174AEC  
4156A755E7650CE488620D6CC62BF9D085FE1782EADB11541A5C19C9061734513316B9CA608A6  
E48D333A110B57BA5128E9331E6266174B85F7B7D1DB264361B1C6C044A8274A7C8DB19C253BF  
8DAB819E85130E920

---

#### E5aQ Code No 26

79E4509D63EC15D4930F17DB3EF8E9ADCDE82C9F2308A0C9F77359575876D90A9CE5ABBBFFE09  
B8E145F35C7E91B141F66F74B3BA923D9ECF863A8A455086DAADC247872C953476A8577207978  
3A6F37C964AB1788479175F7B4E9651C7DD5EDA94F8BCFA57B3542788FE9547E0A444D2499763  
33F99710930CED2E93B1526A02BFCCCC416F0CFAA631B878BF23E41F95770315F1E169EF22B9D  
AF0E2F269E06B03B125CC6F20D2AA9A13B98CE23FE3A7FBC70CD05496ABD89ABA5BF58FB8D88  
EB9653963F0452CA43CB964F7B145020D637905E8D26E8CCCE4EF892BC48381303161644FCAA1  
DB9C4775E8F0A6367F1A842C3101C9F94730F6724257F2EE1657CC93950C9C1F20832DCC11E00  
01AB347781F21DDCD4786234C908772B553D7BDF4795FE69D7D55E950D4C6E2A76C44995CCA5C  
9CD539ED235CC55DF6A004C1BCA852C2813DD17F333CF67711EB8A5DA439D7327127D0D62B34  
DD457C7412A26FE2F4F23E5F5AE8C2F91DDF86B7048A40872AB7C728B20DF7AE2A0E8E52B0089  
9C565E68390DFC83344DBEB7257CF8031664FD93DB65738013BA234035F11B611DEA4F74B1000  
724B2682EDA9639C11F4F4580683DDCA2D9159F637976293FDF76AE2AC7EB5203766009577DF8  
7D9DB654ACD64229495A5B4A94AB3AD8237B9CFA2B5AB6B7239A5146C777C4A3CCA9E1573D96A  
7C1B333F11D284AEB55DBABE6B4F12A421FF7BD442AB68A7FC33A2087886328B33037EA78D9A  
7015ADA2C8F463AC1FEA8FF3EA886823063992176C31152573C10516BE386CDF81A6568D8E3BA  
2FF195B23903C95B16277BD60D238F309A7DD6BDB4ACF4541A56DF5D3D4BA4078E58641C0453B  
1BC8DAAF6F1DB28836D6FBA3474D69870E07997DF4541BDA5C62291A3360F5C5840752A25CFE3  
66186F7E4E21DA0704266B5C14ADC1541E463917D5DA677945574F800BF47FA028E82200F9E53  
C48C887355D9E3CE5FB778341A356423D00B18D3048C92A80279C2785AECAF9E57F828766D6F  
953AACF93FBE8A4C32C7FC9843F466141DD018CBD05ED8A16E27B43C5C0EE16045D39CDC7E4A  
27EF636408E968B4C99C895CE77288C819701EE7184DFCE889328E4CD2D8BA7BE5A1DAE50E36D  
562BF2441B56242EF9C4EE63022F88F0F77E6094AD7DA93F672C06B6BF4ED5523D1DBE7D8F138  
92BF90DFFD5D2A3BD0E9B56EEF03E560BB28650D873116C0CDD00148C90CFCECB6BE9C4BDD760  
3B5CE9FC458431C00B1D704702B552D847D0C89265D842FF6599A150854848B730AB33CCF2BA6  
533638860BA564540C6678061CD97BE3D00B103314894AF13999FCBDECAF5A895671DD1ECDD9  
5C0C94A250B014CBB657ABE3028C8D6CE436FAD8FB7BDD12AA2DA32FA6435889F1B8C16EA8488  
FD6AFDC7AFBF5358A31B23E0C05E315B60F180986BA17E26621D92CB639A0B815E65D140BA8A6  
8F99BD42A2F428345AD3037274E515684EEE018BA41A7B0138D7F2C0B838823192FDEED5770  
28052EE73D65E92812E4C33FA3CDC11234F47F702AD81F3829ACF1910B9D00167A3541372DB79  
996FC8F4B15F2A56B272B7DCBC4B074A36543B12B3A5396B0635068B62F81A56E33B40516A376  
D4ECF7BEA4F8ADBEAEACBDBE23F5F311A39D90D0B11BCAD30609F6CB4A657CC620CF8F727E30F  
77618E5870F72EDA78EB89399236F7F5432560049262E29A2979F832F2B57CEB25BBC2405A309  
8CBCD3CA0CDF631B37440A47D316F4860597AF78E5ACEA13E8B8B5420210D7BF54B1F07A433E7  
A2B193D7EEFDB2288

---

#### E5aQ Code No 27

B63460020483CDBB47DB98D8D720FAD57072D41EDB5FF2A2CF65DFB70ABF3524003842F7BCF9D  
36F8E187F86B864C5FE0181E5E3D33AE11A50E67F56DE93387F5CA7D1641CED92F7195F2ABCC7  
B32C6C7BD8AE561E36A6359BA6171726A2F9B00C7655C7E346310C6EBE10D2D470BD5BB7B4C88  
378DBE2352AA45FDD728F42A3DF3B5E80BB6B6FB55CD663203437F575F769CACE66809FD25933  
204387F8C51E0A6B2C46113DD45D31AD7567C9B924D5B10F124F6C1CAF3458B3B84E9E42DBA9  
AC879E2D711ED8681207374CCD299FDB7D7004678D56FF0ECD34B4858CC0CF4F611D8EB5B477  
68D69AA69BB1875E9C397EE9453D37D4983359393A02941E772F912708085F2FC7211DB358E5  
D4E00263E14A1CA3430A6E6FBCBA94C8281C356B4114B0E0B67B3265D3E1B9A64B1D4BA5501  
CC0F6E19F56A7B3B1BDEFD8018340ADF7640C58FB26ACE46B788FCA44BF228A737B02F160B046  
2846DBED0792B27FC6B55757BE01FEAD3655FA9E992485E2B29321816B04C2BF079BA5CD01CD7  
DC0CC8CFA471FAEC74C95041B7C62DC9BDFD11FB4D3B7173A3A92044C793EDB6AF4DCF760D38  
D3D412B3B292C74E08EF4B4515B99A0D4A167D9103C3E776E213AC2C1614B432A8A7D243B0EB5  
E7AE82118DE996B55329F49ED4A7EE738350B565F50CCC313DF274EA203757B372D542D451DB  
960DD8D7F0C5E532AFBA105C7963A39426732E2E30C68317C4CBB3C10802C5104923E9EAC89C  
6F421B8EA3D5039D5175F1EA854971407C7B260BF57FA912DF3829BA91BEFC9A7A88E5A289366  
A88E7E6C5C4D4781D583CC15C827A4FC753F66C81B5095D51F3069AF2E3BCBF01362F118690C3  
5D3E6B5C0F41F4A4964226E4646DBD948FE2D1AE837C0C0062F77A40DD02371EA4B69BFD02803  
AC3AB972CF450F59FFDE724F79DDB7D534D261A44DC4BED2A47E78289BEE615218D1F861896AE  
5B07729568508B0E35F82BAD9387B52E2243E456C2DAC3F82176E4859A8288FB8E2B86FFF4BEE  
F93D9F677CCACA1E760D045F28C819A44F5F678E61585B74D49B1F12A9B28D4056CEF9884538  
5FCA12A6AB0C86DAB01C7E8BF5D77618F797288706F18DD71B33F909CDB15A63047D0EC462BCC  
02AA7E6D4D4D5C3D0C5FA2C03502EC51D781E8CDBB63A2578CDD9116701F7840D6A268DB08222  
3F3D42376C5D796557BDC568791BB3A5BB6A9F501837CAF0ABEFBCBB500868E8E0FA0184ABFB9  
27A414A87BC3A1903DDFBAC369B77B5C9FA203C7F6CBAAT8A286867CBD37AFD20E32DBCDCBBE7  
C12E3974BA0133B9ACE768AD4652C3FFB01D7E2F4EA026D543B2292419B10DB09C47C110005D6  
67EED5D066D4634175B58F4BEA53CC39F2D1A9623B7C9AF2ED29A37891F2BE24418746A233743  
BD340256801EE39E7C05932AA41B56F7DF4E479A365BA224E94D72A395741D3D8135208C96AF0

89FE2FAB29B9D7DDB02D149275727E12A2358F4CAF9DEF137397AAB54DF78F5CEB17CA323B696  
C3267A4D2A944C65B2E8F542A2F0AC3DA7A9D6F2AF073FDED7424942B700ABA291FB8672DF10  
AFDD154218C0B0088E84486EDA5F21615C06770A2607E93A2ABA60B864505434ACC6B6BB15BD0  
0C3881E59F0B481653BE10929E7EAF4A90BC181DF76434C08F3ED37D862038232AE6A5C56F36F  
98574029AF4B4A280693551082BEE4CB6DD4B55E00AC4954F2A01129861DD2A70FC30FC9073F  
D2F45B31CEF9724E673032D0C87B2A9FE7706040293B6DFC3A3197AA58A53997BE5A2A763B027  
D5E14152774E3FFB8

---

**E5aQ Code No 28**

6D562B96C4DB6F8783C945E358693B3D99B7D8E77AD50B7FE9F5176AF257ACF63E037ECE9FC07  
1CBA13080A08E1116AE09151BED458CD8BC9DFFE5744E0CD2365293B365A01D30E894F8616AFD  
B6115663FA15522C8CFED9E6644DAA1AE776E0BB2912CF584AD1DB53E90043B1F93D67D51B1B1  
0179F0FED6EEB52A127BE857341CB5A223864C02E4AE3F3902C90BACAFBDE2A42D73DBE88577F  
871D9C2EB9885C7CEF0443EE4A1C449951B24764CCBE716487F2E8E474ED6DA65E393F1AE17E  
52B75EAFC245A161AA30CC8250631DEDD2B233D202CDFD1C3DB64FEEB2F515F2568DD7C11DDCC  
FCDD77B9D1182A29AD5813791DD9987BA735082F8A669F38DDD84EE7C09334AC732849119D769  
DB8CD79375D1C8EB4E051777A057A4738FC4E06ABC70F8FBA6B52948F91FAC2F2E248F0C417E2  
E727C60872F905DB2CCDCF15B2363696424BA5B62E98D5E4B51ADAF38DC97144CA32BB6DF129E  
AB07313059C725051883475E30B25C8CEDC63BB517319ACDC1E0ED86D5B5C5790F11CD2F4B2CD8  
82345706A4CA5863C0395C3159AC3D7FF87F57B59907CCFAA53EDE296087B04FFDDDB0B221B3  
DCD1A6C64A591729A039C230CA52C94ED2C3118794876F7478E7968F962004F01E8FD0546207A  
64C09A2292376F77D7789CE2CF04995C7EFDEC91B5F13EFF915E9158F6202D6A7B0B97BB1FB12  
1FF99AB12F56732E9049A2C33597A308A47FBEE3F530E357BA6B7C98D58114D89C0E9599C6B1  
7BF409B3B63FCF67DE29FDEE152711B63C02F919FEE1A31636E36ABB4F9BA607020529814E06  
AB2D8E4FDE4D6C1A0D709ACDD7E442B1EB65643FE7D9E8D89906915AA868E9DB2E070CE6511ED  
A0506A19A731C0DFE149788BCC155B829D52E29214305669FDB82DB062023BA5FF61FD26F8209  
421EE8C2C22FAC9F58059D223B4659A23BE538BEE894015F8E137849280668B971AD628C57EC  
B49701EA1F0CE2D07B2D7D8406FB1D2E010A51C02F6F8F04F38703326711B85ABF70D46D947A4  
2855B7F13B79D39D222A3578D6336C9B8A69A12DD38184EBF9DCF787C0D7611AB4176294C239B  
60351B62309E5DBC92BE0C0EE1422D9074905131757F70343CA00ACF2CF9DE239D8C794AC8685  
65FF9900A1B9D187580884D509642AB4F6331A89FCBDB367067712B7B4A7A32E266D7FE571E44  
74FEB5DE28CC0D480D4AD11D0CF6B599A56925D68C1B076CC57612290221AAA0F91C8F7D21EAB  
354310250A224BC0455C760F62B2981ED68F7E10619AEF954B79D0D0DCF039DF951BA2245DECO  
2E71968009ED5364774644E995DCB33A41D53B3C9C1BE952449CA8E671E15EA888789CCDFCDCC  
91E0ED093CBFF538909886E27972C9D262F5E1A481B8F483BFB311D1595F51FE1AC8CB43EBC92  
C0D17868986B6F2BA8127BF95E159776570E273393FEFE203FB079780E675BD62F475CC0D1DF7  
6CCA50B5145565C3615498DEF9B7BD37887BC6988A9853B4E639C1FB61E32954D1166156F944  
C722444C29AF577C12F567E568BB1BB44A9D0783F126D6A079345C3842AD6240F1740585102F5  
58C5DB6C22A057EC2D902CBFED926BA5F9C298E6F9118B9D2B446A47E4DB2F4F1CC30E75B6A1B  
67FDA687E672E7136AED3E02F8CC346F520E5929526B6E9126450E708D30168D1A60B41D19949  
AA4BA5CB7A691DB90A7B5040B01518FDB6035454280BEF79E019FB96D899FD97BA47D0A7EBB3  
9A11A84036659598294B0B9A905CE2E0CBA0E3AFAC85FEF2CD3446057ED5DF2FC389D411CC312  
8A8DD23188F830D90

---

**E5aQ Code No 29**

3A9010CF2726ED13F833686B6C7796E87CEEAF4A99B40BE702CF35774B6BBE4EDF528C39A8FCB  
1B04AB9D25FE6666535391A45D5DA45D8073F705184427C3C5C4225F66F041151A22423A1F551  
6C744FDA91305B2B70BC11569416ED456BCBE6C1A47A5805B464EF6A645682D88D75E7FCB458B  
A2F9C44E14589D2805A904AF02FD3693DE69D0CAC00E058B26277018C339EDA876CF820AD6C9  
9149BF76A8C47ABF795EEF76D55862F4A88B26A73385589048B2E22C542461AA9CBB41DA58C7A  
5A32047B9F85426119402E531B023E3C8C1EFC7AF70D3D553B50408AB568E4D2E96E5FAD8BD3  
EDF830FF2B12829E97C5C57927E69A438737B1920553F2B921E62A3E25331BD3BBBF99C9FE191  
2E0A84B15EECAD1B603D059876B7B02908C7A7DDCCC51E01213B4829D21C9FE65AE129F3B58B5  
1798C604C9A2D2BDF7376FBB50732D9694E199DC532623309CA43D837EBC0EE9F3943BF57F9E  
CAB4D939B2AE599FF5CF5370C9B56B7B9800A651FA64F854962A6D84E1270EFE2A481D399DD3F  
35C9C43605FB03315259989C4F2EB41B83C62DC2F7EA15B315126D227A0CED8B626022F9F665B  
49B8C32A10BBCBEOAC7FA80335A255076BEEA7E5BEA0472531B22E07A6579F9726600E661B389  
A221D2A6D2AE9E0059D24874BA5AEF82B1B53734F0835FAC5732FF0AED0F092E06EA84B3B5191  
BE3D226A41A6BC39AE3064A789A8DD9CED68FC3B902249622576D4086D63B924CB0C309F75F1F  
E9A62071FD2629E927A3ECCF3B575961221C5C1E76D2D6F1D330028F262E671905340C7621150  
074C49D9D3D64563E4E6C8B3221EBDFAD5A369E25DCB2C95A1E19D05B4ECB8E605BBF49623F6C  
62383A4ABF25FF823CB5F924ACF6D173BEB850C46E0CCF6AFA873096046B7CE53271A33D18BB  
EBD6452D1874E312B9DD2035E511FA43BCBDF3E3A9EA8C602EFF6051AC0062232BF8A2C1AAAE7  
6FOC12ACF4A290AC376A0DFA55BCECCDDFC1702D38F74BCC3FDB3160C3F52518EF2B1E14CE9CF  
22AE5E4CF2DFD531057EC85896708C8BB9D810B7D258AE975D678F19139A760F5609F57E2558E  
1AC0B6AAC4636017083D25190CECF73D29E2F7B44393D274074A68570B720EE6CEA533AD788F  
9A7F127BDA09D43F96AB9863B5365C9361A9EADA698F5A616D5EA0EB9F83B0647698DAFFE6599  
79F5A5F086FC8B59D53C737E2D38EBB4F74C5CC6429B526FEFC9D1426969AB14DBD3F54BEBF25  
A5A8846874562CB282B2BECBECEDAF015F41037486297B30C905572211F80727CEF292CB2DB11  
8157E666B190809A10B177BC63158505BAB5C915D37626EF7CB011041B08B03FA92A40EC3E39B  
F9B4D7279A5D1E4CF38377BE6C00EE12CFB4549C036E75240D3DF9FF92B50954F461BC25BD155  
AF84316A1752B9F1834AC4DA1B1B5A4C84992141CCFB0CC6AC5672753F4877403FC3F4A528487

86C976B18CE968509A4014F3C69A77F9CB4915A1E389C1EA74A05DC08B6A6BB1BE755365F1E96  
E06FCFDDBC7210099601912F55F639C9C96F28460FC392C855CB2D3986989FF85A0DC7889AA2F  
6AEBD3E1AA196F97A3C3A0FB33ACD3BBEDFEE06606DDAC5DA26290149E6361E8BEEE7F240058  
8F3FF853EC85B5F5742DE3547F362B0A094D6F935DB0A2B5D1480DB2CEFB9D665887F6030358A  
B9E5B26DE8955B188C39D6B146063FA59D1BA260796A2DE8CDDE8560915F07087E84589340103  
CCF7E1B75AD5BFD209A99C429A52E8D4FE96EB9A32A4CD24A7940B446003E1F8296EAC665365  
9CCC3C85E01F7A154

---

#### E5aQ Code No 30

59CD72F81F8FA04ACD73E9C815A312E8C02F1C1769FDA17C16350D9EBD4F8D10F248035EAFFB  
4FD67933279518E3BE9E1807288A9D63A6504F3A31E7DF322AA1B2A9ED3C23717C0C5B134D275  
8666CD04C2FA8C1EF5C1E58870C5EE1378619851845BA80DADBC37A764BA17E6DF285BB3DDFE3  
1A56D4BAAB0FA622B8D3D24B7F91034D2F773FE578C874FAF5204F3DDB90B8533906AE05834BE  
67263447FB4485BA069EAACB68806028CFDAA8FC6DAC638387F9A059EBD1529A92F98F44D55A  
C06083D6B751FF8F9FC5A6444C1A7D346025AD4B67EA12439242FC02D228CE537AC9044F6D193  
E0592684FAA4D259DFB00F5F98DCA9FAE4C0D5F0427C6936E501148C56EAD1817A81DA30989D0  
D9C85BF8D9972FFE67AE3DEB2A8959D63B3C3E7737A1851EDC8B313D75AA7838C6F7750280FFA  
6321CC9228ACC596431D72AC0302582CA56C6172599F30D0CA04E71F3FD7A03D467E37A8320CC  
0FE3AC72099CEFTC4265F7F18E2980168DACF9C058E39EC9FFE1EEBDCEA5F78D63BB18BF05446  
5179401346D4CF927580B9E0370B2D27E4C6BD4687CF0D4348B04BECE8424A42B2CECC668DF9  
809F580BB3F3D59BF96DC8C2E57EF5D2989D6DA54C04B15F85EFF639253DA3301FB6E6F9226  
4FE48968C2C2CA6D40C54C327E0673BF769CF116DFD70CE374BC447AA1B121827E5BA510E3879  
74B19B050D990185A514BCD8CD374EFE2089290D3DF46D088D74F556A8E5F36B08AB17E54143  
B6FC374BEDD6FF88AE74E71C72297A31E13D1F668DDB455DF00DC91DBBD2E96ACDB811ADF7E4  
C1C460D8FF1FB03BCF95EC489446A8DFC5D2220E58CC298FBB7A9B8EB33B61F6461D7CEBF9C3  
6BBA32B34998B7B9B7950E7E98857371003F40279FC2623F716B808912651E55A04F941898904  
7331C454D2AB04FAA192938209261029FB3C070FA056D2AD52BF9C7A0535FE2868888BA55CB93  
89E358CEEC68D7A0E5505FF0DE4263C6E47406EEE83E8C797BF58EF49F2F8BB4EB3656A2636A5  
EC604A4990001190A8A7965A36BBB41019EE19C8EB45C10173B513F617B9688D7102ED82E60DD  
CD080233A7B3B43B641A3282C4AF6D3F01BE30DD78AA184B9D565F7B1F927EDE214E363A18547  
263412EBE35E939942C4B5FFE81E439B325902EDD4D2AC06340296D00DD5F0908F5C8AD88049D  
88282D0F2DEC28D133E1D4736869C352A7CD87D8A56687CC25D5517A62F0CA5A023E8709F181A  
0D96F1154B3D7517EC5B076B7C59DE90A223B96AF93F94B11EA0EB08A280379BE028DC494C296  
BC46659CF9C26A3F8BBB47E063AA4EBCBC9873CCA2866865CF45076E6E642B8E3BF9F4A3F9F05  
7DCE71D4D5F3B621D8791CA5333398ADB31486D22F608E9A8745B9548EADDAA654F1D4BC042DFF  
9B3C21B15AEB37050864E4275D5C36F301D533552D119039242BCA25DFABB524C971821B2C0E  
EA602A4C02C6487DD113DA4DC5ADD7BBC325CFC896C942682945A1BE921FF71E6D76FA1E3345  
589B53C549BD5056FA01BD688D0A9011497C0DFDEC20210BC7F8B713C46A100A396A9ABD9A2BB  
94E5455793BFA28E39E130645973C30FDCDE52F6C272576291F0130474DC2E3C30EAD54818E9F  
531A538028DD40FE01D993DFCFF82679DC3C66850528A173FBB534843AB540E21C7731C65044D  
697B42694A1654B3572FE321F61E98EA22171580F5DB90C997D0C9C7CF44D174E8D24F500832C  
158278CF62BBFC6DFC46AEE5DD3F8906A5770C3BB6CC3B731243974A76C0BCACD9EFE37E52CD9  
751894A68AE3596E0

---

#### E5aQ Code No 31

C0211AF7A94B37632C667AE5097F8B5992917210A515C3E48276A363A6F5696AFEF5B3919689C  
C8F21E077310FDFC5A58D6BD428B8FFC678299FD053E7C016EF3A154A41DE5FD3C3BC5070ED6E  
C8F16170C880F82E80B7EDED047436E8FCDF4E2290F450963133226D17D7BB99C71097978CEFE4  
96032EC8C6E73B9B05A33C4F5373B73CA93F7128A98197E6FD2BD88451A4D8905214157C4  
259228DEB5F8B216FFB206E4EE1025D3E16987FB6064147D3E99CEED73112F62D513C8B6F19B5  
82D0F6794B307E8AF97354573C758AA95AB0A926386E7D288D74F9C6B0E2C71EAEBB36422C212  
0511F5F3D2B308674AE355B1FA1E72DA55098AAE3C70CB185C902C103056E00EBB70D37F08FA  
4D90E860C74E841F4E99957B3097ABE602E65F07B8787DA172E8E9AB9FACDCCDFF6FEE2F90208  
2BDD49547EFD95B54C3B8F6C6D243D07F16819E03189F0A3F3E0D05B3AF3EC92CA08846FC909E  
809CE9C30F1F3AC6FECED9043245A00590CBBB83EFC41C9EE3CBD0E328426F821ECA32E0E84A8  
B64F2000DFAA5F01B262F4E816A90AA33A2984AB8E269B8CCF61E65094FBB7D10E11F9E1022CD9  
7F17011DA53455B24E4EC0793486C1E6D4E3BEA94E6DC9C710CFFF30CCD48E43076D76395726  
0D1ED4F7C41EFA0B7F78BFAB7A9274E932013E605246C36CA1FFA003A4B24DAED61D15327BCA1  
067ACE961E718DD5E57667F5F33411D17BE093A9D7C6675097FC551014545727BA3F19C5D5D23  
A0922B11C4BADBF285A17EE96C916238C1E1DE8A0D28FB79E72EAF5AC37710B4E6550CEECA2F2  
2697DA18F858507CCB95BB7F25A0056FFA55E9564782C6042686195BF56901D4ABB3398C557C  
D47D30EEB344B532E77566887693CFAE50CE8C0BAA204465FF33456ECFBB1B4DE4F8D6E2F3E8  
A84E90410EE3A79ABB47D40F4691CEF37E0BDBE1BE386098181EE36051EFFEEB0F5898738E400  
D44ADA4B3348315E0BE88C4C43E8CF95CE8D56EEAEADE754A09F170D3ACC44DB101037E001DCF  
BE2C52DC32D040BC27C1A55C9EF5D65FE418F3B761284C461606AC84D36B9A7A3C9353723BEE  
EC80CF75D84DA7B2533F844E81EB8835289487CC7EA4EB277A4BA4BD50B59953E3DF3E8B2BB69  
D7E148792DF55D429B2DAE9B40B00FB14A948F2797B7488EBBBEB4B11880F7D3062D3C0561D7F  
6FE715C3BA6BC703BAC33C29DD87EBB84C178BA09961F2C10D8CCA42BFC3977EA66D039FC24CB  
D2A7B3316EF37C0D0F98D3CB8D5E4708B4287FEE6B656F1E300260D5643E9AC323A7F0527A7B9  
8174AFD3277D35D6EC63865BD4E816351B8492474116E2426A3298606039280AEB595293D18EE  
C671E139EFC7936CAE3056F9698BFE95568D050F281F17F2CD65B62B98BF36DE469474F440E  
27073613A121370C606D5729DDFA12C8C400D0364251D850D90804ABF000ACE57AB195F6EE241

63E8C443C8AEB641AACABE70675ECF22A5B9DAB6DDF0078EC89F2354C27D296411041432AF390  
DC71CC6141B52C54FC778B5BCD31B55EDDEB62EE364983E97BBB65EE98863AFFD2310B482AFCC  
28A2FE9C7D8E3ED24D20FFAD1F5B0AADB344C77F89FB88BB2FDCD64A77203BC331FC23BF78E28  
4ACE3016FF570E3AF32ACDD5BD5E7B59115950CE804C231AB1AB80276842FAF80A576C9A3148F  
527596252E2F9F76FD6B4C03EFC924A4740EDED98B290FF138926811607CC553FFAD5ACE0FC2  
4D7FA1D7F3701A8E0D7F614941C9FB9215389CC5EF6D3CAC193EB15798CB1FF2950E2E0EA96A6  
B9E672CC343A7FA9C

---

#### E5aQ Code No 32

28EB964EC60708D60D921BCA637AF0F0E19E127E0E563EEB30DB02F8FBF2848CEC8E351077A82  
94AD441049000D2A3BD101B691C2F1DF3741B8BE7DC57592C2D09C9F368010B4B3922A8A62288  
7C37E959C9AC31DBE89C9E9FFC26EFDD9C49362E3400E660928BDD7F67C6E45614ADFFB96622  
390AACC03F1186D18BD11333AF0348125A92EBB40370A32F5E383ED858F6720D43633A9A3E355  
9A0ACF5FCCC326DF117AA495759FC12398B2E060F8C6DA823F3E58E1158B81AFEDE50B89F956D4  
F63619332928B4CDF5A16E0536FE7426518B1C50FBBEB4EF3830D77924BE1DB002BF2B0A9A8CD  
6FDF3BE7D7D1D7A3EB4E8CEFF8BEB9E2CEA9BCA74349D67413E7D05DEC014D1E6990062F0C4CF  
1E4720D45E23719D748D0C9BE3C3CA444E357F181E44EE841E35CB5207C3F993CF224A4A90E5F  
E3610254EEC4C2F2EAEEF041E1791518F93BE9080634AD5594B98C6D0161BAD23EF1403FEE6FF  
846D344BF0B42A65762804A33F00F12D769B3C58F123E14B4001CC631049F6E35013DF92AA50F  
89E71E78879A9B428341A738CA001E4233652802FC16AE2377C9C0B5650805205D31445EA0AC0  
F82A109E5F7C0758EBD5C737CF48D3D5D44816504D972CD2FBFB0AE566B8247F81E404D7DAB5A  
939AAE51375154A3125345C061CD479F8D7D9EB21C6ACD971F75D8430FAE557DE7A669C59E35D  
AC4E7686C53C34A64A5AB7F6B5ADF48585417DBA3584D4552C241DEC336E5EA84C4D295148B  
29FE824D3934F4D2A8EA2D27D29255988396A5C350421E2C2BD89B5D18155B20260DAED20E3DF  
F52F2E84E6D6CC2C040FA3D0B8726C63778A601C95BCD381FA520F95146292B8D854C5F0574  
40833E78057D13FFFEEF4418E97986A064AC8DB74A001BCBF8B8E26CE9C68BACFCF4895C95666  
6F92B5EADD27FF6FB032207FC02100FE0DDEAAE8A860F89BDE341E59671BB0368B1C68B44B131  
139A44BB37EAB251A0339A79D358D73281325A594E2156F981C519419D925F0D6C8661F7C294D  
91F527454AE82EFF98344A6E39B2BB3E36431255E33DAA31B75E961FB306792510924C3E9B891  
50691BDDFB275B9128677DFFEAFC89E6562FA245DEECEE2E788EFC0D6C4BE744CA97693CC1AD7F  
0EE4C633D706AD278A46A8DBF2DAA0CCB69806912F8C081BF192ED7D17EC222392B6E84D6CD88  
FE66DB10B1EFB9CC7F3E4F3719338B8D6BBE47644009743829F288A194EB3F6F21FE7D7FF55F8  
FBFD1312AA603CBB0C011CEA377E6E2AD1541C5BF55AB73777BDC20D77F701E7DF26728A44D8  
81EC44E905608CEAFEDB670A261F2109DBFF79CE13E98A3519A9A86F3E01B7C3EBE2F01C657EE  
017F0740328B97392C6824FDF4D5820458F0DC9E999A4F878D09493D249D0B43268D44135C966  
B05AC8A69518BA5AA10423615DD3BD8B6E38D37D4E7ABAD0F8752A64736EB4D6656F6C3A6C6E1  
595AE0ADB31ADACFD6B4146F4496E739C4DC98835CE4C5E2F1FA899D4B896B02CE97822E90CAB  
F5850321487D0C9DF07772031F1A438E9D63374373958DD9708C6BC38C3028C2C7DBC7B2A5A0C  
E8EBF87A72EA394FBC0046B62D60CFCC4256930BE65B22305C750B2A7483CBE0B3FC0824A011D  
274FCC289B8EEB9ADC5505426D8618369E0135FCA2FFF5456E480109952CFBBDAA22758E14643A  
B48F11AB4F4EB475CEA238C6493166BF384B1DED53072D897E368C8F8239DE53290766A4727C  
BBAB88691400E9FB9CD53442B91B5D421323A24571DBAB65B7EA7015775B6C8DE25247D0E7BF3  
DB7F2506B4384B328

---

#### E5aQ Code No 33

D7554B01374AB97EE1246C2DA82B0AD5BBC76968B6E058A821418E0707D596E2A7E3AD9AFE623  
D18812F269C1D347A732BECE58260D2E8F1399AE5BB928716865B902611DA70761A4C3DB3EB0D  
332E58E081C08D4AF96B1A85DD68CE15A8EEA5B95F73CBA9975924F8F9A3CB57249A6904A33F  
6471ED4F389168702EDA2054B4A523B6CE189B26C50900913C7693C4E447CAC4CA7B7831066  
98CBB78F5E793284F27E182CE12BC792935FE38CEAA7F659967111AC2607C8316FD3CFF111DC5  
C2D58502555AA589010F9DE4F735D456CB9F0896FEB163984710BCA11C5D78D9ACE6CC9E2EEA7  
OB177A9D33D8C59245FF9773AC181548BC82C751D59A350C65C895AA79E9B57FBFA2D17F53EFB  
E0C490B43C3369B71DE45B9AD67C88B2A8F1AEA2F5D871970F9D4C6D63F81647DEA310F7D6E  
C050729DA4575087E3AE8F6804128FDA47C1867A6FB5065C4186C47D1199BEDED29D26BF98256  
76FFD9A98BF91E3921A07EFC949D7473CBF04E6647390E33CF765BBF73714E0AD38C4D1EFBC3B  
C4144CC9AEEBA0B9B4843F910A7F9CFDD347F6DC1017C010DF0EED1A71958CC5BB8D50BBEC164  
E186B6572FD09715C29611A3A5162496968C1DFBC1B6A8A4E617922D152FAF2B08BA40E47AA0E  
9F30515C9AFC74A5C2D87828BAE5243BB7988DED81731126E4C7E9609863929F943930FC72D0F  
3A4784990E08145485CA0FBCD69BAB2391C82E75BC2CB2DCAF0E94A3717B6A157070C77A8A3B5  
DD1E30AAB09F5368F46F66575599C04296982E6AE8F8C334ED24CC58449CAB0B7660E0F2BB9D9  
6BE515245DF9654EAFB5060D21291DB8A2D820BF372E795957D59ADED6A72C265D19C852312BF  
DACC65431B9AF4DA6AD56B97E9FDA9AE4650C9165037F353D9BE92322B4383C30404706D102F  
15D8D39B21D22E0B23FFB0AA0F58F477DEBC4F130BF501C765295A54913A7A0190FC907BF2420  
B329B97F30FA65A7429E7D71E572E1BE0AB0793B606F480A1526085637BBF89CABDBD9D19D808  
F230AE48505CDA9ADE68FDC826682BC406D4A7575EE913B60769C3BE4D81A073C05FE2BD6D7A1  
C3B52FD2F22875BE856CE0F6D7A3AEA1897FCDF951DF4A86184E717B4077A25D37935A82E0733  
73ABBA58B0F5F744CE52284D96200CD90F0A7B4A03869A93C9371B7F946EAF2EDF35ADCE87340  
7C7BEFOA750CEE48BE3A33CC47979648FBC5EA7E79DBC725C3901D4D05BC5B804007BD46E48B4  
24665763F028E3777FC1A00F588D9A26F68DC7ADEEAF8214B747B409395016A05D8C72FC3E838  
DBF7C5A222D03699897E5606433CA760C6D67C8BECAE0FA8C312C9875AE26D61FCBD3A320829B  
615FED0587E4225E4B62264C9B37D2D2B45FDDCEFC060257960DF6A1AA2AC0544FC333914D192  
A1629061730213B1455E6FD7A712A08122C8BAD77EAB9CB9687AF97A3AFC02B8F413930DFEC10

DB37C385B5643E91F3345C73EF353453F34A5EADC8EB41CB098E9243E57258AE608C9FE7BBEAC  
524B21A0734D8EE51EB30DD6974B87FDF3B0B1E1DB01FEF13061E4B072DAF927C99DBBB769106  
9E2493E86239A69BA33AF82998CC1D7B368A4343BC63EACEED280415FFF40B0B61221D7D1C098  
C6391E5C888228045494F86644F34AFB1B191BFCFD1A29C678956DB16D0BBEE458AC6DBF00E7  
38198C093170FB37F3F141619E65502AC57E9042CABC72372E5FAB9DFF5E42A00EB023E44B4E5  
36706FD63BFEBCE1C0DD59E465A61DABF566EE7216973ABFF5D34A5A62518E12E8352C61BED93  
48E5826290EC0F84C

---

#### E5aQ Code No 34

4251265EB325D261D721A84F62224701C9F564298EFE0C2516330F7AA43CC3D7090581B74C692  
18D74C8C6563FE276F24F39BB7998CBFB9C49EC649106DFA51E45498DF0F347DE8A562341DB34  
E94F286F583832E49AB38C09DBCC3B2C307188A980574461CB3C41EDFB933938F89C88F61886B  
60097F272E511B49CAED645190E98C3AB8AB5CDDC021F76567AC1EAE9F4F8D782B91BDBA3037B  
FF8FF43879FB6598D84046CA06B3C8EFE275BC61E449853F979AD6BFDF27DF453E2551F09FC19  
16F4E9884012BD4B946E2A65C86C609CF8EDDECECBE9B1DD6715C1792E261A3A013D64F00118  
DDB1FDAC9900E8BCCCE9246446D5248D5E3423D859E1AA9BC38F8697F8A4EA08632983F268BF  
7D0BE639ADFCE6625E00229FD510A41AEE418C3AB85F5D2256D8E4A4E9AE47316BE6DCF792537F  
28514B99BD76D098C8B4CA16DE1A9ED0F2693DFB9B460BD842452BF563B03874DCCC3E18B76  
AA3E352978473A2E02C6398438A35639457DBA7316577B0863762FC177010E0FA0F7537420C04  
43D8D7F51AEE4F40A67E249D678E77F17503A0A6DBEC3C60FAD140DA592082C334E3B1D021E34  
104A9A724FB6EE3B5A22CE5D3BB9C5E896956B4C6F7B1F51A74A56A7232E027F706EB999708B  
A8ECBF42F44E41EF63A7627C60E5E75C678B5B3F7846CBECC9A1B6E78D7912AFF0EA56B7E25  
C31784DF9D63398F53F6193554C4D8B7A96C170A89961D2654B9A663B39C76401A439CAEC48  
2BF44F20DD12140D47D0580DDA48EA905D409BAF5BCADBB8394333B97CFD9501AA4B4BCEB3F0  
41520422530A09A9B24EC04206CE907A33D0A18CD5C1640CFEF970623B1AB2B7EA5342B6F38C7  
17416C17545D27C21A8F37AC2B98991395D3D170FB2D03C6B152915DDF9CAA12B5EB19E45FAC4  
CFD4ABA726A723237A6488773C05D0D38D38D920C6E8F2D3476B06B40094463CDAF380026BC36  
B8EF3DED6A01CA89E015A0B75BDFB97D859C620D329C9B26B1DBE3A3C92D8510B060ADF4151AF  
EED125ABC0D6FD3FA9F7F3C67B6BAF14A672977F2052A84F0437027956AAED010F63471C58487  
81BEF8F2BAB9F8C80DB00253E2C6FD30D2A0794FCEC489376261CDD407B4ACECA129D87FFA0C7  
6E28B9483034A40F84EA21E06C37BBEF2987AC16E77E021D29CBBDF077A912B89CEF82FF0EA59  
F7FDA55EE99F4602B5437CE71B4183BF28BE79327483898C39D09DCAC59C3CE32333BEF4B0720  
B30944B9998A01CB3C135D53B4A76FCDAD1C321D39D4466F0BF95710FC975ABC1181070A4A57  
41624CE9AB0FEF27A5BB1805BF295861D0208BEBE7DF92EEFA7FB123B6AD42541C1A1057DA256  
0469A680E3664B1455D6851E6C8DC8C4940281AFF025B2BAD2CBB53D1670641EBDE2AE91E71F7  
F69AFD0C1A0225351CB1290EE40F81560A52463FB04E1364F9F3E5C454C311240EDA5C6AD78A0  
94A73DDC1463E19A8E12419DE4966A1F12872E566F178E256F257FD1890DAE6F84DE013C2490B  
57DC1DED2E705C0134E889EECBE5575587EDFC240DE938C6D2D9CE543D5BA3A4A3EADE1A6A5F0  
CFF996311F72B3C6761414E34342C3D1A48F5D3011D7BC7F936E8E086581AC256DC6A376F9C4A  
BAF87FFAACD67BAC64401F4D976129EFD57102A84E63DDFF60CF13EAF8973881FEDEBFF8D4B35  
6B2A03EE9FFBDF99F77EF7251C11EB1D2514D5E657697EFC47FC42CF10FFA7F09765E2EC39E0  
A99E4FEEBD410BF4AFE51855341279F7E47DFF006602618ED5BF70B2F6D002805F41E991C68D  
64ADEAB7374F25B60

---

#### E5aQ Code No 35

E0DAFB980D888AA2580DB37930D1942D6D088FDC706871A90D887B5F2CA6B21911BBB8BFEE137  
6F48428238607AF7CF82C3B3C9223746BA9A5F01523B20889ED8F139EA3D505D55D766BD05641  
6193CACA6D5D6175C16C38B44D7F89D4A5E3406C7944AD05D86C310E1EC78E0C8AD80FA0DB20  
2AB1768AD446AC7FEC60B30D741114B45857FA5223E64F32476319F16DE15C04F34F4730AB31  
F4F6BB13252D706F0B3BD5860BEB864618353CE62469E25CF4AED50D8BDE9633CF18F76AB1EA5  
552614D4AC3848A0CFFFDFD51F17A4E744533DC52979D7012A53E9B08C4980AF8876D2FD8A6  
F174B3AF651517BDDA1965264F1CCF0EEC8E3A9969D1359C59FD20CAD8698F3E28ACE77001F5  
63BF456B5A46FC747E5D7EF9D3314F7AA87CFA60405F968A4F9774E30E2266938BB19E9265FB  
71BE0D40FE6BF14FE02E36FE10FF110D63E02145C78B73217EED9D87F70077E4229572E6547D  
D71828C773E46462E30B497F9F5F99D723D657E17A288DC98724B11AE87B7E56D33386A7FDEE0  
698353CD46409FE8D2236958B166B1C697BB8A42946D66E390A045775A6FE7DEE4BE260490B69  
C56476B894383091C827D02E960D9359E8D3E151F50EB87FABAEE8ACC6E325B36674D9C7CE249  
B879B3FDC6AF95E92FAE53047BC21175FD12564EDDA4DDB6AE8C94DD3305C21970E90BE05ABB  
AF912ACC52C77714F87C2B059A9E21005D8903A604D82EC22192C46CEB63C588A219CBF755B5D  
44CC0E918CA6705156CB497FAABFF63745C826FE16F65582D4820141DEBE3B949C29ECE6D99C2  
A4EF34DC878DD82D0FE6D5ACA302ADFB897DAE78EB0BD28A938D6FD5A3535CADED7C521E45AF  
4BA92FD40DDB009E35C21254A6DB959698303D56B59D8F319F18E688F9A20DAC8058E0496E0E4  
6BD01880F3C78EEFE98A511768919116A288CD3CD28098BF5D4719EB64D548A6D791F1A9A9A3E  
9B08E7184AEFE60A3D7D7179CE47562E9133068789BBE0297FDA2B2D6F4248B288CD899BF3231  
EB360ED45F769C0167284319D2C2B11375C2B18E5B67594CF499A6AF2687E0C1AAF09F4161F3A  
A8369BDBA68AB022459A2DA9DEEA13E509AF3A68D011998D9C30BEBEBD04BC9983F36FA549BFF  
3E3D323722B2136AFCE0A2CC8E593B370C7B48635926B9575A77AD7C0DA18E94FF1C8FABFB57B  
25981288E1771465360E2D619272CF3F56268B7EE130FD07DE29215FBD5D0A72B73081869F60C  
B149A1E4871150778A2229F3C886200E0DC2C76AE049231FD3171E49FF44BDADE185883198D21  
629CE0AB252C7451398E0D411CB01A66BC5B141CB150BA9CFA9F9F46339625E1D5127998302AF  
D19D5B2D85F3F0B2B354C7CFAACA3D4E7C7B7DF44E22EC2C226178DDD480DF7787EB28F0285B1  
F973DC47B094491DDDC12BF1CAEB99E0E13781FE8A64DCB0A05A30763A055A6ADFE5434D7694A

0F6A0366B5D74E73227F3D503E6B989C5BBF9E6D81EDA7C46D890FB2C5CB439C5B49FE16A9BEB  
14B12B08C47713331E8932D4AF6B85444E3F848C5AFDC095E984449F0D126EF711F8B43831755  
BC0FAE8D9FC79E894CEC183DC24B1E3C81FAF6A546E464AF8C0307263680CEAD9ED6E80217F98  
CA82458BEE59D2A4FA76BD7D4425E0C77164A50A2933972108661820C75EB51C8A0ABDDDEB30F  
31F2E575AB9DB723DD084656691096B72193C52053EBB8B72C6B30C49185166FC39F3D9F34976  
06D15E8D696CDC256DCBDB6D01DD2C33C0249D6069788DEC09802630597C13EB1AE152E8E84F6  
A4BF60BB09E049EEC

---

#### E5aQ Code No 36

EF79F2E35DA357E9C076B00C6ACE7C50F865830698571E99E544F5025A99C36BCB025B796784  
6306FADCA22B8BED499BC9A80EFA7BDBDB83B15DC6D48AC4E3978D528DCE0A3E11C3E62B619EB  
A0C853EDB0EFA1DCE9E8F2E024FFC0B59A8AEC329FAAF418DF9BF70A250F2F6409A9FC0153161  
F6E8713005E53154DDBE15242AD801C216A1E5CE207757BFFBED75EE4C96CA0C3CF448966540E  
B434C68E9A4CCF3C5907DA216BA664B073D73B0779204EBCAEB55446AC6E2C40B8BDC666D4C9D  
33B7C644F867BCD8962274630191EADAEE7248398B9F02744AC5D4DEBDAB2D6D9F8D6C6392683  
FC1A795F70134E790718D56DB6D424725DF8AE7E11F02D684DA78ACB4B9C311806D082C1FADE4  
B31B8A6DC0E5F16618C47E03E8D78DDCCC6ED869F77CD39926945466369CC2371D3B51F58DFC6  
471D742C9C82B1B7A2B1BFAD15FEBE592AC0F41B19C126D923BF5944408506ACED28FBED161  
902EC5FF19CEED25D18F47A76860777A3D86B3E0BA7446C3F1EBDA88F8A8E182CC0938384842D  
42F41E0042C53C645DC87C88429E06BA906A7A3C1F6A76671D69703496324406C7FDB20B9C3C  
E9BC273A743DCECC0016BDF85D8212DBD4C49E2A6A5DCA22738750EB8DD6AF15B27A0601970A  
D12660A51C560E5CD44B55960AA266A88B82E761B53A8B42E7332EF2FCCE093BCB06FD18D916F  
A10F4E9891B103DDE5D808963E6F71AE7479A5D0BFCDB8A2B2086308CFB7813EF6B7B5304225C  
2E9690E47CBFCDF534570933541E8DC99227986C0CDE40924D64710A7FE28D248E667E18197B44  
D83FF1A0691E9049611AA1E04A1DB06595EC32A9B91C46F50096553C0B5716D2EA9C9E3D373C7  
87783B50F28948EF96D21FB323CB69FBA26E8C869C745FF08AC0C71D2B656E42928D09AB4274C  
307FBB04AE41FE847721D95FDA55510893DF24F56522EE537F609FD54E4DAB4E98E9F3F8E8243  
C5D056B4CF6F2330408514C6CA22DBC79BE374E2B34B3E9A9B689B9375035F5E32013587C402C  
14997741654DF70FF5F74C0DC26D82AE7F036731AAE15D596E426EE2E7383EB540A48EF41FE21  
72F1565AD79202A016EF31255DBA5DE29C8C77B4704EF177C97DD507360FD01B44D612DCB18D7  
B5650032B1E768851C84EF794F833F9D5D198603224016D3FEA90F3C65DA465418750A69C4305  
0A738A7EC4D415CC0B404B475936F8F675D49C67B875BD8BE2B2D65E05C49EDFE72163CF3F3BC  
AD87D8E956101964A1C1345F3978E144303FD1AEFA4675F521BBA59F0EF43DE19418993F444C1  
F75BEA24B295CDB73A51510B8B4B59DD20829466409444D4FF428B3B94164666A642FC2A187FD  
D7ADFE75E813BF64DE664B131F58B9CD825A19AC360F4F83E43FFBE0923494D978B1B2ECEE07  
F2387E03B1D933008C0131A9ABB08DE1EADEF78291141D285EADFE1228554733CD927E9740D39  
EC9F539FAB960EA829552CFC36CD8BFD9092C821CE4FB4F29115BF533A56D7663CE9FAF2B9DA3  
74B6E1CE5528A5B11ACB9FBE818BF4C41787F5E4F4D517D46D2234B77F20ED3928BB38A32BBA  
350A66540E19B586C47EBB9EBF4E4A671CB41DA55BFBE5B39C025BF8F11A786D60C9DA6EE5299  
B17C0135689AC9D880B594EC51BB52398E78AC7DC2439D0C4BE7BBFB7F044661C9CD8D6D7EB16  
AFB943589C6210882557C65034BD7D044C6E957722C93537473E2EF1AF5A6D05D7404E274D2DA  
8B83F6D2AFF9EAA55D122F69F469927EB682977715FB1617B36368C22FD6A2A7B10412E9F202C  
6FC9BA1D7789311D0

---

#### E5aQ Code No 37

18085D480B93B422C6BB24B09E05556F8298FCA307341877435D2D76B9DA1A1932F20D2903A63  
A0856D9C431FA3C4C591D606E0043B0C6BF277971588390BCAFFC01E14C6256290E1A01EB7BDC  
98611EB4E40BF72B04C21526D4139E3E75A13DC25C0691B67F24B195F57923684BAAF94C7E3CF  
F4830FB5E828B8F7A8692C1A0CFBB9FD3F021D3FCF12C7497021178A2AB8D3256E8606374D6D0  
E7FE11BB1F313BE2BDD4D977780C1A2053F6CB0F60F89671AE59C178F33900FD11B4DEC25C69  
8CE0FD4E451D6A3CEB4E41BDF08F05F556B4394858983D515266F25703C17B48B1AA13056ADB2  
AF9A865A0FD30BC4BAC0D7B1D185AA2903D1956DDA3D5541873EFE487E08E83613428B64D2A49  
9BCF3783466079714FDC3D0B04ECDCE5C89F77F5E6E6F114D47EE7A3C32382A89F512F9C9BD  
96AB24EBD4F77B911D8B8206CEE29ADC1E055B7BDFEFF94AAFA750B857EC6FFCA693787C0E28  
17554717CE5DD5568DB1AE585B9BEED0C6E228FF47C43FD7565D3D5664BEBD73F97DCF73D8EBB  
A3FA092BF6EF21730EB909327313FE1493BFB44397567DFA30BDD7D090245057098AF775CE977  
528E91D9C3976A4D478A5695482E4EBC1FCB2F7FCF6E5F9B08BA8C7DF12E6F77C3B0362B1132F  
9209AC1D69579D5E9815535FF72820BE1414020694A3E2DE53BBE7DBB582C70455BCD18AA0A4E  
0A8BBB718217C616129F236487194B266F95E644D1FA79532D7AC13CD9C839BE14AD4BEC17992  
3EFAC48965A8C915812C0F0886C11ABB0D2DD58FEE6AB2549AF9380B8699F3EBB0F96D295C22B  
940044819D7FBF2364610893457DDECED6113D1B14BDDDA8077BB32E70D19733CB795BC8964FD  
9788ED317B5E433CDFAC3CE3E0EA2A8359671F2ABF49946217358E92828AE32E6CE645C3C0E4D  
1CB64E5C8532DA7FC179CC7ACA241AE496D821EF7FB9E8D878B746C50DEB281604830360C8ABA  
336D1E8F444FD46A74F6B1A0F1F61EEC42C1DA2B6D88CD1AE94B3208866BD1757B1ACC09BC155  
DE4690A97D0244B819C0A66785EC764276BF39FC6A1A172C77F2E9A44817D1B6B3C09AEB443  
6A3B115605A850AA9D11BE2E660F2B214C45B00134604EE395A77BAB321298ADE920BE3050CD2  
D7BAC4931C3E3687BC4FD7E2EFB536E26404E9950C928A3CFA8A11BE42D15EA8DB2037154F79C  
67860844D04DF51F5F21E90B8A16E7504947B90B655744758D97886E4860FBDF28FDE80B8F32C  
94D09F4F827F34E8FCE92B576A8809738D6227C9A31A43CEB3EDE56BF7306DC6F208D6229CC3E  
5C4B49AC54486ABA7F0079EDDBCA82C3C77F41C58A88C4ECF4DBEA754DFB3424BC3106A9FF280  
E8C6A7D086FA06C44ED23A82E23A03D3FD4CF62DE1AAF3A95747C85C8CEEDA5B1929C13DF6CFD  
BA6A94A62AD3035C8CBEFA10AD9D37389B2EB90822E10B422BC165A3BA86F37C0A5B96D0EABC

A331FBF2806C65B376665A434A6D59B3BC9C339F4437F4598D0D6C62812A2083C32359B938D78  
390F9B4F86E42F297405069D350F86B089ADE021C1599FAA2460EF5904A6E25708032540A7747  
BB254679454A7B38C7491BDCC835033A76514869ADCCE268FE49CF38A9B844A97214E1E1ACE87  
3FE051FAF282664552DC98618E35DBA4AD9B1FBE50700726091534091C631B54C944C28D97DA0  
961F8E4106408017CF1EC86456BCC1F4EE7118D0691F0F327A0436D3145E5FBF8FAC33E517909  
4FDB03D9DA0D9A2EEDDC221A21189B68EE1A94B13F062F21472DB5466B266562E2186FE01D028  
CD4AB5B6AC9F048D8

---

#### E5aQ Code No 38

D50CD8EB871C5F371648DC07E20BE84263CD676282D56EA5374E21B52752DBE416DB787BCE232  
226568621ED792A9135A59849451A4A4D8A1DCF3C804AF966881FE5156FB761B3736F4282240F  
COBBE72F51F0122D96B3755109E7CDC70F9DD04C58B4A51C00B4FC0EF252B05ED76440C97DAB  
A04079C121351CD43BCDDD4AA2D2495B49B908A9AF815DEE1405C3CE9CEC7D5BA9919621E8C4E  
920E08061D228038F73F8E5DD66BAB806D2DD953C6FA5360487957912249DE009655658BE8CAC  
F00E6E0621739648A7A75EA06E93946987E62EDC270B266BBBCEF61D7CC63013AD797589A7CA6  
2B65D4127E701BC95D45C74DBCFF498D3F87CBD1B288D6012EC392B901A3DDFF16EF1E1685EA  
1F92B1F32DFED2F9076EF9CB1ADD8B04953E5509B24C48977FFEE6044B8C5B80F9DED6FA7110C  
3A2EA42EEE8A83F4A28FE78B27E84AAE7B3FABA56C1A4D2414E0341C69C40A43D65E16583A151  
826F7C7CC0CFOA5999A1016BE6912F067913AEFB525EE41F1B9C82881054E9624C03DECE74976  
228B119974BC546F823A597C7486DD594F1FEB2B6D0330918936DCBC12E3752A7072C5FD7B145  
571DC4A22C770E00F24B8C91E27F2C727FB049D04BCA813948D2F7B531C906F2018F51C9E8B7  
642C0F1CC06AD338BEDE17683E0BD2A90D4D4746189F792952037E4918D2D6E61C1C8A8B6C437  
075ABC38913C250BBE6EDDA5CD24B630AB8FE9123B08D5E8FB8B71BC95BDA4AF1A71D5E54B98  
B16D7D3083AB1649CBBBF44B3D5DC33B77DC1171A66F6F40E75EB6801EAA36E02D138093F28E  
CC6DA4CE4B128DAFB8D49A17C683FFAA8E6910B8BB7B832B3A3D0765DE2ECD9D7BFF0A822F5F  
D389A04B660F832687CD67F7E1E1C3F5257C6FEB27B763AC7327DE8FDB989413B6D002FDFB1D  
E5A80F1C5E39F06E6D716A69ABEF37B2DA9783FC494574689948DB51F78C8812E09367E6C8D70  
F5FC4139C64B96C71ED851D171AFA69D2A646ABA85279B7D3D31D268A2E8A272C91902F12C49D  
07D74E82728AD61BBABDA333DE7138A976A2267DCAB1A02E19B0685F64B608E3DA41108D54A07  
D4BDD24D79D293830C04209C98F037283BAEC00B1923CF404E1F21584F515F9D59B53FA9B4774  
FA8D3B34B7C66907BA127A095CD8CBB23375CB188CF9DF22CFB4CEC528C581DB63598DD9A534  
38409D72507D2CEB5BD45DB5C760415A5E3B3A909EEDA73B7FE122DF04CB1E9F29E7A5A7385F6  
32AEF63771A4CA2164B9B3FAC3C13911DBE9668D1127DB02A94CDCE2C8C7B66F0C21601781552  
B384DF0FA002DE08892D0881174CA1F6DE80B98BAE545237C5CEF9E1655F9EF8F8293D644CB47  
963734197F1976600CF2767A59FD56B9B67659168ECD57C485E5726C150DEC6C302456AFD4F12  
B2F2D1F36B03E100E109827726020DBA970A6B768C580E34116DD0011299B4DEAAB8B04DE1DC  
C5FFCCBE57254CA79743D6B00D119CBB2C0B0BBB2FB8FB0B0EC97204E1720F99D16A3257846D0  
9BF8EAE02DB21FCABF03CB0989FB4D99B6D71D5E64C6FCACCABDE63B223A91D1278D676839E1A  
5CE6C5E05AB4F10EEC511C366DBFD7AA1E139AF671CBEDEB3160A775E5214C862E95C3A7993E5  
08D8F8B7ABD68213A531B5C648C537FA2674346FA0B3AB43A7B58B4F83B36D58C506C188DAF72  
381DE53F83AD4D9E6C6B1F5D689AE24CD158BB2898F06AA28C8FFAB1703871A6A6FE41ABB6B8B  
9188C90EEF88E7DA3338F119770B31167E3AB541371FF7F98A2D59D3557438DEAD71C96B97F38  
39F5E28DA6227E5B4

---

#### E5aQ Code No 39

0447B9C85642F3F8BEBD1CC7AB0D0E4D07CAF93A26C75970C8B40443506AF8BB671F30867FE4  
225F576026F79010AED56CE915AD9AC001447CDCB7CC3846B0E291DE0E9E443984E0ABF7C1C1D  
2F6D073B0B77116A21C3C0B7F360439D11D2DE370CFF8FF73FFFBAFBE4D52BCE58CB32612870B  
0EA23CDA21E3B6E851B063BC76FBF7BC394A7D3805D45616C6A313C887D2FDC51F065F8F3C05A  
BCF70F31EA5746A513D2DB3F4F3C61006F19420AA82107AF855649EA5D90ED0A8540D0A2CEC68  
5D18EC8F4508A7D092E52DB2117C233A7BB542B61C26BB92491A88942A506ED60354EC1963ACC  
189A248E37C9367F3F6FE065EDF6A1205BC80B267C1062BE20950617FE0EB59BF8F1E69982F3E  
89E7EF85F3319A22A22B8BA491BE76AC7257A2DF631A98477544E3E57C7D63616D22789968CA  
5E929B507AC394B6772096C70B69ACDBADF900D055881FDD209AEF54CE6966767C07EB7A2B40  
A3410C3417D114FC9E293DA7262171325D8179262B2F041F5A977E2D648900295B14950EDF24  
5C7EEB663F8292625F804BB839BE3A5510036F7A50288C69F94434A03466701BF1313020A4DC4  
F87D272FB9D1B7676C195C0B7B4D3C2CC6B20D5C2066C7DE5DFB5C9FAD43D80FA43BA917F200A  
73F258BF21ED8BF3E39F69E501AB3EB115C9414C82C52CE91F6CAEF4A163E288A6FBAD4FA8347  
7909FBC972E2EE2A5379456105E8EA02F92B0D8F79588E2282D1970C3A033F738011BF273EA65  
912D3ED09398A7F851BA2D6141F97843E90F5C66B38D71D70DB9D93FAEB07FE1AF5783D71CF50  
931C282CA8B483D1F2E5DC5AD5FF2B06C4355E46768AE5014A22E7CA26267A1E6CBFAB24C8C43  
6535F23D419819D6D458551EE78AEA4779574BF86DE7960969B0635F0B2996F955D863E078DBF  
8689C142736BD5177DBFEA3CA8C58871B1FCCBFDFD67BB12AF82C3B8F935CCC507D510CAB63B8  
31721E0ED9C258BA7A3FE245D42DDA1AD8A962847D7C724DD2418F72508FAC194EC43D17533AE  
522187B44D71B6E993F2CEFC6349141094C8CF935D90F2F238728D29E1F5AA09B46FA7CB651F6  
88A8A06AB97FD2363486F61D3F42B9C015652A53B3CD66372849FD2EBA05CFB5AA28520B01FCB  
D9C835F98D15FE01C84D7FFBBA4B2DB93E44E341AE95B8AAA4D59CB88F7E192E89954E22B1B8  
157FB0B89E3E1E3862BD4C2799F2D8C621064EC9BA1EC30E0F7F5FFD7013A7E1C102DBF016983  
22992EB05978A5A2878756BEABEDC660DA2D5370A98CA20A4C65141EA273EB787B2E7AF646DE  
F7DA77A93E45C37E69B474D04FBDC3B5982D8492FFC37FDE42385DDFF97A73B8575C1305A0B9A  
C0B0CE061A423556B6FDADB67D0A5BBA7435929D658FB0869BFFBE5D2FEC96051FE03CB7B0D94  
4304C2D433459A97C43268E43951D4C1708C702FB9C0A0C6D82876057F4D043B21A92FA6D034B

1DF5C2B463107AAA814C79022D96D1BD9D33DE5A1FF9E435D9607575856CE4DF5F1E9E90FEF5A  
CC4AAFBDBE0F982DBFE78C5ABE1D9C85E0452AAD7836D39591411B382BCCE72CA1702A20C9DF3  
84F5BD539F53CEE8B9977AFB705D1D28680D1733BAF5F298282846EFA26B0DD7514422C0EF908  
8F796B38C15EDF6C8D88009B10CD0D6B4B2FD93679712BEFFC4D1F7A3898AD0CDC61D2FCDC360  
C66FDDE0AFF0E8A7B26359606CD4F47D28DE115261E6F98F323FBDF3E3046BCC2ACA0831D2BB4  
DDF1EF443632A229CFE6BBA5179079DC7FA50C56BE7FE5FEA0C5AD09D891895508722861E9EE8  
568F59616890C6370

---

#### E5aQ Code No 40

8DE87744B81A0E21A62CD72148FC3782AB560CE136DC3A07F2D2E143EA0DD2ADAB9FF8AB39B2A  
3E8858DA593B6EFC6C46B5CFD252F6DE446D9165406B3DD18CAFCC3DC7A6E6200D8F7591169A  
6AB9DB6665FB72140A416EF30B75EBABB6C284E73809DE2A3A26C7F4F188FEE0B401E9EFF6DA2  
2EF3DBE0FAA6DDFFB5D8C265D1A1855CF7019D8659062AD7A705362D1510ED5013B96D6EE803E  
7C6418B05828243496753E8616F4075A08346038E3F3549C0AB1E761790E818C2B531F06805D9  
2FE53D45B9A6FA5E30E3D6A2F467AECA07D29E1E9123247C69220E2B9D4501EE42E5BDAD07F0D  
092B33A938B8FC0EB7E435713E3E428E87DB24AC570E4EF64840A1B4D43C5026C80F321E53775  
5366B16FAFF2423908FB74E9A5B08F0C1064815472AF48240F1C374F2AAF8ADE55117E0FB1D08  
AA40C4D8AEF35CE6A91E54A89BBE55BF5E78ED5F66B2FA1E8936342656C63263D4E7ABD70F789  
9DAC9A315E9508AE65287C6660A7D7F3FF408CD06F3B19E1238E6D5E040B3E54F4469BEC1719  
8AF3F78F660C6753157603138BC98AA9F01FE79036D4564A7396725E57F875FCDA4EAF80C5E28  
15862AD52340571A571B331CC8122C13CC58403B22B61BD404C6D94C36FEF187C712B524BAE9E  
F150A71CE32366AE536B5B94ECFA351E0F0D7E729C42B8B32C7D35F9A5BB29D2D84BFC91F510  
F9A1C907540AE3A80CB7023AE0635E5C2EA0548D9D14CE4BDE142436521ED1637C7B7CF6CC1D  
A5F826B800AC6FFF8B3509A81ACE30FD969495313F9E18CE4D8A2E1D5F9C7DA14A0A9D4C4D49B  
F00B622B6AA07FEBFF0A8B274C297C0B4AD1CBD64BB4941543FB63D9E15059E0C0FD250753B2A  
A664A677780C39A013E1AA6B8F786D677755ADA03E51ED55F936FFA1ABD0430DA8750575C37D1  
EEADEC5E17148DB9FA202F8748B0611EBB5015F1D26C0D810F1AA5A40D73C32C269EBA5CDA134  
267231FC3783D3D4CC639E567681275F423439A29118C6A0C1B07D08416537D4707E9CA3FC34  
94F64B69E2AE9EDD0079CD428CEB8A00BE0FC9A791FE2DCFC10D7F813315E964828A4DCC2A2D4  
2EB313CCF192F32AA9A17C984E0D3CF3A0BD86E0B751B30C096F5F0B08A0BC439294D2BE2CB38  
7648F8119D8820D39F17C6AE976A0B8C89C76D12AFF73059B49EE856B2591E8D2E817DC43793  
F20B2AFBB49FD9A05F5B4CB69165420AB96F26A46861AD9423F7DAE8829FD392799E967E127  
0563BCF3D46025CDBBAFD15DC23F33EE5B621DF6A12263CC0A506A5E9AB191F896D13382B3BC2  
D536442A62B09F3C2C2252D0BE377CFBD59097259ED243EFB36C9AC0AB01B3AADD502DAACCE17  
A49CC82FC9ADF67B4EDE81D9355CD8295DE21468FAAA25036B2DB6E24A3AF3E5FE59324867658  
EAD5198C47D362EF64B71179D107DA748F00400F15167E84B62588F6D81FA4B68A59A24B3D27  
167D0720718BD24EE556FB72113FCBD37831251DCD538F6815382E119355CF3490DF0AD552ECA  
E0D00462C10CBA4011E95C7FEC968AF6E39E1FD15D1026879202C57E2CF7AB02B08B15373C134  
35D8A55ED6B9BDD98FCDF5B4539428D90A2C73D37DB112D2025EC8A4AC8EB82C51C46FACE88AC0  
E1F161705801C781EA07F6914122E5DD6BFFA3812EE44E314BC09B785B344584AA8522B63FB34  
BAD2122F9FFEE1245E6DC837DB032387EFF5036A021C8112CDF03BEEFD89EEFE1BB88A132CAE9E  
1E9EED3A855B364F2A4A2F81086172FEBC64614BC04D11E74AF00F54AF6B5D85EE4773644C3FA  
768532B1821EC6E5C

---

#### E5aQ Code No 41

0D1FA0561DE4DEC411AB73FF48D0810AA2149FE5F3C22E62E06C02F60189AB5690A991CB88DF  
A5C4FBED745FCFD63BE3ECD9CC599E35B5FA31AA11C62F3A33796A64EDD0B64F2E51E75C2481D  
3EC9DDF07DADB71448BB336C0DA9BCD897F777E3C9DD97C7EBB08827C19316F61420D96F3D94  
EC395F8BF88F5927C71397F6C24901914826B1BE26E14FE93EED37141109CCD00C92772B96D9E  
FD74B3EAD3903854801B22DC3F98232023E1F9CDF4B4C952A6D268DF9FD3FA83C707941F8F1A  
CDC195AD66E7AF48D7B06C62F3204E8D03D2C92920C589CC56A5C2B0A1F10401BBF747B60B9D2  
179BF9CD7DDF50B10823372CC4E24005D73B4C5AB918F22918B16D98F15C365FE69786C1ADE9F  
AD71516E389938D5D38420FC79F82C6C0AB1C6D93D1896FE8A2BEBA134C138EB1FB00115E50A8  
A676B9D9939E7375F4B7D62D449EB341B0C03EE3FB18564DA3CF64261055594E0F8D322EAA9B5  
6B5328574AB323C4376464F3C27786DF7026BFD6C7757BAEDE7887217A2D3EA22AF7D6809BFE4  
985EDB32ED503C6034FECE55F4379920C73A515C7390B3405ABCC54F51F686903D5354468AC56  
6D5A03C5AB536934A6CE698E06B9E2C815B15B4F8A1857FE7C0B5486759B150F48AE9745AFBCE  
856830078EFD7F4CB4A463587B7DDACC79FC9FBD9C2A0351D91DDF27A65CC79005DD24F1C2625  
2BEB8C3F1D69DF79D386401EC5AD57BF2129D1E828D6D57CABEA84C7F77B16B919653C12AA7F7  
70741E4AC11FOAD08507C3E7C4716F14F14C548A88DC4047EA96CF96BC0CF786EF7D02424314B  
C846682109A2F80044B51B12A0350DB9FE06E72581EE874665B9680EC118C86DB575F9E5F687C  
F35DB3CA83475051AFDABDC974B2991B47BEB4CB967E3CF20D2B7CA2BB50825EE33FBD7C6E870  
95DE8E36CA6143F673A8C18882D89F22C08971CC709F1518169123EE59EF50846C95C313F14F9  
472D4CCB8EB71301488901F27E895B5D44420F91D123E3EF5527121B9B0C9536CC3D4E5EA03F6  
3BA8FED0FDF593AAC3E768962DA165CCACE066ED7D6E46DAE97EA08789C36BD3CA6888229D15  
714302A39EE4F39DB0751F0E99877237524ED8EAC5F7EE2CC40A69408DC43E2AD88A661D7E443  
D7E99A14484E3011A41912E2AD4F6B7D62D8D9F3332F79A5FE1E16E8064C91DE56B1F89A9A3A2  
20165872128771745D086DD3F8DDB2C35AAF3DC6DA70684DF270ED50D188FAE62CE4C98B9019D  
308772E036F9FB2775137377CE61529A40E03B88CFDA3BAD55FD62D7ECAC2A72FB68068BE08  
383CC36FB66CC252A0412CFB3C993803C038A1828E8893DB453D47C5727CF8BF80850346063AF  
4976610F984ACCA00BB5963D5DFD018E0790F4A6B14A9B5FB9517783EC1F16773C49A744D8576  
F7957D4CD4C4E35D1BD580FC76E2632D47661A6838344CCF6476BB793FB12F92143524E5A01DD

5294B6528C5A18B24B0B75D017C4DB3663BCD561AA8F27E510A7C031ABD3708385B03294E3BD1  
A695C573701B9D4F60232DF767439E252B7DB10D4E3FACAC8C2E8D16F9500828826EA807C2C7C  
48C0EE8457E757854C1540EFE9BDCE7C09AF5BE09AEA54A4BB0D2A328092F3B8741A128D4BF58  
8384A3848A5E4F55DACFA64F7FE081366330D16589991C52A1BB782364AE969E8A21260518662  
B00EDB117278170CA2C0D186B173F93879F6F702E03DE768CFEA1E39FF8453C7B3AB46E83FC90  
FC56D0EC0847DF16A4BF1ECBFE29D94CCBD49DABDCC5FB81B62A2CDE7D2DA3E67042944F33A00  
7096DE5C79133C7F4

---

#### E5aQ Code No 42

C9FCF7D2DCE0A2341FBEEAFA64F6A50A93F3FAE3B55EB70ABF51A4C001E15A8C78DE54E50CAE  
FF8C2421079F7333541018D5EB8045C3AE0F0489D13C593EED560CDACDAE39BB49FE2FD9C956  
197967830A0886182D98B5051080D887638F2E3E626B8941A58D2206B46FB410C155B94FD7D1  
5956EAE9F855B96A8F1C7202EE600C12DBAFC63DE5F075B05AFC037847BB521D1D363813559  
1B6E1A0137CA74E27ADA3FD673684A8A1330DFA46D449F8B63FF90E36881C09FAEDF61672AC32  
CBBF71F34367E7547C13BF08C4B688A397DD4D00D8B19212F85EF11C0FEA19C890D73DCAE9B53  
2CAB7BB5931B2F648072F35FAA31C6A77FAF3F72F9F57D5AE65BBC7DFF1C2A5A2A2721AD5B50D  
BDA2CEBA27A3864A6628F24B0D24FC2450890E278C4599C1015C2B4AE61F2DB2A3A85F02882DC  
B57A7A471B5F8E51DDC284E0C1869D41E25E260EDC53AF55BE8217FEADE6C74B9C0EAETC3417  
156D671577E05A63E03052663F420B70E99DE068971C5CB8D9055864460D6B2C269E4E5D2585B  
B7A08E28B15851C6E8438EBC127D517A076C08631A9890F4FB627D05B91ED21643557F20B32  
498E4773FFD17F3B15E7F2BAF5EBDC98E617A7437BCF94B0EA1B2FD6F98F8BE6D64F769FEA28  
A5FED9DBF4B3700BFA0C495772A14254D7AD9525B6ECD028C43EEEBF91D2B17C9ADC071CCC  
83EFC6401A22846500E0CCD3D4E5184A05AECBD92808AD2DA42C57621C66142784692D4F28662  
A2B37DA4D3CAE332A97D465D3E492ACC964AED603058CB6BA6972C83C2906CFCC813C0603B775  
E2DE8BC946DAFA510532CEF9B2F2C5E1F25540FA07B577003D67F8A3C63E9BC2B89E7AEDD8C2  
E91CA426398BEC4D98FB6233832BCAB8F10E5D6E6668F7DF8FE10AC0E63B7D46837EE4D1D203D  
54615042203552430DB97C24FE0088334BA154FB2157DD2D12715ABC6D329A819A1A664727F40  
CC26204949926E78B0BB8947FDA9026813FCF19795F8BF2F56DB70DB7EA9280A6C504134A1B6  
53D336101A9C166883599477DB557406FAD495BA31B488D9EDEB783759EDA32968AE4B4B96A14  
C9DA960ECEF511D4102E1EC27E17AF2746DFA54F42D2133281ECA9F5CA87F8A2D4C937B5F95  
26591A583DD3211F78871BBEDDE79206F946B9CE6EBD0DA4A25AF259E4B3EC2195578C74B7DF  
87963BF561D7F4C6755D4DB0F288341D5E525B15F2BDA314DA38D2B2C7CD7D64F6DE35EE782A0  
76333941FC3505AEB1FA5783C6C2553D73AFD6AF896A5C2E1C15EDDC408B6D9D7EE2E7E9F706C  
2A6CDE36A41BFF88960612C46996A9E7D43511302F925351240B5B77A7183C45A1B66C8FC34E  
B6EBF5F5FFEAC8441BD1103D2151689BFCF8D4E29B9C39B1BE4972186B099C2C35572DB1BE2A2  
8D751D6857B7E4EF181B786C2A6FFA30A5D6E2E1120E7B1F313302ADD1012E43EC24E5E5B5D03  
950E009272452ADEB9DB626FF38F335A520B12CD981636BCFB882FC06B440E348512E6ACF980A  
1ECF360E33DCADFFF5A2B413DD214D5AD1070E88B63FC9765295BBC92C557F3AAAB6AEB293249  
761F95EE4338243D35AF883AC33832155AC758ED05AA1BFFF0E9FD58E03384704DA5A9237F1AA  
F52E12C821BB0F54C0820AF8124AE6D0F4BFECDA6500995B2B61ECB0628BFE2A9E6A05DC94A78  
1137522E85A3BEF28B76E49B27BD05C113C9B3A9AB1285BFD926D65BCCD5CC3837490B21527A1  
E94544C4ACED0352BC84D378625E3655F74B039CD681D98579A190AB2B89104C83F46235757D2  
D22FEF59A250B564

---

#### E5aQ Code No 43

48116D6CCE73D8BD1E1F45D9676B031D9B0E65684FB88A83D791CE8F5278D33EA9D3A6ADF04F2  
9AE93123376D1CEF52F27E875EC0024A888E688EE2A21A4AAD0448103569C8A7CB2FB072E3D0D  
09115AD8A1C234F7765E77042156AACC4D4A8AC697E41B71F436ABA09C91E9E4F2C5B573CB1D0  
B291F915BF922FC75E6FC6AE332B42D7E51BA8FB1CCA6EC849099834E48C7F79BC16C79B0C8  
7A8EAC8F88D30EEE8FC0EEF8C89520E2602A7226BFAC0E8B30A117B718875687F81A6125D09E8  
3BD2B2F5209C386DEC5AFF7DA0FF5454FF0451F825E5AC55680EC7DEC56E72CAB953E5B822E0A  
1D95F3F948E95D7078C850C43AF46B4EFEAD6AF807CCFEB1B61CFCEFB770D1923B41BB354C8  
1F340CFD851EDFD537C373CB9F29303A988635C5CD37AFA576D6E8A8C2B7C56DE2FD49E5DB970  
B50E04436B1F8B22A6DCEE3BC27EE1885CEEA23E12541554EB2EFE615A140831DE6C555804432  
CAC0A73DC2EE5CEC8ED139ABCA4D17B22BCBE60F05F5D7F526ECB29A51ED6ABB4DE4A2865AD1A  
EA64041EB0F505BE3CB8F351BA21A8D941902BA565039EFEFAFB87DC6DECEC1C091ACE228931A  
147C491C11169AC87884D5EE9DF128C98A084C6EA0A50D494FF8E0B902A9EEA4B4F9D3BB2BA1  
FFD3DCC93C45133B9008E2B188F57A82B5DC01862D35F633CD6CC3FC12BD6F3A20C1EEE1F9018  
E41027788950DF09C4B482837677B33B15CE24FE6797291CODE291AC04F04AF975703BEFD3CB  
8E59C1496E547285E3F7A29F99C5F210327CB328B8A3094DB7C27CF7FA077791160A2287F44F9  
2BA6F5346E48D4D4AE6C2C7185926526719537AAD530EEB3B0B4CD718C7BA38BDBA21671ECCE0  
AB4044B797B7D10797EB1BAA024B76D0B82BF25C94655545227B46DB2A038F87301BCBECE0C99  
A98AA5BCB648DE58B6CD59AC6471462BF5985C595B00A4DDF2948A84203890E2989D8DFC98643  
92E7E75262DF1CB78C1E2872CFCD22D561F8788F42A0323CDF3EE1588EFF2F7BEDACF5AF710CC  
7C6F9957D992A7FE39DB696DA414AC36CBDC99AF050023597734D94C2A8FCBF41D6004C21E4F4  
357C19ED09488797CA012F4BEF8F1743E396236E708D96A7DAAB07FE03D5483319241CB35F66F  
66D99D981DB4427C4C84A9EA24AEE4F7C4E023E0ED2FEDF59FEB6D8AC0FE87DD42580F7B0CC63  
39752230A69BE83AE13FC12AD4719D45CAEAC6E8695F6F403A0713ED37DC120B80DE82F7AC499  
1B4B9DADB31A304E16D03251CA140659CBF99E891DCBB764293A967DE1E96848B8F225D2F9D28  
EC2F428AFCBFB57AB79B126E6FC3D66102E3813347D7CDA5499F6AA5BA6AB5EA6F3A82D730EDF  
3FF74B9BC0F954BED21E77146A5591941962C49F6B2BEBD060A9C82D8FC780FB3AED527D40CC4  
26988F042841250B4A85A3F3501FA3436103313C3C4CDEA772B6C840DB866B9730798B69D6AE1

2D24E4DDF31FA9B4C8DECF6CBCEA2E8A0F9CC67CCDCB64523725972D81ED2E6562283DE992974  
58452B94467B83F3111CBFF61006814CCB6550D19A1EC026996695D46C31BFA9BD371CCDF1B51  
2C61CE7BDFBE419B477DAB1E7E1D012DA4BDB05F4C4CD39511D5071C0982F68D9C6F558D22940  
D541A3C67003D05306FFC070C2131832F737872114566ADF3074F7F6274AEF9B894D0AAD5ED60  
998A0363B92D841F4A441C39965FC1479E93C99B083CDE6CD6CB9E26D49E16B969A357E28A61B  
444AB0FA665B853FC89B64E02BB02C5273CC948B00041701459408C95E4BE49EDC7CB605BD2DF  
31C3C8BB2AA9FC780

---

#### E5aQ Code No 44

840BCC55474C2F66B7E16C6F527695D367F70F570B13C1ACB546D8439A1AE06F362C224FBD864  
41D82430A345B8458EB666BC93739E3D679754117C95100E8F00879B891C9E03788543C415AA9  
64C3F861916BD7C141777A93B374943CC4CEDF928AEA3EB72F412DD8256227D7D7244E876955B  
13FB2EAD1C3980AF6F8F36B3E71FE3B189F8DC22C55E3720DA11C6AC4328DCF670CF948123FC7  
280D6891EEB356C195D2A79326299A684F5D68DC0ACF00B780CDCEFC7CBE4140FB5B6DF89688  
3D3C6FFC42BAA41E6A75713F8861C18A833C688C2BF6EED7FOCE66242B8196C7C254F9D48FD56  
AE5ADA9105A5C4AF28D0042E059A90979C6439BF6D498991CF64C68080B9B5392CC9FCA439764  
7A9AAC42C3810FA33BCF31C89A641D1078A0822D93EB773F418B9B3B20D5FEEE1067766AC5615  
25F88F8F097BED0CBFF5BC498CDFC9A5B9D20F4D4A03CA190563CE543B2EAFD8DC6E4A5885DEA  
120DA7D157D00EB1329E500D41C7E6BD603E95BFAE227A9B613A71C7BEFC8449B668C59147E1D  
D5411CBD967CBB646A9DDD76C547506A54A8245532FF9AA5312607F1AB99F4F9BCF85D93B58D7  
6C5583856595AF5CA1AAC07C945400B35885071802620855E18E0A3B1EE92BB95241EFCAD82B3  
435BBB8916C4866471BD5715882F6BE508C7648A59B2AA91A69F60C7842197C04B31759054FF  
DAA254A143021E37874DE407690B9ECF8DB99CC16B004116F51DC7853370BD3538E14A0F02E7B  
F74D66FF898AEE93BF0697EB6E8E62B95C6C525A03E1A89CC2F56BAC591FA81BF6A1B3B9F1259  
F13AB45F2E9B0D93DA7B4984A9C71272CA261CC4E4A44FBA4CD03C75D216672C18A60183A52B  
28796B356EC498F4926D833D94007E92EC190E9713354C7506BEA6B7B5DB2BE659E2A5BA92D00  
C01611347F67971478F2C71648E33F99EF201367CA3AC8814DE0F83B0BAFF34A192349C5DE874  
53167820C0EB0AC8349FCA683111776980FEBDC993314278B37B289B528DB319CF59B09B83342  
C71FD5E9F13EDF4F18783FF328BC67A03F1F62FD1A4631AFD76363DB1A79CD1EA95FD43934955  
AE211E00EF5AFC114BE00EAE2A7AB63042992E086810E61AEE3CE5C80F75C04969485899D552  
AD4B006D543BEB93C1E8578168C66667D62CBCB56F98DFBA248EECD891F9936382087F2AAD6F8  
3FFE25E77F8BAB9C62675D4024E9BDCA5581126BD1ED6035994029BB54615E593D4CA81B31A5A  
E8CBF8E1A81C32698FB7B4A339A7E4E575460F79C4F4C5F79E8DB459177067869E03E2E168  
1004EBBF62B4F60A9EFFE47921AD22C7236F25438AF46885E120825509D1E28652361EAC64AF1  
806317416E5550A39AA8DAE2C6B970D44F4F38D571F67E304AA57BA435C4E06CC97C848422216  
BA778B2736C30200527960A66D63280AF7DC691F9D0540AA47F0D26416B46A6D53B0B93F1B7C3  
D4DA8BF8AD2FE410ADDE00B0372E9E830C09B206A08D968AF2F716DD04D220E619FDE28F7028  
6E7EB9C2068F7A37413BD9E65F1B59C331D45AE914731A564D33875A0939A2185348C197CD14D  
AC59C5E2BEF09876353FB16D849EE67A774B05C51AA2480F18DE40051654DD2C7B9E3B753FEE5  
696B10BE40BFFE89487DA1E8B1C2000D53B2A98B4DE6C9DAF07F0B4DB72834361E520E45F5E95  
8FE0760F229C16CCF0BDBF07E186B28A69231DDA8378DD6338A94D23541B9D8B63B85962C63  
04E1ACE2B56A3E433F7E9B2A88FBAD5FC71703231D38DFA8C378E15B6503A3B9959E1759EECCB  
FF14AA09E6BB8F2CC

---

#### E5aQ Code No 45

152004D3334E877FE21F773408369872718CDEE15BD489D97F606779A9A38398524E656026098  
0FABC179ED91D699D52592AFB3269FFB8DED36AFE7DC79DB773DBA560E3ADF8E12FB8A08EB56  
BFC4692BEA05AA288012B580E43BE085CE583E9C9DC18A9D32567EA950D8165A2F8A443E7AB5E  
79F687690A8D8D92FBF877C5B84D26EFCB3671073BD808A7E908130A845C95A2F5E360645611  
B4B55B03169CC1F50AE2FFF-AAF50FED8C8782BF3C67775B613CF82A2D102199E49A329496C0FA  
24AAF6370A3636EAFEB992C663C308AD181DC308D81FFD713505916300732FB1F8DCE238CC410  
4D26C588F28FE7E4F2B8C2024357D52C7AA29D339249086CB2202DC1C847210EAEBD3F06A396  
42711B4608638564B0DD2BFD38CD79CC1CFCE1226CA835E6E19E4089A6F18E7ECC3597CAD3F  
FFE13A5F77A58C2B079DA25B928396FFAAE81FBD9C6243CE0EB0872A187E6CF99F16B15116728  
21D11EF88884964BAC6686C2A7732035493FB9765B7A51E845C1C79FABD99438FD84C09642FBC  
7CF1740DEB012AD050F5E8FF03E859E85C51D2E87AC41185C67C33820EFFCF2D79D384B11B44A  
806ABB8247AF36E3972222C805EB9854D9FCCDC7E58A101A5239E60C4836C38A6ADE67686E64  
87547933859D46D046BFC15AE95B8D0A42A57C401EBE78ABF495EB390B8922C97270C790C2FAB  
9849ADE48EA8F4F7C6996F6DB661500199BCFE1EAA1ECCFAB1F674E0BEB1D03319E73126D719  
1A64A80FCBBB06B1CFB718275BDB571E8F53FAF81DBBC0522263FCDFB537B3BE9078F2AD4494  
23152BB9DCCEE97003D1988540FAE39CAB62593A9EC909489415EEF4229358229BDD45CC35E  
BDBA088C4BA097BB0E28814BF5048F4F64E6A587B0BDAAA8A1B3E3E69D3D7B6782FC42474773C  
61DE12B4C6F183F9E625E337FDC97A79A5D2C0C939FA668F440688F7A3E0E28A33D36D331069  
294DBA8BF768010AD93A224E28964A780304F59B7994D972832728249934B5347580C16BCDBE9  
F84EB34EA7F7645635437B0F5422E3DA99EC2D53B22B1A55BC783CE86CC6B1BE7B11F837CF2BD  
09A514B12ED7CFOAFC2F70F1D6D08288524263B1129135D664A48B0596C4E880E4E01BA388901  
4C07ED1B7F172AB4F4A69FC8C04F0ACE8AD1329A4FB594E9EA30EFEF31BBE418CB5515CFF8A37  
5CBE58515B32E799E8449101093A053EC99F9CF78122FA2D36DDFBD258EC81D7B4D18BF882663  
CBF24D2A35A93C00AE8EA81A3B0E8040C1E259515156D67DC76602924BA51507C4994221A3B1C  
AD674BECB11574212EBCCFDCAF6AFEE288BCE11B7FFF1D7191AB329B04A237F75B20463467693  
2FB0842E2AB888E7D5A4A6B7F77EA04ABF4B9A567E5DA5267F35CBB928B5F607E9C08359F003  
1A934152D77E65C937181C92EF4CF17F6EA45171DEBAB545755795097766318CB132ACD96CDD6

5777F41BA127CF251A4E9B3348927757A42AD8FA83F6CE7342D935CB54984E45886D888627F02  
28E50082B85E8E9DBECAAF049C25C4D7B2EA919716271500D81EDF574C5AE91E5F0FAD7585EF  
69C5051473AF913F887B31BD730F67B4A44081BBD567B57C061AF465237374E0BF4753F3C6CA2  
8D45220CCA3EE6F07F93A29982EB5AAD70763ACFBFE55015D1C52B64954D4855ABCC319DDCAEE  
75CDFE3B3C31C329A77C76131F18F3C3904B3EA4E691C03C32CA5E7A1F9460760231473115B5A  
B7E159013C96AE4885566065883CA3B9661C6773B77819BC68755D529FCE05E80E08A5097EB37  
BDDC1AF9BDFCD0A04

---

#### E5aQ Code No 46

0D4897E7FB496EFOC6D62C034088E7E9B8DB52F232CDC9EA88429655ABE366C54CD534DC9038F  
45AC0D0362E31086CA2FC0FCAC3FE71B2D4EEE548F69CE4433601CD3431D01BA6F0C23D612807  
EB8E50BFC736D917F67DD72631BEE8728006D2AE69D1A1BAEA8DE50852CEBF7491FFF989C37A  
54EAE31652230A0D3E4397B051222C4A22BF481BC52E2012188C7576A7ACE81185C85A2E84111  
9B47B5429DF277A976F15D5652156445905EC797729A6647E1B593484ACF2724E81786A0C062D  
E87759E82202A561FD077D64FDD3226A1E290F660722040EC7AD4383431E195412DBAD0AE620B  
FE808D65D3937AC9C5AEFD6FA106C88A6B192D4FEC1FB1A06907B0796F724AAC6A5EFFEBF50C16  
8F990BDBD6B1D23E098858C07E8D214532AFE040E45B25AD9AF7D92F9DCCBF3DF25DF574A4B  
65A219289407EB63FF7152BF1E651C6F124BE32545B50E8E2CE37F1042A68A62AB70D9DB540D2  
B39293E008EBAA632B85EF1052FDA17A07B9B1D89A76FF7EDEB7090496855B29A9174780D50  
4F7228F8B7436F4676F51975BCA614554FE6B3F946F5E0D1016371F9CEED4521477CE8E9CD066  
8643686D8482CEC0BB4D6A9E8678B1835F0952E2700FE0C85A8683DA91638D81A85231CA4C7B5  
5C0C0DA57DE5E6553F22290CE7EE72867285D0960C0FC16A60A664C6BAB048939FF9DA47602423  
5DDDBF7F264C90ED44E953C4AC0FB50362FB2C84C4FC2097F07B71772000D2C2A5DBDF0B6FB83  
B1BBD70CE9D6A8BF1F924AAC4DAEB6AADD891A8974C9BF46FC6038F6B77D6AC0D6107AE6AF5B9  
3B186253AFFD8CD21835097C4B764F3E0B2447776549D5045E4346FC3B7880F1B3BA794ADD6  
B7F291D3534DF034F822D0A41DB2AF9F1E51F212D5631D2525B1804A75B50D8372B6A1C200B81  
AC1122AA3C13D7463C383FD123DF4029BDAF6C227B3C4B54F75C5315F139F6A0A3E2E819D306  
2B3309E2630EE4A64D1E3DBF23B489B96E198BA98D8D3347217A5FDE4DE453012E8564BAEFBE3  
939E59C0A725A75CEDE373501F9103011FE0EAA40C583AC73C92F47BD528600C42E0029FB3A4F  
03A3CCE87E5AAF4FCCB47E8A8B62E0F542DBD455F7163A2A8803583896E3C803C0D01846EBD8B  
B1B3FD396A7C7BC3F72A9D0503C44FE30E5E77E0FC8B373EE931CBF4A9867406BC91972B946B9  
ADE62415CE2FFC71C2E64DEB7E6205D635977C778BC40C11E36BFC22A17FE641346C74DADD255  
D329AEFC2CE5B4AC5B195FE2DB453F1B41B3334D5C480BBF10FDE88C722091ABC85667F2B52A3  
505A142E4D1546CC41E154B345E8456B9CD0E241D70EB4876A70623DFF3FF43A8D66EF60488A7  
860485A8E518AF4A7056CD02C72E1BAEA3944781642A36932ABFAEE3B88B57B213F9B358CC3F0  
5154DF8D2132A74DF27556DB6C5E45256481C09D18DA604CB91E6AB7AA29C0C1009A406F1B3AA  
E268564E04B07E4E9128FF02513AB8A8665BFE1E352F46DBDE7870EE027A6E84560014659888E  
B6AACF993D7C9F9FBC2974CAE290059802F5D224520CE445C404A2ECC57CE6FD5961EB20DC12D  
436F0B93614CFC844B476D449416F54459BAD09F886CE3C1C307A91E62FC736051E6F6F8F5AD3  
372398458299EFDC1809997FAAAFDE14B15566B381714E3522F629A5ED9DDA1EF4B9D4498DD55  
F8B0A48ABB2F9B1FCBD991B5465108147BB6125FFEA6B6D479DB6A9983A51C041375B39FE6546  
AB5B5E089DD7E228D5AB17127A3A1E3AE82A31E952E660F72A1F399ADEB4E1E11C390BB8652F2  
F7B6D05E9F4B6FC90

---

#### E5aQ Code No 47

AF6D254288BF564C4663014C7A70EB3739D28F1F17B8627FDF714E85B48EEFEB1FD456546328B  
F2E2EED112992AF78911A89E1248AEBF1F79906EA91D41CAF6E541D2BB40A7050C5AE4B66547  
C9DDA88590AB80A4B01B5F8216447A310D1E52C155F92659835F1086D381F1F2995138856DEC  
6FF59380FD6C1B6EEA6E4061930CEF7217701DDE717742721794DE824377392AF3D94ED9B045  
5C58F7395D0FDA5485E310E8457A4270D603BA5AD1854811530FB7178525F4BB1E5DFF89F6FF  
E0C83C3E47E244D8F3F8AAD8374E3FDF996060E18D2A5397192823681CE6DA561816C0EEC0C06  
00732A37731ED13948439E8961E44D32A3097C1AA5E19876ACD21DF812265181774580A8C04E  
D4FD1DE2FD5A1DF9DCFD497C448BF9A4DACC2D4A55F588C87CCF5C9E178A8FFA032A454908  
BBE41E13D829FA98C066A7736577CDEF6D5441656D0AC95C872861BCE0A28C2ED6E9420D4D16  
7F37F96087F9E761F38B882CD41521D8E2C40564C0E001EDBC04982669B82F05CD0411A6BADD  
CB704B545FCB19A286BFFAF0FB6DC889BCE75C5763BE1D70DCAD1D39F395A75E637E0663F3D5A  
855F53F700AF5F82124E72C2A4E41A4B43FCBA41E55298A1B799368BD5F9B507FB11E8BD2D80  
FE517A5FA935006064278CDC5EED43B7C2D309BECCCBB2C0AE3B8D09509315933E2DF91304B1  
DD3777EC9FA2415F7D18A96CD08095A30F7EB9BC12F8739E409EE7DC062703CB3EA591531F47F  
5D1C0431E9F1883C3BA249492EE619719C8B3BDFC1DEC7E3C4CE4CE032FB2882247D1D54566E  
3819464837C248D35647D273A87F8BE667760D26A7EA1FFA682A931A4D35F7407FBBBAD725BEA  
62449623AADE97A2789F2F8642F1CE12A06C93861DE9D27C5ACE0E4ECE40B58664176113ED643  
7B8AC8B4059653EA30F71A023544BFFA685343E278129DA12EEAADBDD5AB0E2CCA0B840E87AF0  
D0E859449893276B9B5894EB0C57C3222E01E7538FF7E91807C10CDB465A12CCD358151D96856  
C6143C9F8D25AF8E8086C83D4CAE37BD660D15C0C0707691E8366C4AFE6DC0AE1BFECEF9BEF46  
CFEA3356A3155E027D1C921ECB852BA4B8F8E8E0C8C00829CEE4049A21A1C3424D2BE532B73523  
2D12B81C3C9E5B02294701E6BCBC8607F2AFCFB2DD9B1142B4D261418C1B239B0B22451D7D3AC  
64636B0C7F96B41D7E775C1CFA2E277C957F0D59BD1FB02226A462533850E99E917E310A684E8  
1634F3876D6AB32CB5B8FAE9E82224BD2A17A7C72CDCDC6B3438A083A6B0DB9FD91E05BF4C83  
A36916EF35C5D4871E94B1671493FDBC497BFA30328DD24D340A07A960828A855FA95EE33FE4F  
CD15B14B7929D338611239AC34CFDA6503E4DD9570EC339CFDC8D1C3D3536F5176901D012BAB  
133EBB4560484344E044F86A77C21183C82BB2B6632CF69F5A661C98EFDE5529F8FB965DCC6AF

185CA8CDB4D01C5E8902966B063B8D1724AD18DAE495AD47416B61321DEEBF782EF7A6ADE3CD0  
D5B9ECA84DB5D50C2E5C7D8B8DB9E0F398376CDE3D7E8DC46F0D77D38D6CF6055D6D074CBA92A  
27C6F9018CAE87C97F1B3ACCEE495ED9DCE46DF4FA5255DB2C7F2669F5201058E90F756767216  
2E17D5B6D028C6AD23F2AEBA32061E6B33EA86915FAFA2344CC58162C032CE837D5C32F599301  
3314BD261DE6EBB35B94B8F690C5624A8CF5509BF50D3AF5FDAD77311B6D6F9398213AC1A267C  
AA0F52A262DA4F85F5ADC79947D2C5128B8E0B0C41B9FDEEF6AEC228EF97762CDBDB78273C16C  
39E446576D54A4FDO

---

#### E5aQ Code No 48

4B7593A9ED7897766CACD515D3A55959FF99C1CE28A745DEC1D8F2565F24F4A1E14E9083AFF51  
0F106D982A2911197338499CBE38CDF3D99463B13EE26B47D26A62CE45EAAA04A3E70850D5F23  
470FB94C42D3235D5FF9E6C37CEE8C93591CB69E0735B03EB262CE6BE6F0144DFD66BC089B36D  
66287EA588C78E39D9B6907EFE85C1211612952CF13C369C2AB3D921E4630ACC75F2AE9901477  
6B26CD1F296F736A4616FF662D5C6E18C4EDA6D1791A71BE969556FF11E1192D3941F8020D2C7  
31403ACD856A3AEE6ED7F23023BAD7BF138C702B6449E2601042D7990ADB988B650AE202F3433  
CF26EE132A7CB13650E86A6DBA6F7FA53B2354DEBF1268734D7120F721E18FEED2F93C268A2D3  
EA012F3D7F68DB0B18A5CDEBE13CE4A05683947DD985D4AED1E192FB2719755846C9B758FC8F  
F28B9999D07E634645064C2C9DB4CFE50BB8A030B60F43AFBD588EC17102F614D3029FA811457  
568D7726C651C062391A2EC2843A95A3A48AF58A898BB65FB852F73E9A82C6AA9D406D80C072A  
3B426D8EBF261BF7AE0E9D0C6DE9F4BEE880D775783F910AF19DFD8EC2656213FB9B74EEBD8E  
1BF860E4650D446683B7794086ECE1E2A723024C219E3DCB371624C6D721BB60C797003D8909  
6BA0F489D1CA60C57AD907BFC897F4E057B6D709414FB0A302D3057FB4635F70BB6A32CFD842  
DCD8D9C9D45FE082B3746951A862EA870D903382C138425DF936A505120D93FABB8F523C1D394  
6B85425FB338CA7DC4B2FB6512F0C8A67FA47A416284EAA943E1A9C0607A02D27F55F1DF2EB60  
90F94B64076FC2D3D3B3694DA5C7EB2A180DEA14AEC21156E1110DF75616685FD53C7225FB87  
E7D19EF5AE8D9E129D0984A06520C789DE22CBF6E2271801691E0C3CC672F6865A41559910D02  
79AB9E0112E66B2A1C2B22B6679CF70E3FF870084562ADB36F532E64D44C7264E44D488076F77  
14A1089526118D4655FFE16B02D803AC2601493CEC3AB27878CE95ED3F321913217DE12B8E5E8  
FB75A85707EAF6F1FF08CC86B91632ABC7CDC42D1C5D0F2F49D5F412B4AD0C5C46CFA74643C93  
33C5F3558DC3ABDBCBE23A3573146D648D540116136F3F29E42FF07E26C1504E47FCAD1FDAE63  
357E421E46440424921404ED02FD4BFA2FDE68CBE6CE49E4E120C141013DF5C0BDF776EE36FD5  
899C0FC057DAE2C9DAEFD37BF8E85258BB36B54ED8374BDDD49B6AC2C8BF3105A194F76DD512  
336EAAFC7BD2054AF6A9606517DE03AF445CCA5FA65307D2E116E42A3676EB6033AA17D76A87F  
52D144CE25E3A8DAFD3E044289C4600BFAA9CCD963D14A19C5911C3DE649439440D11A21154EF  
25649F7DA295E0FDAE8C48351BC005C011A10D201B3062492A7CC933AB5D854B26232B7091CD0  
B7AA3135F28E3AE75E267C223C5E03B60FAC1BF78123C5AF76719191C6B8A277A5BE81E64117A  
B344D92837B6D600F36702F4BB4532C5EB1C9BAD8A111C540F52A225DACFAB37641898B1FF770  
A523F8BC8BB0DADB59235DE055810396F1993539A9CAB622389607DCDFDD51FB67CBE89F0F86  
8DB4D27A7A38542A076D158919DCB621BD325F23AA0DF694C444206FD42192FE7F9A05743CD54  
D8F111676AC35A3230E372A5A6D7E213C4584EEA1A4993067FD28DF6690BE9D3E94AC06BCF89B  
F1AA47496F8F6A18524187BE80D59A4E80193CFD757B706AD483A916AFBE2A56E0A69F3B1BBF9  
F4B239D05C6C556A8D22B00E9BB1FDAA620D949ECDE86EAA299BE93A7884C99FA782F2BB3BEEE  
86046489B3B8A5930

---

#### E5aQ Code No 49

71BB1B2E833793D854F8A9A81E6A6947057B9571F2BA99380DDB25D878D6B48F09ED7DBFACE92  
B6B82F413E038128F6128AF3BC467E9A4DF2861DAA674B6D948A10F28F7D43657FEE26577AF4  
38A2F4422186930702EBC6C9173E661D59CE7594DF95B861F9D12EB060FCD3BA43159C9A1BDC1  
EF13E04893E411267331588CF4831978469FF569C1A738C54001BB5C4FABD289075A165EDE0A  
58F6CF6D215D306A7840CBEC0D8E7E3AD186F7A67A967373551E13D2956E5C578A7F5BD50E2D5  
70F9B914848D46A640913EBED2E2ABFB86916BC34EEB3E8A671AD771F6D3780B6FEC143E26F53  
B02977255314BAE9A2CD9E5BA2B49C73226FDC724A859F8B8A39FACA1B0E5F2DFE7E1E45DB6D  
4BE2B76535A817F94594A4541C01BB62A8A3A690B6D84FC13B632972C61D940F2C9D32837413A  
F8E42045ECA3072CD044B2183400CE63C418879D13FD281A8D0835256DDD2BC3C9750C1D44CF1  
037FD7264B7716398FCF1D31CFFD0B7C52C6370E4CE6FC163B40436490A757465B20B8890C3B5  
C0A8B971ABFD01796569E3BC73C13D1E4B1FBC1CDCE59D21B6B110272E5770C589603FE67779A  
49AD0EC66910A2BF4D8C8ECC18A32EF92F502126A5DC3DE618233B9914A9608B2F17E5161115D  
9A3BEF1D5701A9D465A1437DE24371C9179800CB5728A7F3D734A2A706BC64D356BDF59138997  
0B6CC139AC510A98E3C75F20120450CE45373AAEA6A279BBD17221BCD32ECF82C11B4C1CEE0A4  
4792CF56978D3D2399F7ECDE9F8D9217F8B22770E210D0F1AA852178B872E296762873765A73  
DEC08873C04ED69C995C5751B97DEC23B94CA674FE3F66211317B074D8203EC530A20B6E6DD21  
AB55895BEE1CBD0876183D652F4A0D2EFC95749F8F192F860BEA534598FD709B396C209CEAE4D  
9190980733E7E98C8ABE52A53C68D86053B56BA6FCAB5C827292D729CB8BFD1FC8CAFCD15E45  
27B604018F28AA16C1E913F55461AF87C9A7BE1A742002E52B3A14EC30B259DDE7BB892CEAF77  
D25B7670B339B334878F697C00CE6740117A7C67DF3F8A7BEAC89D4872682C47F368F835AFD7  
ECF0D8471AD01468B7BBB0A974EC469A8F79ECF8D379DC13685D2A8F6F19CE102C3DE34B11422  
AFB42E894C8D00F606296DABA123FCE039ED27324D60E853BA94DC638454088281335D437A95  
4333FF1A8D08E2A4D25CB3BA0D8BF6625E25EAD3C1EBFA2666AA49550578D3763ECDC81303B  
53F18B00C8900AF4E0532C5ECBC94513D9F50BE511CFE4D3DDBB3F112AE148DB062B2EADDB90  
1CDA6AB6BF59D37F356AB34AF97D3DAAA417642E87C9B95AA546C682ED641214605F82A4F486  
C9C72576106F76D7152615EC8E77187D4485071FCF6B0AE44880442790696E057A3AE20C86069  
1353B3F6BEC5F1C2DA07563B423BC01E0334099571158A432441256D7C409B7B6EF26442075ED

17E2BE37F8EBC049CFBE0FA89CDA7A58DD32C417B34E899FBE86E2FAB8D30846DA17144A6A66A  
AE1C24FCFABDA5B573FD2D6337226B5E49BB031B4D2B455B6DB871076F67AC03C3A73CEC01BD0  
B1EC42ABD177127E62A66FE8E475B982B4490F0877466EEFC7317A703C5C07937340ED4B53E5D  
E5325197FA31B8C8E05AA2222064EE5D7C06D4A1EB53151F75C94A2E259688CA0716548465C5C  
255D81FF10BACC2C13098ED8CF7F5B15193EE14FB5D258E95EDCC93E9796FA823892C705A5771  
D561787C12592D269D657FBB71F021F365B7453D50C35F748FB2B7F36DF28769B81EF12A26A23  
7FB0239C173559540

---

#### E5aQ Code No 50

53DA0E7B84741AA9E225483630169ACBCC03EB8CDA28B7BDA685C756D66B14488A2D0AEF7E6CB  
2D80F2726327257B7284B93EA1B56AB80FAE668C04FA49FC658D896A997685E1EDB4DDF85456  
B37F32FC8CDE50882EF0F09BE4ED4AB9A425806A49E8347A42A50B38FA8D1DA2FD2C9438618B6  
701DEE159060C186D50170F24F38E07B185E3272EAEA4A0A7CA41A69C69E9D95E271287D3AB82  
84146A58440EA131A7F47D73CB2BCF40FE3A58E1B998C2E5EF9CEEC8EA2F8467BB7757C03A99F  
C8F014EE933A7080CD46625A2A7A251B7A37E4208956A8C9BD35E6F8674BC06FCAA5D04A2558  
C9665C7985014D3AD95ED256FAFA358962EF5BB26AE2FCE899392DF858F99303E2417BCA7672E  
991FEB891F5DFCA2D461148367C5C0DE1460BF557194533DAF01A5E8E0E43D57B825AF7EFF16  
3DAA23B9F95C063A26B3D213459D885AA96023715CD21DFA2A2250F7610B78A77123443BD06EF  
B7DC85D1F16D0019D2937C3DEC4DE6389485ABB21642B6E41ADD43CE96F228C08DF6288A647EC  
2FE96032B6DCD651FF950B72964EE08FC2030272E3F601DB7F7E770E655389CA6CFA2F9B87CE7  
6FB0E0CDCA4EEE5E80FC756BE46CC09F84BDB34ADA2AFC024ABDE0066ED939F8EBC236CB3F577  
C1BFD741F9D101A038EC86AB0A85462BAFB2E484D6722499A6310FA449D979030B2A21206D442  
25800BE2228FA00AE6D92C8DA652E1B003BD2734D30557B735CC2A591E090394DB791245C22B4  
D29E706476593B6F90C694C5B87BB0FA2C479E292A768A9687A713336A21D1199186F852C41F  
586E9BBC64004D8BB6814BF739834C9992317AAF87B926D56A7AFC0879C027332A60951C84E  
9314380A5A78E1196D094F15D856A36742825D2B397156BCAD8ABE7291FB41DB4365AAE49CA8  
2CA066D3B4366D3122ABBC00F05559D0FEB9A9F98361DDAEF068D60B18265E7184C4D6BC9C3619  
CFF5C758090FF6398CCCEB78176D2A8A2A4B9854C4ACF5CB614DC1CA0E15E7E85442241D48FD3  
D6E851A5D3947FAT769560928948FA26FA16EFBD2159994BD92B3D6B0C62818C91D4724413A7F4  
0B2A2D67F4FC97B5DF6A7E3CEC03158E201D6643F402D3DD6995A42900D46C2881198CAD28A27  
489F5116ECEC3E38D999B2020E0C381DB3B8230811270D75950D9BB61548802DBBCB68ED8C7BC  
CB50D606BE400BECF873498621E66ABD2AA179B3E90E055C3719CE2FE047F815B95B065BA086B  
467AF4124E276F8CEAD000BCA5499D36217B250009A7B43E81CB3F8B1A3238EE436FE61F2F942  
796DBCBE570BB4FC783B35C3CA31BDD432B33AD75B08107253E8F910EFE0D0B5453A8A055D884  
892278688B3ECA612452B590AF38DBDD9A7070C5610E7A3CA6C91D24438E7F45E7A2A330F164A  
EDFFF1789D5E875EEF121298DB79C77278ABFEC3FE3DF843C46F40E847272EB2669BAB808C38  
E31F13516D5066AF4DFCDE6EDB2FF0B0A4CE9FA9B4101F6F144B02384868617CD39175852E065  
473D6F566CD18D7403FFD24DD33ADD852C7CC22167E49102C46DC369A92CE2D2FCB81B4D1F14B  
7CD2F80A65D8FB20FDAA23219873ACB8CF934E68D6F8FED6B41193CFAB1F44CE4BFC7C67DE1E  
8804B47DFD7E8AE281E19846AEB6FF94AE7E7CF6FFAB46242843811E6C5BDB78157C76DF4F92F  
D3653D7FA5978316B055059C6A2B6306C957418860A88F63355E76D96F4727128D9B3EB98501  
AF5B093F2C314F98EA2CDB89468E1BD5138CBF25E8B911C26B97DCCA47F1A1D6C1CD415A5079  
A756B8A8715DD3164

## C.5. Primary Codes for the E5b-I Component

---

#### E5bI Code No 1

C5BEA11BADD79BC7A91DC8DBED9A215B8FFF4978A981C98CDEECE756A364B33FF851B7B3AFDE  
A0564CF9DA207C784E13542404E3BDE45C1DD70B4D6B51C88E3ED42A1C524E0BA5441A9C87660  
13E712313070BDFAD3699A226B719410EF18EDC843818877FEF748A0D7C6AA36616330A087CB9  
1058D7F1A245311AC571864DF734F99E3E643AB7627B4CB57DACD23E4D22C5F2E3D2FBD4F04DF  
616E8110A001565B030C993141FE038670F574DCC4DF46C8DC18C84B4491069D1CAB4BB923AE6  
CD41BB9528ED40F7D139CD425416EB2D6342AB8808009A40C042F153DF23C8B14F3F7235FAEBC  
9AFE0C845AD41F40E2FF7A7FB82971E014C9269C60AFE05F694AEFE32B3194956253AC39AD42E  
OB7575F96CF2A094011C91A2FD3A10C02CB42D3425A3D6D85B404CDE1171ADCB1B5EE752F5783  
DFA14A7E26507C231FA5541FD06330ED44E37DDA40008A91BA74EFACBB617C7EDFA3DDE592EA  
284381EF17477038A8B7ABF3C5BD673D658D11A22B97DA9F247FEFC2143D69468CF8A112A69FD  
3E9488F14AB1506DB1240F26C52D2F19AE7A81A39E9B9304F65CB7FB3D9B4404679701216BDEF  
9F9E576EB36F7C9D77847A8FC40A7D7C4C65C8D78BD82FC7E5F90C6BE1CF19A2B7576DB1547A2  
6C24E5F9BE97D2AED0A71BDEF74B26F92B0CAA683DD3412BC52C7BD443F32EB3E39B2C9B1CD6  
B274C825AC7618CADE08D9991E5150281E2D9076EA58B2A99C54236A1E93F4D46769276608011  
3C58FC53093C739FA8B0CB85DD0B6683CCDFC0907EE124E79C33C3EAC7CDF8E9F679B87B4FA71  
688BADC1DEE44FCE4952CAFEB0D3D6432F0775E3B6F34D18A24233A9C0B59A1F458B9F28B958  
539193A054DA2AC02B60D1146A1C6D5B86DE1BC424C2C7C703CAF92997E09A345AC0243EEB724  
68B161E5CE268DFE2A76B10F84DEC801F5F20419D9C326E7AB0BA22BD4225CDD990DE4A0C7E8C  
60E24A385DEC7F342E8E5BDA079ECA357DE07A2E1690CBB8C28247B6E13AB795D6DE97FA0745  
96DEE8B5846E8D90439B61BD71C228D10C7BC45886288F33654F787B4D336950EE6CB2989EF35  
D14200B9082C085C6EFCAD497A12A053543DEE352E4AAC8385896441F7023B90E263E8476D5  
3E23FC4A80599FF7FA69C006271E1353CC546E04FDA1D6E2EE8DDA422F25216522B9657FD3D02  
CBA1024798C00CC2396154E2DEEEEF4EE6E25C8C980C2B78991C545C09AAD403A0D3D16FFB8C4  
85C15D93A160AB2DF8296B811A25030688196C7208D66269EAC5C17CC4F00BB35CF85BC73DEF

E1CE6C6547D6C7873135A351E4C4335C257694D766CFE21440BE04432BE32583A166569FA7C5E  
CA0DF8D478ECD43F44D914A707902234E9A9E5C68FC472C8DE48C5E96071A1999108D6F9800F8  
D1141EE18F376C9A422A73C21535D055080845586C931FE8600366FBE3C80522D32EAC06E9005  
B545F59373C64AA152226F66E100B183690347C53698ADC5B8FEDA8AAB5D36823A13F775B295E  
A8FD2EB09C23B80A3E96AC1580124E027004CB0A488FB2DDCD739E8BAF4B47B7539D2D7E3E79F  
B67255F5CEDBA801026A6DF3389A205DCDE967AE8F0BC766A53465E46AB20A67B379B11546D66  
E385B963CEC31C4B832C62F417122CE3D158DCB5D042A7290371BA414E9B59FE6379BDEE02FE4  
76C9194F27E67B6953CDF9FE738A7B8256B2F8789D5679A5A172C46971176955E98BE1FAEABEF  
94D2B7E08ACDD9D9FA341A47D21123C6DFB12330142B8171DDF404225E20A90DC94DC00B1627  
B704BFBF6264A74C4

---

#### E5bI Code No 2

4F62483A58B2AA45A7F0B344DFA1C95568646AE79869337332CF0FB02D7A9A91633F160EC7D50  
EB74D2FBD3050B16E2E264EFC804070A7845AB5903A986183DF0F7146DE5BC92384144646BDB3  
D46E3A6E436FFB19E16C324B001C4CA6D4B223874D15032F743481B2E4D8B0D77B23BBEDCD2AD  
C458C23180C1632887694F12949B95584ADF4040F21E2F47F1F1F5E4E7FC3AD6521F1D8CAD7FE  
C9EB2BC1CF3C04AB70E54E55A31F654634A1D29005CDF05797D3E7FD5B2B94398BCEF55A6D2B0  
BA49C79066A5866FABFF8D59582FA407E795189B3AFC33B798F672FD41E6806D877ED31A46146  
27F6D46011FC6153A9F3143018BCEE9A0F98FF48194AE7C51539C175B66C5AF7C9BCCF8D6B49  
26122E9E9AEE07CECAAFF783BD40AD8376A95A0345A3EF7DC8F88237E25BFD6F509AFF85DE7C  
7101CF51766E6B4419424A10F15BF4343BEB485E5F6279FF544577F26DAAE7522580AC9E833D  
3021AF903BAEA8CC53B5F0A630639789CDA3CA6FC72F96EF17EE975366610DBE3DA5063955CA0  
DB7FD3318E14AFAA514CBDC864F40261D54EC284F5106A1F385409CF82CDB91D535B470A883B0  
D82167435E2533D123A7B71FFC8914A370923B1214F5341C2D65BC868570185F2472E93E77FAE  
64BBB112A2E7B63F2117214B9BD0B2D9029AEAEA8F6E6A70F18D178B0B4D26AF7F5FDC8CF149B  
6744EF28F77B7D87DCC92D0E2CEF3977D383E8920F71D89846CA5DE3F4FD76D51A0B5B69A6589  
774EC227CEC64B16217EB55B37EFF5CA78B5DFBAAD361DE5E606627EBA04F5FADBA5224A6C38F  
63289E9874A56180B5C57DC188A62E1BC314488F06E728399066FB9EBDEBFCB2F20466CB0C6EE  
1B2B8B158B769C40409838D95EC5EB52E169DDFDC0946700852FA1F10436E2C093E257DC969C  
5D3195CC4DA6E376CB1A915A92519EE1EB2034E3C55AF3C24C247D74832D46D532F9797268C3B  
0DAABD705945F4EC551419E94E84A13E75AC428B2559C2076333DED3A6E9CB604751E2FDF379B  
9A1BD6099274E90B523A19010478B0958A5C53A2E9A18CEC53589AFCFB075387425FB3A24C2F6  
6B40E55DC3F52FC4048AC77730953DE72BE2E662AB41EEAAC4A661A6E43C65AD368FC2AEBB7F6  
58C2D8A46C98234071009ABB81C7E33A75B86D89BB3484391D210582A9407637D82A9DEA9E2B  
CD0B4CF9CFDFA6E0B7D377E2EF3E9121D212B2F9515E6B541046EE2E5744887EDC1A0B149F84  
8E7D4EF9CD5AAE0010132C6C5A8A5E1082CDDD46E100C82AB553EBE5490184971B1F08D11015  
6E0BCD083B81F94D47F19C0F41C815333C34384F16E9B34D659E6A65CB9B274725F9C535420AA  
73CF0B1497C96EF000D5227834F7C8124B114F9711A0AB19D7A563679092093D5B8DF349AF5AC  
30E87FC737DFFDABC3E95981837F7C48F97F3E34BF278616C5A14180D81B3BAA65420642B7460  
6D764F6897BCB2A12EA2A07F0DAD3DD1DEC00E265C0D965EA6CFBB05E3721F4CEACC09B3B04E4  
E23873AC76E64B17C071CE9A6E336676835E854D1E0E2B2618D918E41808FF0DB2296CE151A28  
83AA314FBF2E9A300A75C841AFCB3EC84DB34F392DF4DD970F5ECBEF9E81D9DCBA9EF78AF41CD  
FBD9D77B6EDC92795175D805137996CAB4F91FC8935EFCDD788AE1F5FC650D4840EF222A7840  
1DDD313EA4B4943A89DCE637F1F81636D06C6E1CC1062162320AA07D01F679F57384820286F29  
CBE9881FBECCE3E1AE4D7FAC3A143046E29D9D4A19B95BA2508C7030C0E846E358D52284A921EC  
A6F2C7890696F6008

---

#### E5bI Code No 3

FD5488290C9EF7CC7C4E4F2A6900C2F9CB24239B239645B27D990BA8878505E1987F8DF3A7110  
5499EED4410AED6FDF8434EAEF0C2C0FBC1C2508710CE37EBF740B273BDFE45F4B286259021B2  
182D6185078F0C7A6580B1371F023F07236F1655C9BE30F35F2485C9EEDBF030068C660A9E754  
C0B6F949CF5556C133AD512C65DD3E4F6A01AC9F4B111F107FAD356EF7C4E0E8814527E48622  
6D9A6FD2D9D0F1B7B1A0F840F99C83F8483E3DBA2F1B576634BD5ECC49640AEC7338185D7D62  
9A03F12CF53EB3DE8F86112F5D0E666DE0DC3CC72693897690EA2986B2B9F02C213FD46ABA0  
A2BA24A2D90CE15BF1E6069347D5A1E78BC55D13E2B2E2D173003FF68317BFFC96A9BF858A07A4  
D2EC5CAD1D4FB21CDE30D67B1DE383096987B93F8C709E303377232EE2692324D8C585E35B3E9  
978B13B8579B0E759B4CA76B6E69CFDC350C1FD02F7088D0BFBA5633A8EDAB83871C1693BDCEF  
BE6A8D0E39A78DBB3D190196FBAF70332387921395615438C75D59705810BA4CA4380367AD26B  
08B85A19D167B0ECB27EB8600D9F6FB96375684ABA1EFE9460DECA0690FEA707B2410781C571E  
CCF567569E07B78311E5AFD6A3EABCBF6E68068E365517FDFE9E1A15FDAC6A000C324D82FA7D  
451334B873888B6DD164C89CFF3253BFC2DEBE4CC3AF78C66EC6DCA4BD529C3DDBC8B93212073  
3133E754F235354144B3EB4E37E30038F9073F211C432431B192E9605A63B39DC6C31AC889E46  
8DF3CAFF2A8D63683235B935784F605502AE8E63794FF8E27C7A11502C99A834B0BBEA2AAD430  
0405F9C373203DC05D28CBFF5260C001DB0F963792F6D1D1BF1345A4084A8A0EFEA3183A6C67  
E4852B90A426A257279EDFC751E4D3963816D5044B16248366BCCB874E9572DC9CF65FEC89F8D  
8A29F7E2328A0AAE3F19301C7A440115F881A3808B64B8E3C17EC0F225F1AB1CA4824D54330E  
504F562B9981511392F4715BA02578130DD776C8023249FE78FDD66D92569D9D5E652EBBD89A5  
C55C6939BF99A3441E6E3ACC944033FC5560A4512C3EA1F78890064C1663EC86BFCC9626C30CE  
67487A0928E95FA0957B774DA5F9A6730BCB7022E74D5DF4A6EBBE76D27317B972CEA4C0FE3F  
1517E88361C32E253C025B4F16F55D532A75C3F15FD1AD532CFB9BFC20AA18B5D957FF969185B  
55405AC7BB185CD83E5AB99C31D475B264954130BFC6318C437E5B437109818AFEEC7C2B78DBD  
7076EDCA94F0EF2E5EEFBDB65B22BE8DA21CE7B83A018E78A671A7669B1F8EC62B7AC522886A

D84377108E5E55FBC79A64E68CFCCCB535538F892F0278CCD295F266FD1C84B33DAA3B340128B  
CBFA8BE0BE4AEE9E88344E5861E14747AB0F9DA7EBBC32CCF2424CB8CFC50627532607D47DF5E  
878537307FDB54276B92C3C3B0366623F2777C7196E3B6D8794E5A7A70D3C1CA7C583A4935150  
B37A8A562BAAA8C5B5B30107B1D887499A4629B1A6621F5D79F9AC3764C42B763D603AB28A9C9  
21827149922D9230581BB8F05079E1EB37215A45498B20667A25E613CAAD346A248F0140175E9  
A0CCD06BBFC25B8CBDFEA11B126DE738240AA33AA0B248C5D4AD67305E07BC8BE864647261512  
47DF7D35D08B8DD373FB6A26134846B4DB32DCBF3053E5001A50B625E12A8E480043E05379367  
5DD68D2DCED8AE3FA434DC701CB8B96BC666BAADF5E1E70CD94B3082C36619E689A9CBA9CCDE7  
01664DBED3B069242EA13EFCFFE6084846C0960D03E59C7451E223622864163749D6B7D938FB0  
524B057AC679D3BA4

---

#### E5bI Code No 4

86277BAE531B790D4F98842B2F52D1DB87A7F18529C775D7B06A93D731CDBFF92DA02145277AF  
DA053D99D96A7B14A3E7AA5657175CB63C2F4D724E4D66415F60390683EA64AB62ABE2378AFA4  
DA2830EDF2D10D97468F10FE82506175D9AE325381EBA4C16F9AF3B59B6B8C74E88CF81460ED  
6495CDD869E5E64517FFCD6F6936F0BB490A964652B08052C742F66631708B303402481AD3738  
7A11A8897054B9D5C8DF5EB869A17099361646D96CB62DA504AEF3E18ADE080997F3C17AEABC5  
FCA015848CE5F4237F2D194241D6C9A93170E990C15FF9EFAC8485E8A5D458D42CCDFE68DD316  
3711FECF460A7AC531DED2FA12F81EDD4639557B7C02B0E8AABB78D7D5587D4CCE7F282F4F  
F0DC5FB01AA94EA0E94AE6AA813F5E88EA2C57F265B8DAE1146AC809A2629F37B2A9BF676D6A  
33F5C7B2A24A6D8D05FE91708877BC53AF036D62E4F2A04250EF4FD62626E22EA6041AD77B83  
FD9F675EFBC17C2F17D086949EBAE2612565FC14154D1C713E67F72CAC978BF64D726DD6262B  
CBD5A92FAFC5DACK738DBA18640027F27B91D87448094B23C3285C8F3C41F5B6694F9E10F3802  
FE51E3234C66894665362DEA755195949133D50D8DDA19154DA4453A02F51AFB275E202FDB5  
49E2AA72AB4DA011E5FAFE35AC8E25CD4CB4ACE313395CB912ABC8907185960C7227CC10FF9D  
471B19B6E0B27A74E0579E262E7CBD625161C45527C88A2AF58B1F9DED566BF97CB2EFFAB8EC7  
77A8E38A3B643B6D90BCC31A89E07AF3A84E31204474487C0813EATC8781F45AA81BF5A49F915  
9FAAE985C882AB9A411F1FCE97DE8D4E4A4A772242647FA6CB1DFE0DE4EFBC889E69636CF51C6  
F579B3B782FDEA3ACEF89A025468AAA1BE57920A5A1C2D2390834D4388CA49E363C25E0B4AE63  
B421B0D713EF2EEC1388BAACB7876140DBBCF88E6EFC1E9253534E38E94EECC9FC2CD6840FD5E  
7EE81B0838218CAC513813601F2B1599CB6E6C5A08A438620A2143CCA82A40B2DCDAE2E7A342D  
ECE1A930BB8E99A26223543D85EBAB5162F32534A67D99BC30AF66A97DC975C93B495B741AC0  
A1B3A033B765D5769C4BC0018D5AA4FADFE595AF6C79E7D253539E3604DEC60B5E5E8CF3BDC59  
B185FD35239927D2CAB7CCC319A20549A8CF7FA5851DA35876C95C65B8DF4EEC2166536831579  
A8E2AF3D5BF01F6F14A2EEE03B0A2497C17A36FAF23261FF04A82B8301FD5108E0B12D910C5EE  
D97724F9C7BABF42390A0D603E25EFC734AEE71B526BC4B01AAC7890C77D4D260E23A86BE22D7  
879B194AEEE94ED3EE89A5FBA7A64438F541A6545CFD3C43ED1CF805C40289A6CAB8E879D7B0  
07E43090A9CBC9D463991F1B14FA4E0EEC840DFCC8293267835ECF3DD145465FFF397697FCD1  
D71521435BADD8388CE0FC07B458AC0236C2339C53CDBAE4466C7FB94F507504827789268726B  
B2C5D9DB3A3F700F0ED6D6A412C05EA6D3CC03C900479E252D87832010CA8E6E3C2F98141B1  
A6C7A4FC3471E308C8C24DE9E134F6EAE1323AC962C2497616E6FFCD4279403CA6388DC1902C  
0B41BD7EA8110C44E60FB5C08261C42735E91B2E40122BCB2966D227235160F288E2AF2427892  
6177258EC33CF02BAE9628314A0EC62622452252B2CD49082B05491B00DC0F7FFA8268448491F  
02F292E13CA2629FAE7ACC2617300A776483F06738E4EEF4BF744335980CBAF37A4B9044B50  
D7EF8C5014B9B022D69F021BBC09B223E3C9C06ABBB3BC7CA7F625E3E69F498C877008F9A53C6  
A2D42D1115105B860

---

#### E5bI Code No 5

9E39D51E661E0C75E62D1C3739E6B454B4971B299A37168E4D2B378859300A530A857A078701  
2210813B9221A5FB377C42F6B198F057BCCEA4D34A71DCE22B893373A3D342C10BE1EFBB764C9  
AC9F1F65AD0C13C5872C87462D71F7B013C77A4EACC79244656CF890A2BB738B586BA846476F  
5ED8C0898491E96ECF2A563978E78C084482F1E00128393A07A511FB2A7E532C426A147A6D9A  
FCFB9E9BE2DBAEF57E9874B93F43499E3C2B46599DEFA6847EAA820B98DCC66D1922428604FBA  
74A8C810CF6C9EBCA4A7455A39A88DE2B70FEEF95CA3A68973E0E288923E29761E76E73FB18B9  
7057CF7C98996E91C09299F9ECAE5D754CF2C472967647365AB7A4A765C7E3331F42C0E0F9CA5  
C3BEC59E19056861F11C68A36309C99B341142B2B66503F22C7670BCD3CF3D9548C346ED08F43  
84D5DFF49C69A9A8F99EA9D1157CECAF140A9B6EDC8E2792898344F9B76979409C8FFEB6DA107  
D32DEA5FDE3393D2CCD5BBC8ED8499F58A611167AB89F61119CB827482A81212B8EB2DC2BA0B  
67C2B84996801052AD41AB95B0CF27CEDA284AE01861153C41951E09152766BE75C2FCFF447B  
30D68146E38C7A38A923CEADFB997998970CC56AA710976754762A9B29E7F860961659AF938AF  
E5A85B8FC169BAAD1F2126193643C05D07A822E30EF801BCB836ED8DC2A36427F773114459592  
DDE2EBC95C1AD12E7C91139CCAB8F45C2A36278E93D4F5DE7D999232C9B0A69535A714E85393A  
7E2C05E956390C0710477A80EAB367A34E389C5FF74CFAC5A940D64C35BDD458BE1EB10C484B0  
A25CF8F341ED44496A578B266FA89110DE962F2290E5A49DB622629919D7E81092CFFD2C3C918  
D23CC80330830A904DE725E0F85EDB93CD9F253AF2703646E921F7A9C0B710AF0341E555AD2AB  
5B818B497DD6EEA7D73715503080745DE8FA72FC86C9C966F0C1869F69CCA5942787EAC83D26D  
E003A39959D0C5975A6751AF27A7EC5F14A40A2E1DDFDB0FED0A186BFF687636416638DB9180  
5B8371DE10B7A598300E36168ACFE39D1A98A15DA450AC97B59A66AC0DC1D4DDB7D9D3851674E  
1C00B9E15A8E0B3709C40A30F9C5CE51A41907685BE086A69B39BF5CB085095FE242768664FD2  
341EFC24710014D6806DB1EC351CDD374285EDF813E62E6263549E7AB98CDCDD8778E2F837949  
4DDE052E053C53A4E6053382E9049EECD45945DBF4B6DF0CFA0769B538EF9B176463EE8A9FB6C  
8F0ACC9480DDEA5AD146491F29FB5B243974B6073E8C15FC3672146069C1A363418C5E4549CC

3FF37925940B1E9409291BE4956991FEDF1C6DDC18ED7966413A67A11794271FB56A37401EB34  
E4F7556C8A2DD9A9E854A4A3D29B35569F465ADD226C3023F698D7B64E8E7C29C2DD57FFAAB06  
ACD7F3E3E0C2EF8A6DD13CC9F1B629CB4751D159255115291115056FBF615C7B738F930A3C8EC  
D6703837EB33EDA12132B99C30388C5B8838671A315F312DC50997FE0A77FA7530D7F66B70153  
AB60D80FEBBEF5747FAD22CB93F743781D35CC85F4DE1819626C4829EEE0881AEE1FE4D2BC59E  
65113DD8F1103C762B763CF7FD211D1AFDB80A2BD9AB3EC93A139E2EE007A3ABDBA21F5902458  
98D25AB87ADF63BF0B3EEF5B33F4E18F984D27A73B3D77B14D178C949DEDF1F1D8E01BDB332B4  
90BFB43094DEC9D0F29EC5CEC1B65B8040B7BCD04A8C2A7AC065ACFF8FEA5BE160C56E7D8B7B1  
000EEFE0584C02E2870B86D32F2946A4615D8C73C8CF5A634A640B65CBE8A2A1276AF6C3D6715  
C4CC088FCA08BC290

---

#### E5bI Code No 6

EA7EDE7F64B6B80F492DEAA6BE36509A1DB8225760CDAEF69D6E682C6B0679FE860C2C047A24D  
7CD35DE983BBED286F2400E498D6D1D1C929DC0C9F379B312B41E293FFC1DAAE0D8370E57D41A  
8847926E68EFBE114508B67A92A28BF80D3ECAF1B8FA23E5B3D19908AB6DE56A856AD876019A6  
621B933AD563BD522289A8C13A52509A875FC8E9B87AD629CCF6272B89005A377563347D0B97  
1947C5D13736983AFDD5BB9D923297D34AAF4DB3F63EB95AEC43D56945C76A9B31A7765D92F747  
25BCBD81D76D103F57D91B4184B0E52CD9612E388954C07D97C28A1B1CCBBAD61BA8EE8A87969  
59388EAEAT7F36BEB2822CF5C650963463BA8C8F56862C436C566CEE3F96845658A0105647E1C  
35ED73BFE3F04000C264A2B607CA48A9BED86BB1C75200323A525440E9813EF14223F0D7F66E  
52AFFF952A903297A8ABC1447F01F89DA82D403E8F9A08FCCA510D09AE803EAEC71CE2586643  
5A9A64468C2F2187AC3A307755BD43B97533C07416141F8E5D90B421A087313C7976FA1D99DC  
A7C15C4FEE4F753ECFD4158FFF4D736706F0BB6B129B54450F398F6E317706350A0614181254  
A839767DF7F30B31EA84547F89A3CD9458D2683E946D2D7A91A12739251C86BB0CFA6BF2AB706  
74201B72ECD0025EB8D24C872FED7A5D02571B67EA7A02225EEA2B7F65EF2727B5D26480956E  
AC7479048B92F273ADDA3E92D152ECBEF510804631247F3634CEA988B7D58D47002D00D0923AD  
04B2D561A8751F947DE34C74599185218804079CD7EF7DCD2C4406372A7EB63B91832EF3D24BF  
9C440FEC45CEDED9D8C5AA305B3C47A8CF0687E08A94FFAE9308ECAEBB86F3F51A34C1370EE8A  
585BE01463259B409D89FA011E6FC64C4AA9E059AEFD7F43A2193440AEFDC0323D2F7294F2C9  
B85F4F5DA336EA25DCAA666E16370CD53D3624674F097BA3D15DA343767CD721F2CB4D0A7FC71  
6C16A4FA243DD8D89C223AABBFFC4A4B45254EC40AAD1D15648DB2FC63E6A70832FEBA9BF10C1  
C19CA20C59BD7EB91D0ACDEDD004259AB134AC1CF90E86FAD39D630114A218118D72FF790EA29  
E906289F8BF4F6477DE5D1A585EE7054CB3195BAAC5B6380611186FF5BBD6967982A37894A55F  
E7BAD5F0F1E48D7F254587DFC7C7809A8967FA0F54729E0A86BAB5B2DC3DAF8AE12207CE7D968  
838B5B81E90B7E94BD88A79660E4107F970D3E86F77C29399CD2EDC31AF16847CA35FA221F6C1  
13E851728F8056AE6D87C1E424371408CE13EFC3B620ECCE09E774FE88DDD8B97438F9B236549  
D7E2BE8DDC002706326F14172C7673FCE8797D3E424A8F84D63C79BE8686C68074B0503F096AF  
9966C8EC55841F2122B8C1FE6070E487132AAD79E7790C70E4582823DE647E9B269C9F90FBD27  
F823CFA04228355943E9A0801D4CA513E1DA51B22CE1533CB2977DE21AA5ABF436DFA7FD4ACA0  
3602DAE22D85672AC8995DB1C8B2E1938E29E892C0833B5D95381080EFA7D1C9BB9CADB33709  
1956181CBF92A8FDA413DEA5255648D4BE7585F94F216D82D3A4C31441F176A155F7F2FDC9DE  
DAFC01F7631FDA0F16106CF2DA29361F39E1847AAB0E5BAFB897621DB63DFB66A8CB39646B859  
549101533E3F94DC8FD26C272CEA922E6F901275BF96446D660788EF97EEB116A54FC63C6074D  
94518F48DB4AFC39465ADBF030F0F092FCC8E6594C2314CC366E8A4D876A2F39BACE218F6E66D  
A47FABF34EA0F7FE464E30C675AAA01A1DC26359E219FD52E90AB254D9A73C74DF9C1BC4C98C7  
E4863E33599389980

---

#### E5bI Code No 7

F283216A050319CD7685323FD568BB1D0AD9B85232764959973B2DB55620E2E9BC31B189A013  
592E220DBB8345C1F5105373D9786E74D5BF99309B25D1DFF61800F2685815DBD1CBC01DD9DC2  
D2BD8417AC887027B5B85DA397D966FAAB1D8A1061C1D6875B5925879BB3EDBE91D8DEA9F874  
F3708262AC41FB31E1D58B892B3BF9C6AEF7C8C23EC2A5C6F84B53E006575B7AFBBF45B23F99B  
B539945A93CDCD6122312D09E27692E9A5D06AC135EF0B24DA853A95B36B7E9AFFCC95B6F65  
736F54F8B29BD3C8058D89AD336C8FC758F3EC083C851F0A73069B2AD3C8484EA141ECA1F36  
CC0665B83786B83381395654512C94D9CED2D944A0F494CAE3F0D636A0D7AF68AC96B3E5EF120  
951E3C31862293AB7BA9C16F0BD267D77082A507C858B8B3E8B9383DFB15CFDB2415827C57451  
6FAA0F6CD20F9F7D2AE801DEAEE54A9A25DF9509B659DCA102A8DEEC84AA72635E8FDFD68E5AF  
04F7B980BF24FB44322889780796C6183963F85BBF3892490C2F0FF4B1E3CEF2AEC732164244B  
AE4F5A3DC13B5B75434B03A44B310D0DBD3B6DDC93121FBA802349933E54C239A05609C7CFF25  
D71A0FBCE0359CDB352772E60166B1E8E65D165ECFB7B9E4090960A2056D8068B2838415204E3  
D75B62617AE0ACB20BB296ACC26F33D5C8344F1FA89F40EB060DC2C2DC87C55A3B0E0AC8914F8  
C7B830BF71943B9DEF52B6BE1C9A44AE6BAE0082B9265FCAECB2A6199B0F195BFB65C215BF08  
29F4EE3267A422D9ADA363D8161070EAB8922BE03E6089BC3F579ACA97AB7F1D02EBFACD87EC5  
7B6440AAF1FC5160F967CF8BC87A63DB3311C18639C07DF20EF1C3C0C5F61805ABECE74DD7888  
D4FFC650FA223F7C892B9ACA8588F6B326389468C542262EA2CEC5933494733E2FE01D18811B0  
C869AE2EA3503AD1A2296C11D61F68964D5D258F1C0E7B7EC09F7B03DC51C98A32F6E96B8BFE2  
56B2181FDFD632397F632FD52C461FAE2BFFDF2A9AA44E02D47A8678057493DE24EE3E11A2847  
D84B3FEF26E867A65109EEAA51746FFB0D2D26618122B233E5BE21F06C496D21047EB056FA7D8  
C97DCE5D77A40081FABF2423E5C92A0F4C45907165CCD1CF51C56A2B2728665CF0D58999E55FE  
8FB68A6F2F1ED9C649B7531273EF5F18CFAA384755AB1D73E9AC6707A7701C6A3251DFC9671BA  
29D025F472F36E581762F8C41FF6B9C0EF006A1B8BD2166DD9CF89851A92C8BB15A27CCD59762  
2A51EA7188D78B35BE1748466A0CC2464E0497E562F898C452370071525C8603582D50D05F9B1

1A3FD6BFC3F8750A301051BE191F36617D66F67C98B221F942D1F1C03BCCDECCAA82D566398AB  
534DEC485840C32E22E0516D9205B83FA59289E66A747057AD0304E6002B14F6BD9EEC458EEB  
6319EE9DF6F9EB4536FD39D0B9FAA0F94819A9706190821EDF74FB893EAC0D3D490B936D6  
A53D0E56696A0050AF484B7C5DFA6A5B45998FE7374BCEAD95C1111EDC742AD33ED64C48F5A5B  
BE257BDA93B941F8412A04BEDA8E888FCAE00F4376F4E53E16C782F45BC3553AF9CBB35230E  
E9C37B4233D22CE7610730C4521ADBE4578A34B3DFEDB1CBDA875D56D313595B83CB8D3544C06  
B7CF341E6BFEEA5AF5A50D1BC439647739A0AAA98ED67B7103A33B9A75E66662F78485BA9AF2E  
1F2D15D7F9C13E12E77F871ED909643DB41ECE09AF25B11291DAA872146ECBE2D3C39CA3A6DE7  
AF67599C42279E2645A238799D5AD93917C15261C71FE9D6F377595D14198587B145E49ECB9D  
04C07C9051FA4CF4C

---

#### E5bI Code No 8

4FB0C9E163CF95D9330D8B1047AD6FCB28ADE705EC3E8838152105181C8164BBA0580529FB5E7  
DBDCBEE0B67CA9A1D8AA19B6846484B126A267D7F9AA3FFEDE6CF3A8261F435A483015B75FB39  
A6860FB9B7CC69D146ECB0025DC7E79A9880D0BEA3AE8A396B201202512C9C24F3EC2780318CB  
B04DB9D2323592CACD7E93D5452359D920C51A9B8433A1AD42623641C52A1866A05B914B2BC7A  
AOE906F4E4B931AB759546F4B793F5C006F60A7BDEF6D79496E03E403D7372EC2385FEDD2E22  
7D7E5E1126DEC4EC14BD6960C93B8FD924C2023634C22A2B16542B9EC41529F4C9354F4E2BD4  
7A602FED2BE9FC91B6F247A2291A0F2B9F9E3C464A8046F0F9D0DC9C118CD35C706B498483A  
0714AA401A504F3EDA93BDB22450D81B2CF97D855384B823AAFA965A3FC320CA3EAC08AF2E7D0  
0A204C5499B7A01DCF83AB47E161CF59B45D35E5D9E47F08FA60738C17A106A1D4BFF74BCCB4A  
897C8D3A99D1436472FE24A9B5BA56300A200221F619C92D298F908BDABAB6325BB2B3B6E9EF7  
FA959633CA6169B2DAD376F212C93CA1439BBF3493D40148EA772E191D1B5F90DB31B9D91052  
1D57FBE93724AABF55786368378ECB95C2993645FAB2AD13DAC66647B36EBDD0BFFC6EBC8BCA  
B78AA9BD2D7067D0ED1C5A190803A7D1F1FEE4CA5519A54D0D7C70404DBBD488536485A33136D  
2BD2FD1479787FA009F3EA1235CB451BDD26B3B4EA79D2FDD6D95ECF2365E5A2EE06C8B523498  
72D77B32CCD53E5A28BDE3986EBCB57A059013153761EE8E783F5B34E088835D440758D1CCB8A  
96A16EA6CDC373453A584C3F06844C685CA3F2362235452317AC4F6B73AB623F9A6179B94F2A2  
AC59E3D105091EA88C4E5249155654770CA613E0B11F7D74C709D61A090B22A53B316D05E02D0  
4442E92A524B71584D37E6B1BFF1841FD15379D5A4D8AA2FBDA0786634084333234D89A95C5A  
4252B87CD12BF98C681E7909552699657DB90728F021C5B3EF0D59F5D3A0B2ABB086373E35FB9  
35C9A1432ED932596FE8182B668AE731AD081E473634EFCC212EBF0C8A86841BCF5819CD4292  
03B0CB548FC2ACF54B25C2F1A9B3F98F75CDFB0C0D50CF232158FA44A4CBA828CE2E2F23B5CA8  
E80EDC4F27E8CDC0C879A84DC821F9A7EF37FF285C599BCEDF34E4C07958C90865DE349847CE4  
54BDC9E23F977F58FED34CD2801373FB7B8E4299E90F88CE41E73F47B1C2B46CDA3181281C2CF  
6432ACACFAB5AFA83BCB9ABB002FDBCOA0DD132F08BFE7276BDFDF827E36E4F7F1E4BBAB6204  
5A420A72F251FBA2432B0701C0836F3DADCF6864C1AC31F849D353945021F7231A09612D46F42  
C6E9A63C247BCD01688E7D6DFB4555A344C6E6D4183B6D497C837F6E04C4407540044B57AFEBE  
2296316CA0E2D3DC0F196248EDCCAD4BF4C8F2ED45AE2EB8EF352619EE6F79D10CE1BA7A5D6F3  
4762D9A82AE98ADE36EB0E4529E081A11450EB4F70AEA0378148F38C50DB6246312C7477FEC6  
3B8ADABD0FFF3D1B2ECF3784D0337956B098FE667D1A86D6CAA1C24156EE3881EA7EBEEA9BD13  
C0D5CA57B44008815D32F2F0D30C41719510B4B167E9E1419CCF1E4FF8FF2CB61B051A5A1A326  
7D08D106D1B15F0485B44785FF5D4CD5D95BA1CD4FB9CDB5DAD46A0997A3A4E2F8C0F2E536AC  
3A402B406F9E522D925ACE301274A2A0BED02F062F8C780A42D5F0BA170F4CCB36930655C4B82  
5634B72D2B2524DFEECB9A171A97F2EA6E2BB43D00F89B92AD5E141818B58AEB94573472D636E  
CECF4868B7A761CE4

---

#### E5bI Code No 9

F0AB64492124BD092152A5EF9A1D3C1EA9ABCDBA0BE2B6E833DE5D291E7ED04B1E103AB01FABE  
4FDDF722BCBDD8B7B3E451FDD3D241019AEB2596F99632497E3A9D8212E4E35E523966AD1A02  
8659087E2B2414260B9811289130E5D5E999E123E739755529C59C6D5B53F24C912D2757975FA  
B7C2058398F13DD51BDCD27E8A8EE45BE96998BB9905972F919E8F06B7BBD76EC00229F58C2B  
CD6C50541D16AE8C8E5FCC411E5F9D1BA8BA4E839491344F22FC41B4B561FF43076333B16737  
866CB58EC2F5A228F79E05E0A49C0364347911F66D2B48754A56C9927654615C47B096F4C3DD1  
3EC8F83778369D86DE64B95F1BAE796510195D83A3CD8370F4D510792BC2751A13A3EE000449C  
995463CDF824188591B453B88C6123E5063A1A9674B83350A07C57EC68590BB99A2BDD3BE8753  
B17EAB98174DA3A4296037435D2A35A67C2D44B40AD017AFD4E32EF35D982A2BACB7D3DE110E1  
B530BFC9A03FF8ED64E1303A050FA21CF9A8CDBD9B56F4A68D82EB0F5F5A816FACF7FC37263B  
7BFF8C691117443C3060E531B7EBA83F369FB7F8EBBF8521E85A1B32982E5F95AB3918CD9CC2  
9B65AC3478A97B36DB893BD29A20101A4B6065CEE814E3FD4ED5F07337B049CBA0BA7A1E837D6  
4DFF70859529D7C1F835C9294CAE00030335094DBBBD0C68D413C893ECE208A9A371BC802B573  
9A42FBD7772BB5013C1F2EDE8AE138CDF00658135B2BE5CFC6B115201C8F11818D97E41DB04A  
B1CCE8DAE9B2E0DCFCCB968617FD53E5195BB6B26012749CA276B6A1D1436C028194DA0CF1B1  
FB2ED8177645F543CDF6693B78FE4789AF52CD6DF731C258827E65C15455D8BD8EDC394112B63  
159E60194B3828F74E70334ECDEA8FCC80C0045536235806D9AD863E4E57432D82CDDEA283FEE  
84D43C5725F75C72468115CA91E29813350D918933C19403EAC3CD7AB637139E5D37CA0D6ADA2  
587E03D4A760A792A50EB0D3B7D8DF96FF968A07259E83FEDC1CD30D2ADDAC577031821708CAC  
3D3AC54D0E0345965214E94CADC858813DFCBA5D5CA331980B73C83828984A3CEF59F05D466EE  
6FBE6E0FA927A4FF2EB5D1F28564611C0239F69FD1D5DE3378C36B1485FCFCE8521B431620FE8  
5873F98388729A33A3E79174827B75D148A85D52C7F91B9187ABE72BEF39E5509C0D2B70A5E86  
27227E5886B3AD35E454866675DD3365F6E627869B4CCC0536C1B30F563A9AE01757282CA5170  
41DF6362E7CBB9918773E287B51BB5F0833FDE7A88A2BAB3E18A3399D93A4CA71DC935086C21E

A478793FC43079FBAEDA897B326302FF4BCFA5C5295137ECB653035CD6C12120CAAF6F2CFCD7A  
9DE1B37987AEB506DC0243EADD301CDA8F313101DBFDEF6381A40BC5CE19F5569D2459F1808A0  
C406BDBBEE678111E1F882839E1FF0270323658DF7B3628FE6037C68D2D174AC5F611E213CF037  
2F3CF6B5444F9BFFBF0EF0DECBA0766C91A84A597A045FE874D4C18C72035E2FF481E823E18DC  
A610552FAE185004D90D226592E361E98F250ACF0FC3637F51C993FE5263A3057A7D0DEC690F1  
1A83653E023C12EF263211A17658F78D7E274490FEB35FF38313B1C860F361F21FC4624B2B85  
D180110AA5AEC4FDB886ACBB1986A7BB5B9B15A7E35CBDC81931310C047A14BE6225BFC647DD6  
34D1D010444917AF27768309E3EF1870DAEFdfa23788868110BF22312C2573DBB326F7093F91F  
E73B6084682CBF19BE60BC0B1303A4A326303D851EF82AB38ABAFAE16B676DE05B5488E43D0BF  
CDC2FFA46E5DE866C

---

#### E5bI Code No 10

79833B3A3E625E3B24FACC84F7C58A25036582B49F69EE62F0174F1A006431515E9B77FAFEE6A  
4FC8370038EFEAF5A3F71A7C7251E264A2D445C90AFA91A8CAC47372FFD16A8428C5CE37E3BAA  
03F3D9111676E455E24F75CA70562D1ACD385EFF6121CA19577670CA0FAD805E776C94191238D  
BFBE00CDD037A5AFDD9CC972B3C1CEDF3EDA8B8965AC6077251D219872F301BEADA10D23A7696  
C5B4B41F3568BDC7823183E18BC0E700F9639A91DC4E893881015286169874EAF816F240E001A  
E137B20B9EB54AC541A0DF264A861B7FEAC185E794C367F2859234FD22467CB210F83C5C5C27F  
9E4DD7674621FA80397AB67E236AA01A18E0D99C13EED9EC54D4EAF3732E0D26932AE9119384  
FB7A1CE111FCE7E93EF064D5291974D28E1D77ACCF443633107F69E343DF308C78CF6C8BDAB6  
5A256B5CB2B644441D2D9E284074DDD486E63DF81290C61DC5D1A4C0B65331F60F1F83D4F4A6  
0A009224EA70B4B9472CA00286667D200E5B0822B6FEB482F468C3D44FA5585DF4BF0E0F2A33  
E4AB67756173D5CD805A705D2C7FCAA6529B7733DE59A1FC15597FC5B96A1B83CDDD4CC5D117  
AB42A16F75CC36341A7DACE024494FD7E518812BC17ED227D0AB7999593248B6C2C675B0DAF9D  
5BC104426F115E48364B17C3A83D49B7692A239E6C840E12E1B25CEE25EF1B847FEB8DA3B4B78  
3971A27D3605FBFDABA811E6F196021E33B34A34F4EC4FDE792801FC2A0287D148DD9320602  
0BD45D05450460B704225BB2CE7B5A82AE9D8F59AB93C34252245DED8EE02E93D6180E82D4984  
7BDAF194F62B7DA2A1D63C2DF7ABA7977D6237716EE4E7BFADA13A965B4FD0167A41EBEE39C0E  
5D69281DE2B3F08CD4320007D78184C4C2852D9106EDE4E9C2572EF6B4375A37BEC65CF18E1E2  
41EA80413F93C763E7F9A9BF2B7ADC95129A6BE6BAC24B35FD214ACC820DC4326E36F0DFB6E18  
5A9BE71F7E473FF8D3648E9930456BE9209EDD822EDEE10222EB01A8E1BA3AF11D90C4EB1AFCA  
DC1EC5A1CFBFF21D3B4E54EA74383138D1FF37FBC9F1EA6BA7AC08BE4DCF18C67CA16510BDAE8  
C5F0D058B68D86719C96D1C3551A0ED7C14E5592C81813EB60F9D5F85B6078A5406A9DA454FE3  
E46093EFB277B7DB99A07C342D2663DB9C1969B50197F0D0175425BB8F2A1F7DD5A6615C49409  
E2831324D18D6743206B8C379FB5C7CB44ABFF6B1D952016AF95EF2E385E6488C482C96A5C9  
832CA38DC27176D58B453DB4D2F193523B958FE4EC7B6BBA0C2CBD693A92E86D98EC8527396FF  
58195F872CA14F0A6DFOCAED78CF1F0E3CB4C9169DC8C9491474786705FFA996A6052B72B8A2  
AE5B489DFD56B57A5CCD5A0670BC4E6D4C78D26B4EC6747DB0C5548DE1303B8642DA9FF35B2EA  
015BA154238B0CE0F8EAA7D7C0D7768368781F89FAAFD32BCAB1A93A6EAFF02442507D7C14702  
F7584CC4B17DAAF7A0AB42499ABEE3ECCB80DDFB851EAE421E7ACA7841D0E52613C777912B3C4  
FA7E4D8FB19662D680B7D361F959488C2EE6778C139887ABA8DDCDEF06A89E20D32C1491349A  
0EAB14BD50D34135372DD8230435430BA0B120CCAAE4F26C40552F6C671F96852E9FBE48FEDDA  
EABFEE3EA44907E35B6628C84B90F5FF795D873D345E8FDD01727F27621EB1EFA4D1F5E53B6C7  
C2A9E674B6185B4A259CF7DBD9F515AB26D319818C786059BCD4B3980C8C14C4740B3E532C363  
3A14E23BA470C4C13CFB600B8342D70D41F4EB6A0FE2933959C3C6B733C35E64E0D77EEA6BB15  
548D7B21ADCC6AC60

---

#### E5bI Code No 11

EC2D915F0070493562F04F354933048E0473736D3443D68D8D7ED6F0BDD523393B5FE4790EEB  
4C928046F05DAA556EF8F39556D48FF434563834A79F72AB1F1275D2517E7FB29BC64CE16F0B4  
65920C48719622E618CC3D7518EB53A2F728B335DF34151BE0E239A3747072CD0A7888C8E7A4E  
BE7DD38FD84E0D0E9344EDD98F3B3820BE4E9090CC1CEA1COEC2A63D139598ADF5618C795B1D  
5F0F86C81CDAEDD7651B2C67DBB7198D4A5509B98BECE7120AB6F28977D0FF04B7C307BF10ED  
7BB2C0BB3BF14C138FD191D54D28C77A0A88575D7F97372FC35066ACCOA26A7AF5B816801B071  
8A37D666A492ECC2CD7255AA076F3CD30543DE651DB11C9FDEFFC6DE1A611BA322B1A19ED1B13  
F78412322A0452B32D27C88D3D4574094D97E5D41581AB8BF7318D4C56B76D214EEC890275DE6  
4FB24952F1C8EF54EBA8C7C3557220B4DF722DFB77544A0D8F18DA398FBD1015B130C47B26181  
B67AB8A54DCB069F3715D168653D3865FA8EFA344ABB8266F7600410321A50BDF753335F804E7  
B95E3C0484F1CEE0D94110548669E46E88F6C94466B51FC990F5B34206691AD89B76D6C0086EB  
50C57B6BAA273014458B32F7ED4EBCEB7ABA92952FAC7A53287BEB1E060FA0583840BA971E4F  
9DAA9F0B5EFA1048D06ABA360A4D3206AB5C6220630B37C21A5CC60767BA826A6A638F9E31B62  
3E4A4F03D93F610129DF0C5AD8D37AD539593BBC37ED9174BC4685457F7D9DDCAA4D4ECA24201  
AD128D5F3A934859561AF9BB450D200CCE3F545306D2301D6C6BA8B87D0B07AF521A5DBF8  
8D7536239E13824BB1F32773BE663D4FEF49C154B81B468F316D573DFDA280090D72A7845A6F  
918472E284C295FF96947866B3F9C4C0EE8FA4C0A95943570079FFDB49CD3F5EAC5B43FF4D95F  
685230409A9071151D869096D10A75A50BD7576729D98FDD5257DC835E18945199CAA55978C7C  
BD0A897E2E9F09322021E0EDA0BFD971E199AB3FE147FCF62598CC6FD9B34266E86F540BF85F0  
BA93D1441FD45DF47C6BC5A5753CA38366A94F63AC1799B6D0BE248064E879AD94F8820122965  
7A641CB09C7A4114757515577AA38174B0D75746FCAD05073BE4009F7CE732E0EC2FFC40DDE7B  
14B79B3DB62DDB8C93CA7C3EC3721F2853865D1AE262766746E7806F4E22DCC2CE04FCFA415F  
157A36AABEBFA5AAB0BF9A16114CC2D5CC734B1D0F6CE593768DBFBC0858D73FC761675EB1534  
57B98736EF866CA1A07EB98AD056B73177A8ECC4E1FD771D996ED6B0B30B96396340DF66EE209

725FB9C521A832ED90AE4E810AEA8B3135114F21BA188386A979D08BEFC35B156B3B12E5F1C48  
4028106BBE50BEA5EF5BE9ABF37EE04D380E097423A50370BCC8BBB1AB38C7725519781125990  
A1CB4E2699CE59A4073DF795577F6988DBFB6C06FD3F4F49A60E2D46ACA0415DF52765B03B1B2  
10DCE28765F7AE7F4B27735EA5289700B1FD5CD62FE441A442EDD15A726B9002BDEBF2CFB856  
195988055CAF3D4C2E4526CC193B1A73CD1643D564C86B3D14E057CE9CDF4C1E80D5C51609160  
B943DD1B32E21E2A188E07B12C3E62C069B312A66F8B3D8AFCB549585D00008C37BF010886FF  
12B002A7886D7E7F5D6267623E1ECDCD31A55F207EE8C2171166B4074418E84095F71A0D204BC  
520BC47F856A714E03766FC85F5893198052797BC7E13F6D133264A47EFE80716CE6716C68C30  
4E04E9D0B790B9B3F0DEEB14B9212A1105300C556097E170FD19F3B8A6AAB5F861EA643AA18FB  
1CE5E24F491DE3DAC

---

#### E5bI Code No 12

409B1134F8998401BB764652FEF53D692BC6803D4B470BEF7B23F53CF5DC1118836A648D2768  
CCFC08A79C7DFF43E1AD138B84E475E8AD831DD388402DFC10087D79A5E3AD1DB0B0986E1B8B0  
CC19D433EBD411AF02A7367D5AAE7A66C7E60FDAC4CEBD31A8220B9487BF09E0798449B0C658  
A419489E79366C9C8ED6991ED4247864654D4FA68B234917F4D6FDCFE2386358036DB8E9CBFD6  
86281EA26AB0D39DE28698C9A2D3261DDFE5326766491CD4EBCCF98EFADC490C594A5E69B1001  
BA0E773052ABF1B55621F86CA12B4A3C9FDA8CAED348F7A9A6073456535AFF370E787C24F0E26  
959DF4E816B1ECF31D0C3A61C4189FDE1C8E13BD058BA273006342930810C51156B11A5FE717F  
CD813FDA1043BFF3827ADE87E9F440EE8BF90E95857E691B972277611F1C27DA24475586309A  
188C832435F7B1F1E78EA8DA17DEB8C4F92374DE573A6CEDF71A1EBD102EBAF07E7B58541A16E  
93C077E141FDD9AC50FFF7CADD9769FB9E572B3DA71D0C9614C8A0DAB73FE092A21D2C999225F  
51CF0AF547DB8D7693ED0DA51F11288B3D3C6F37E1C49264F243CB3B46AC35E86DD2B55FBA7D0F  
2A3D7B172AE829F8E80760402E075F81EE903237639B98ED1DAE70613F9E3C075820A7FCA02A5  
585982F5B9989FA6F142CEC5500375502AC599F5C98D587559E47CE6D3FB1D05B110D2187A113  
CB787E0BC69AD39678C199DA82FBED77C643CA165D439A808F953E4C983B026E60FCCB0CC5AA1  
B29CBF8D6329B95D3DA0D0DEE4CE5D4FD264B087FFC66E0C3162809FDCC4B1AE7DE9E358DAA7B  
DF9A65F98F0C4BC9C39E93F560F05913BF1106C7C07F52FFD07DF7A7F2C1786541175437A599B  
9063B1FC6722118CC4822A22913F565A398D96D5B11A0D7C661D5A8A8F39757DD0EA5C98CEF3B  
9A037CA5987A05C7279C9D4D2D36B386B027B1BF85B21E7472FEBB9A99355D0B8A6D688B80EC3  
7156F2A6AC04D532B0609343C77B0F9EF08312B5323EC4E07D3CFFEB6230B468BED5FD9F00175  
790253E4F3BBE057D5930D0815AFA8F7A4237F4B315577EE080D6F220BB3FBA999925F1A005F5  
52575F4AE633604F1150B5C805C8D80C702222C754860EC27648C07FC9441E9975A8A9254264A  
B8493BEF99F7F2D33DC4F805BF98A485459580C3F478D01AD0B13D01C09F4AC02BEF02C785F02  
44C0422F842FB939858B3F10D73299BE79CA375FF18417057B91027971546111AD8AC02179A0  
53804D9D3A7BEA440675C83852C78B20A5C0864B8A5D0E435FC20C003DCF5E7095515A47B308  
C7EC25969D69D95A91D65CF5A4505E250240FFB52E603A831B40808158D2932D3AD316E27B08D  
D09512534B59BFC2DD1C816A0D09C3B17848E5D63FEE578E609A5B1268CAE52E66E1435DCA7BF  
12A4FC1529D5AC9CD624AA19FCC934F2E1CAE19809A7EDEE2C6C75595E125C1DA37BED8936F10  
D4F67C00ED83F3241142B44D2C1508512AE98DA632857732869AAD5AB692019EDA36152A656BA  
90C586590617EB9D7F3813B09C840B3E741681E495D650BC5AEA51FE7303F74FF700A8D19F1E6  
72159BC330889BA19B570649F15320D730F5923496FCC3677E2BE5506C55FFB2D649803F7C3E  
9AA7FF000D9F3F039245CBA83EBA2CC8511DD411B4C696BBBDB6E498C2722F0B8C597729E7E6F  
D2324C14F802ED50EF06F25830DB70D7F46C82DD7DB1AA0B68B706A4F19FC0197009C497D4296  
F1247417D8994B354DE873977EFF02C4676783BE31B734972BC732DC70EBA5F6FAF125535FD31  
27716C67CB7F3E444

---

#### E5bI Code No 13

397E16AE84AAA97262B8839E03D5DA85030F2EB3EF773BABF2D7BE79631BD7F699727F539FFC  
DD05E0881BB23B8E8EF901966AB33D42051CE7398012D8FFF17E0D17D4035F0E3CFD0F9E94134  
D37B275D05E589F1D4BBC6E892D4EB2656FB7E5CE6294F1D870D6F096DCE AFC3E8930E19E1D95  
48A104E4AA7173DFC8AFDE66579DF4F961891F83E9F455DAB2A83C96916894591BA3F5A8FCF1  
EDA3E7B9A4B86DA95DD065D0961F60363C00C61C954BC2004F383CCCC6054A846FD7ADA6CE3C4  
25236CEB9A374158329EF991320ECEB3BC5A4C272606466EA04E2B4D50F3A9FEB73A7EBD94E6A  
992EAA8A5B6E3CC5527E2E25857EF19B5C0ACEEE07FB77C3D63792BF1759B63AB024E6850099B  
28A855EBCADD17A68145C8694963CE125A08A24E699256434AAEFFDF8F1C9A3EB70EE1EC2FB0  
CB5BBA264FC210659A47A5C93A0222F5DABC9464640FF649E5FEF1746B5D497721FED69529C02  
23D412C073D91191711F52D9DBCBB6C219AC4FB60696516CDFA0A66539A333DF3A7DBAE2EE466  
BA048B424C438E40144EF9BDA2EC89FE1E74B4B9CBD0FCCA4523B5E2A8C60FEE2875541684DF5  
36A4AE32CDC7F6A7BF087A4885F3C25341BB44E3CEF18A78513F7D89BBD0896FE9017788478C  
9C694C495683650E39B8AEDC4A3F7ED279C879399A669914FFADCDFFC470DA5E18949A7A036E9  
A4F17DD4F08D311CEF5A30D2EC8EC4D149FF1B6731DD63D1DEC8EBFE98E6C619278CF1352F6  
3797FFEF9FD74E8F986BB74842A3FC092E7686E9ED8660C02AA9F829496F6BC3E2EF78C61A9F6  
990F37227CA0940945FBC4A79A63A186F2EAC6AD6494B78E2ADFD4C0F17B7846F1A88B92E38  
9D7A7C31BF3A2B32285CB6A6DC2D27848BF9966E702CABFBC64F84092B47A177253B3C3585E0F  
7DC5124ED9EFA05B7FC8EB7007F18CC9CCB1943DFA4C9B101121CF6DAC0B75B480B991FAA25B  
0170A3F8924BB145018918743E49C34154C59291D02CA1226900BABA15D475EC07797B48AB24  
E7668A35FA5646D92570A5ACDF2A8D478B763154F7471C60811E003E3917C2CD3353800D77E99  
81E3C6B4439147342A838B40B3A472482E647F446F29B085D9C8C7B7C5B58053AD6D825976FA9  
D2DC007487C6938C75EBD1CB6F475A43474E246FA1A91EB68F80E2EFB6B7B42239684DF221145  
1241DBD451853F5632C887AA3686D8211611440277CFB01A28B212F88B0F4864BC64F407B5137  
F17F576C9011444FF2461B835B20CDBF170A37CE4C8442A7212125A660C5A1B2F783FE67075

84F07E724990CD04808B55DF432711E9A73AB9046CE722B635B5BD20492E0B0A1C085E8F926E9  
8CC54A94D821DBD6ADFD91CA9706A049140480258C11A4CE7EE66AFC56C2A21B4784671FE612D  
8873FE273C2CDEF02FD42CEBCAD0FC08C2B650876E248BA10978BB0970B5113E02DB3036F53D6  
F74D8CE6352F98B5B8621D2A35D2259870FA2A6BE07D5CCE435D10D29F2FC197DE212FCC1926C  
7FD49CE08CC492A56960B783183F88C87A403B4D012E18E063F27BF0B5F82D75688C2207962ED  
06D711F31815D94FF16DC32F3D7A698F770233FE524D0534F4D681F2A2574A4D6F3E91F401767  
E2670A758C3714A857086768DE0F8FE428845344D15915A1725CE9BA3FD0DAF16CB1349ECD1EA  
A5F2E1F1EA58B3A793A22D1D37E0DB0F86B8D9075904FDE73104EF7589E092A234394FB83CCD  
9A91CD6B9A67A3C7DBE56F2ABB860E72490D6F756D11FDD7685B98612F33CBAC9A463E7B76C0D  
36A3040D44149E3D0

---

#### E5bI Code No 14

1E0FC010ACD5935884D4B13CBEAC08B1E1E39E68D6A7E172EA0BC49F467FA9A1FB4A67A66BFA5  
D12A92B9993C2478F604A4B5FD2EF82F9A3DA4E688FC4EEAF439A9AF576F632EB26C686884AA1  
62C682F80D23177F3C2268FC9E33A4A3B4F58327E13913CC82FB732551ABA0FD21BB9A5939B9E  
4A50752603B2FEA8C903ADC9A7A32EBCCB69A2E1541EC43F30FD64A02461AD1501B6FD7EF8F6B  
11758BA2959C68D422E9924DCB9F11F3C8669054A691CF11FFB725437AC9CF73A3DFAED63B0FE  
EB77BE7A4B27177E2719A7A3DB19CC4C2D80D0C958D617D53A9E3A6E4D409AE7CCCC72C7FC5  
B6941CA931453B4D718471C5DFCD5224947DDC569EED813EFOFCF1B56969374E3A2EA44A8AC0  
6DFBBA884ED632F408576383C11F5993E9194FB3D88CDD56719C184ABE0BBE8E0470B9A7EB29B  
2E903F96F8A0FB06F2801C62FCDCBDF41B8EEA84609EC4D825FEFF18895FE74A1EC69715F4324  
09BCC8A26631C874D798C8BD7A8D43874A52092152471985FFE611FFDC3025A8CE37591FF938A  
E34CE8F5E9EB5572550193AF8F76EA89161CA2D4F20309B56F06EAC2F57E6E5A666547E8FA77  
A50276916AA987097ED51F2A9C080E02B9168CFD3AE956558393B3DB2F0A7ACEF7E6203F562A6  
598479FD8A0CC1AAF6C29BFD57C12A6BDF67B67A53E6C1A66A9D342908280142B764587B31A78  
8F54EE9C66B000483FB3A592E0D0B8C8B37F03782E3A2A3B3573F442FD88E4276595FF4505C  
76206DFC7A85BBF77AF88130E6D68ED313364B45FC8E846F4AF9ABD750BCC908F57CABACDFCA  
674785B0D05079484AFDA8CA5DE93CCA721E29F05CD5C361180B618E40625978C9A21011FCFCF  
1D81E8E98109792138710F63AB1BC46D9D87AB41BFC15342137CE27768BB27F96A00AA6D80219  
6FD922C7E3FC03E380E9E23FA716F7EEB212AEE3A2B8143A844F85FE0E334ECB9C8454F7C08  
253E3BC65C69971D693ED65A287DA9DDC6D561ADA1D9A5A892CFAD329AF98AA5AA3D64DCFEF56  
71BEDF2E8EC34E465D6736F94A67DD8AE904E6AF0AA913ACD059E1F62CBA857B355F64A0BAC54  
6099D0B1293BF63876B4168506E196730C739A5E6EF742BB37DC22F6028AAB82FBF7BDF838048  
D3EDDC751D993C2275C3E6A89E32A28E16E7D585A72B7EB3078B6C0271B730B4F93B50E9206A2  
4A1510D6D0340811319AC992C1681EE74F4825E7029D02374059FEF0E02716A17A2663A2759F3  
74965787A9201E2058065E1AA08AC52B830B85BBB9B6AA8CC050234749FAADCA169C68644F87  
91155DBBF7F12EAE229B65529CA4B7FA78673039FECD69019D42C3ECF927F2B70A15D1F24  
9344F7073BABE2374119846940390F3B8F79309B04102137D6E5DDF774863B84950FAFF25F52B  
1778DE93C79765E4AC178C32345CA66B0EA431D6F81592A02D9DD10768493573FC49BC42ECB56  
7F897C7BDF45428C062165B723AF220CA169EC4A6102B9739FEFC0EA17B2DEAB9E66F5DC749B  
52A93CF873F760B9A2DBE2D5C85208BC0F8269A91CC37BE3DFF828395548A5B4B1A6D6956580  
47A91DEB8B4E397E2D2806DE2794B0B51D9196165DA336FFA13848E4857C7B44AE51DB34C640  
02FD02F8DF9FF72E242C344F2B5D58D017E0364B130DEB11863D5FCC814090DE66F0F1A9913EE  
B45050BC45447407D801695274E36210DCB3753A7645540BB0AA136BD572B2E2ECC0C18D46D60  
E4F52EE5A342B1A5C

---

#### E5bI Code No 15

CB2F5A4B8600DE451C3185E21C019B8BECB01433929CE2139F841CFE511C74257A30EA27C1D43  
11599B509929E7BE1EB872380D77EBAD14065EB3536BE0E9A9DA3E936F80A9006A47A60A6C5B1  
10EAA5FDE98A34527D430E45F247E05294714E747B6BA1455FBE24AB02952DC7E5F9D302C3105  
6092471430E366698AF5D791A12863756DE47996B4EE98E6864329DCB5A53C083D6A3F104C0  
415D476B8B6242F63DDE1E8E4B0E541FCAD230ECF15357CEBE779CBF2782D8868D8E0AEFD99  
7499186EA0A75DCB07AA5C97F47095D809E33065D8EEB4F8AD52968829FF1FD0DD6B5E1322FE  
9D1760218E93BA20F4755F9707EFCD8A8E62A4616C5B0E9D109B480F999DF5E4DA312C479589A  
9D1BC9B8761C2ACD696C4EF23A2CE9F512F13AB072E19C618693BFF74FE0019BBA98EA1948375  
5BE6B81EBACB1102A800CD08C47501099AFA78C67844A2B739AC11B7A8AF6B2B1206EDD9C622D  
90BBA0F3C3C2E4A9A0060F55707DEBB239DC228F20EF3CB55C2F7ACB112E9F6C2132DBE3AC4  
7E2E15C5C437D31B4E2B3AE2BD116AF856065C9D6B1CAC28797C5ADB972B770D99DFE101A319  
BF38A06E977F2076EE754F34004CD31E8FBB86D21DF12326CB19F1E87461B3C789457ABF1270A  
573F0A9154E9E0858883D903C7E9AAF30C5C1130B5F1E6FA2784273C476585ADF68BF2697CC28  
2CE68073757F70ED01D20FC72E6C0D4874277A87B9338291B13CE87478F2218D0089E1D5F2825  
B7AE7784E2BFD291741B2AD82D201FC75A487D4F57D6F5A6512C9A29C60E2BABFE00CD3DA6750  
262FAAE513A9668FF8CD5C245DBD895390BD494635B46269FC011E2806B06B76DDEAE9E26CBF2  
A6EEF2193D58F6AC8BC49E101E8677F85C3605939569F16B207BE9DE0D65E884FF8422E825030  
87811B080E78896301D8044A890AA724D0EC2A58B54D72E506CFD025C0585DDC7BBEF2E233E02  
5DA00A61917DA50451139325178F711DFAFC029D567DB48B7CD4ACEC62EDA5AA669557B21EBC9  
7AD815FBB028DAF36976F6E3FF4E4BB6B15DEC164B0193499E3FF2B58A44B5EAD16398834894  
335F17EFDEB579988CB3CA9D1CD7940F5365A3B71E7B2DBFC35B853F8D28BA3759D1CE37542  
288DC910D406D2A8DB060455495E23DFB013E0E4AE23576ED57AF49672D07A14C73B7E528ACB4  
CB3BA325748ED135DA14E1EA838BF54CAD0783772E0651C8B9D903A0F22D0E077F38D74FA47AD  
64BDCDEC92A9401F780053C0420B21CAFA92F95923E2764E0B5F70AE029B90FA6D1315C7DBCC5

3E944B62FCCAE0E32AD55BA279CB8DB58BE2B18EF82EBA94636654592CD8C8FD4E5CCC6325B2F  
11CF8475D7A1721FB52E9E925F05C1CE3DE1D0BF7A73C291EBD881EAC6B771C3EE9FFE17D2372  
F18CA98627D166B7F280A7DD20C634AA715913ED551E049DA98BF4871567C295BB1653EFF9254  
00A1694ADE4F681E307F009CF2097D45B3B92910376FDEF17E58E02B67B06C7D5C629206F0339  
2EEB69349C6178A2AB8C575FFBF6CEF62DB14AC1E1E9B0C3D9FA63686F3F7B6F69E9B08C406C  
24EDF2FF5DDA3CD2CA735C4F7610D734A914A6FB8934B8A3FD5887808D236406E3A187DFB5930  
04CCB6C8E74F0C3CE8F09B65C8525BDF0D2B5C22593DF8D00D7F907B28164D1BB312120745DBD  
623909060C5D0E0EDA4BA7994E5D0AA095506A0E8BE8FC3BD06B37E4CE83A5BDC37C269F035D3  
DD904C7870FAC049D777511BCD4A3E13B896A47A5187C410397D1DAD5350242D8CEB657BB087  
B7AAEAB40F5355C8

---

#### E5bI Code No 16

C1079AE9F30B67267EFCAB6BA16F939BDE6B605F19B8E81F4F7A826C194AAD2C121735FD178A0  
128C4D56398748AB280B71BADBF5A4B721B0B252D678BD601EEB565E4574283CB497AA18D06E  
125D31B480F1E9A0EE3E1A5923B27C62884C7A54FCFCF52BC29F6A0F05B1E08ACCB8629D55CAB  
B677B61FCB4DFC3EACDDAA6CFE205E8EFD5EC90B0D91E9F6942CB656BD0CCCBD451CA9B5F487  
08FCED5625E3A78DE96D8B29DFA1EA3854FA08049B5558100CF396FB8895EDD66C45CB005A9C9  
A9DFDA3CF145B9DDCF4F1CBD2837B5394E43207BF3DFD0D7EDDCABC69A6D34107E6CA7CFAD0F  
9C0CD2A9FFBEE9DB853EDC98082744FA41824952D3D0E246FC17A40964D3C1A28D5206AA02D72  
75DDFFC3A47EA05340E52E8DF0E49CF44B831A5445492D6B21325DEA58B6D702CB5C08562FE33  
37B5FDDCF4FC921A2D10C3482A7E3725D58D0DC03FF800D3A3B07199D1B3F745F59CB60271B  
74B8A83407BA0AAC982E1796CF0F06FD FCC87536AA2F411EC474FEE06A73C2D1B1D6D1AE56A41  
A87FB5E17A6A2CA02E8C95AC278469603D1DC5842801A8C778FE24D1290D84B932AF7E392270C  
3DDA8CA9BFC672C45D340D4A19E7CE329E0232410345C328A9032EB2536608DBAE21615FEA833  
87C4E40BBDABB51C66965101FA6CAB537FE2C6DE4658493200F5FCF3B42AE050AB039EF67D  
A5B8BFD31FC27725AA90A5477684D72184A7F2040410C7492B6C8ECCF95896B0AA4517F269D6  
E890387377AAB9C2ECCA9D84B5A9380830B40639D4590B37537D2FCDF5AD78622DCBFAF60C98F1  
16B36688B80F8BDFE7BA6F6837DE234F5E68E6B052A2355DD666983E41346B341D427CF897F55  
182CDCC810A50CC9E2D6030F1045FC2AC7BD0589C552960487887B41AA6F7B856B57EAF114BF4  
6F2E6D9E41A49C33622FF81FOFC4816AA9FACC4DB8CE1E4A3299376CCFF374506BC9993ECA71F  
A9A779AC5645AC7CC6E66CB5F76DD2BB922D9CC050C74A1F0E8DB81C72A48E1113F2DE3440DBA  
A7AF07D78E01FD92029EAF04EED1736D48112273CBCC6F6A07DFB669A33CB169B48614CB7FD22  
DF040A3AB992FED2C91F8FFCF85E8D805E152E975B4117AB5A95B8FDFC990A2BA5491784CC495  
9EEEF34D697D1A9A6AFF427BDAB376B0CF81B8025D0F79F7D83ED9C0F9A9908344A430E9ADD4  
785B810F27A8B1BC815B440F1450FA91E455C8C5F177F68A0A614040D85F4833BCEE54F7C1B1  
C3288F874B20D9612CFBFF9A03DC6EA85EFC9D79F375A831DEB7366920C2D30AF74B76B5A6C8F  
F12946CA1020DC11A918659BEE80C31B6CD73EAC84E076F5A0D6E8110F22AFA09317D95F3858  
1CC3899A8BEB7AE341395D75BD7B766434EF2794DE2696DE16AD85C3BC368178D6A8C6E7AB3EE  
93E016025B1369068B37D0C5ECE95FA40913F7D01DBE4C131148E5F4EC008C521CCE4135568BB  
78FB3D5DB3A99E42164719544FD9C46B81C571BEE4FA275B9177BAF5619543836361D791853D5  
B85754AE8DF2CD675701B05BA4E433441C578ECA3D0B6AFEC7A25FB7E999A5CC943F856445C2D  
90026C84A438F344479E8B012E66656B29E6F694B7329639D1C7D27D5C0E7226C2C060B1E7D  
CEDA203C7690A6547C1BD8A20497C6607097C916E1F589263D6114342CE2631DB041DA3FC4E2  
5696EFD1302F7C9A6F534AD67119FF97D450D4BFB5E2B171233861768BC74798F325569F40A1  
9434964D7F6FA9A24BF66C066C1E9D05BD00FC9E800ED8EF3CAC84018670B30AF2A0BEE42CBD  
4B86C8A2DE436D568

---

#### E5bI Code No 17

2D9BC6C52B03EDB2B764893D7286EAFE28A8970D4D2A04A8931352C0F75A55268E86B8CDE2068  
11EDCA7FDCD7D25D4A6D2E2FE5104CDB07C8D38C36FE83E224192A909E46F34B5D1986871B1E3  
DBA923076FB2839BD4B126F9D0FDF2075A9FD1E319F2C27DAB014C15F7F5685C600E34C8EA6C  
6D2F6BDC884E87E9B5F9551FB0D77662F323894E2C257F8179A5A9E04DC6E0742DE45552864  
C918CA4EBECC4692D9EE6777B27C20B5F20CB9A89EC574224E1B555B851B12835967AE9AC982  
C36161E2E7D0BC06B6F28BB4A631C7163A6D6B76CC9FB6308A2C171A27064C08EAD35F33A019  
C1D8E98C50B18F53E1D3ADE72B5E85ED8715A38D70F67BCE396BD8B7EBADA1F957C69832AA90B  
C7DAEFAE9F993EAD3856CB2E8B9D8F62562F8DB47AFB49DBB0D62DF249887E4F3BCC175CC834  
65186EAC4B4AFBE9AB509A5F4EEE58885B913E9E8B77AC1DF2931782377B716EE943062C07F25  
E65EFF92C43BF6384B2B2BB893455322DF538E6EA00ED51458135D0FC5FBE383E22A0BD4538E  
73A2E973135CA1E3CBD6E4B07CB2FD40F927CA58A6413543EDA572D3E4BE20A662D22A4DB5FA  
DA3D8216B4DBF0A3F0A20FC6BDC18AAB99A60E55A12508B34E33D1DEC21239B011780C5F3D72E  
BE627F3B7C8743E4A1AB2871CC8DD853193232A0C55236F22891BF8E50C5C2B357ABDE8F342F9  
AF1A6E348DFFF3445EA996ED3D4A889F3A09EC3015472E728E32D82150467FB03F746CFD1A9E  
AEF91B3E16CBB18A49F21B9D6234DB7765AD1975D77A4CB623374E71435DFB5AF08B6656EACDE  
013DD1DBB09F4F2D18F79E484C38E1B30E9E20370857B33DF13CC3B93531A0FD8AF033C843198  
5FE58C3BA62AF728E826A2671C1A63F43DE9BCE537865B0AF57F90767AD3384B2D4939E026DF  
389AB6A04C93A1B313872AB554BAF4F151EA00E752914C3520308814C2A7E92CC5F6CD7BD715B  
C9A143A39BBCD4123287CF8C4ED6D1BCC5F00713C04EE851355BF69C65DCA8C5CB86D46F90AF2  
5A07123C2CC0A704240257C933B94172B0432E71B489C65F6E9A2BFCBCB7F3B34C28695F925A5  
34D0ABBE7471D6875A118B36D37A298D9AC9219703D184592FC901148F1CEDAA7B02621A44513  
45089FB02DA94D8F20CC8EE0E0924B041E5FA477499629536E3B33693A5152CE357512844E5A1  
3029485AA4169F53ECC1329C2B844ED50B32B2A220613B1F42EA888B68383DC4741B154F851A8  
20151A36C17621081096AD3D70BFA8847515989CCAFB3CE06776D1DB548693322C0908E5B063

A0D482EF1EBEB75861F2B5A8D1FA764BA121D69DDF1231E769E095EF7B42E38EEADB19F7E3BAC  
AA9163B9595B71A653CD0296E34E3B31F591A1EEA947AA36C55BDC958C8E5D499697DA820F8D9  
CDC09B751E3FDD3EE49FB34E9073C08682D1DC7138E2A2FAE8DC4ABC3A28DCB11A6B9F92E2A98  
81CB731005394590DACC935F572BAB67034B6D9CF0E966B7EE7A3379DFE33C7D0B621817B8FA9  
A8D93EEC77BA493F8552EABBE2A6904C7592E206A9A152204EE63021CA7555A05DDB27FD8FC70  
DE982BC7E5838CC3DF5ACF7F32BD70E65BDF4B7C6790118624373F532C7AB82713B4BEFCAFF2E  
B55CB00BE91CC69DDD1C5FA977782609200BB785E86FCFE21D17DB9417FCB938D0833EA6BD96F  
A1229AEE293AD0880E3DD287371CEC3F899BCFA9DC9B66FC627307BA331F1020AF6233EE00FE8  
B01FFAC9CB7C464F20D97418C2AEA800C878551C701CFB3A9645FB70F2CBB8C0CC73F6AFE6946  
0E6D3D630EC403034

---

#### E5bI Code No 18

BC514690938DAC703824A90124E422A0A9B4ED89CD999D8B2773ADFB66A47505F8D7B6E84879E  
F37ACC61C346C0BCD5ACF4489A07956CDED10B81CC62EB6E8ADF7F4BB0FBEE539BD6FCCB4A4DF  
88BBE3F8FA22699966556731BFAC901215DC15D71F3281153939D05F90D79B0FAEB8EDFC15A2A  
788CE9A405EB431E31AC5650CA6E3B865DD0ED525448DC11BC7E77668EB1A6015351CDA4F46E  
B948FBC9C0299C196745094B023F49A07C4CCAAFBC298FDF9F0E73BED2410BE20192ED22136F4  
022E37E6FF7A4399C609CB2F5B51031DC4BEA90E4C379CF0DEC7C123D2F2D49CCB35D0E41057C  
A75A6D7063E7B50B2CA0C4C1163745F143201D393EF90DF677A3EF761A4A9BE62A15C51AE0238  
1BF1FFAAE4933DEDDF2B64F36CCED0F218CC3A3083B81740FC97CE1D5DE2CFFF344969E5A670A  
D3EE658AF9427B9D738A9110BC0B45421C857FAFE5B8FDD1E6C876D79F451A8920BDF48EEA982  
D7FD91401D51F0FD514A44568E2BA8102956532FD3B3B64300FFF16A23AB982BA7AF15C99892E  
4D4C8FEB79BF5DA567DB0A7C9E781BC5B5D7089056C13D1BF8B7D18C8DF15D223F7071B64130  
0818B828A95CE706C7B40FF21DB74474D6412B6AEF302E80679441ECA16AA4A5FFAAC5A4BFD8E  
798D8790711B0F78538E45BD78B010D719FFC32DA0465EA087F6837A3E67C33B9D2666835008  
80F191154C3ABA78944805D4DEA155A11712B72321C62591C22C3E8EA9CA1C55E1B2C10AF545C  
7929A8F035F5C03DBB6B86983CCC37CA59D58BF0204BB8D8101714F7D5EB26D19331CAB21A24A  
8A655B18798D7C3302168408C775AB5243DE216B0A7FF61ED51D4F2C30B5631EDBB84673A1FD  
3C17006681F05DF6170213AAFA423EC62761E64821758E9FA8696471298325E8B691D9FACE7CD  
8E05FD6B6325BE098123BDD0EA59BA74369A87270675C05CA79CEC1572647DDE6DBBB64AE43A7  
60561B1718124AD77A5B07CDEFF96D436E208A9D84FC6FB001EB30789FD5F1326A33C9F2D7317  
5D9D6E4F02563A59EA69490153783A84C2955BC1CDC0251E041481110D91212CD9582D6D345C  
DCFF2C71B08CB9D3480C65619BD08112602329C5F6D2652F5FA770F47D0F61E7ECF2ED8205A71  
B6667181B5F79B93D059469A71D2DA196FD98690BB58B4DC218B16DC650CBDC57FF7FF3890919  
7C597BCBDFB7ED0F883983C18CAFBD80D56C071E2C2B64E33CEC03A58225AF13F3A8517DF3A23  
D90ED43E7F429E5EED8F99F136944B61816E6B9E147B173AC33551C4B6C05FAED10FEFB202F4E  
BB0F4A73AE53D3E7600F268D557555CB61A823D36ED537AE76FB96462D8B5ACCE8427DF32371F  
F4F32E66896D3ED4478943F08D0B7BB528C2A39E7CF77C621577C3DCFFA5BBDC6A4D3D0C41DFO  
A7F141EB60B63750669ECE2CEC7C6EDF0660BF96749D01727040AD51D4869585812D3E604F94F  
B8C90925A4AD3859D7DFBE83CD1A88F8E3F15EA96A4D745301B3480A2C6463F885A32BC173FB  
CDF800C8BF8768DF2041ECE73D9F17B7119438DF45B99484859BEBD1938CDC0CBA05B9E117BB  
5F2F205FE6B50B602B429C8133F52FDD887443EFFA8176EAA21FD567D124D7912599DF30E3B7  
6079572436439192C714F45DEAA892256DF38F16825575F9AAE7FB7236D1F8860071AF421D5F  
6F9E75F5D39218726E24C8BB3C9EBF3269579C421DFAC0B5D3691031F444B9A4E7004A91A6061  
B3C0CCDE29FBF07B1A0ED82BC3947ADC3D87B423CA1694310E29DD31663C11B8B8E062A9EC4D  
4E0FC19DF916A6C80

---

#### E5bI Code No 19

F848B06D24B8741482555C3315EC3D051B23BC975819C7A3B0D152E1970E1FABF323853BF3700  
8713374D685E9CD2CD0CEBC6A8D5CCD62FD5603BE5074AADF79C6310542F1747C5C7A1C260AA8  
FC4729AF5E497DB117D635DEEC76810DDC5E67BAABB45F835D6580075744E36BAC80CECB538A  
8EB36F60C3B47821CE2EC482CFB80058E1AE5CC37700FA07895D30745AFE02235B1E7ABEEA172  
D60C59FE0B386A615121FB1A4EDA4B4A089E0B5C6F273E3592DC84E3499A789903BCD8B74768  
70F2A247C5069EB644B607732089818618BE394F3F99FB340828D0396B7807E5F323884023D37  
1F650D95084D2C44A82507509497A99EFE83B4C1F6546D657CD72DFCA6206A4C44D1DA9AB81E  
EE49DFFEA323EEC5FF3BB4CC02F34AABB39975E152327682BA5E0EE8286367D49F8C244966901  
89DCA21361372DC48BBB3DEE1CD96A9833DAD1A161838F7E63FB67A7A5740D7D7C15051EF9F1  
902BE1806DA5207F4F1715ECFAAE928035C5661B76B5703D5B9444D35FE966C3553918D525579  
DD87ED0D695740103AE9B49E034C5441DBB8D68274DE9140839AAF70A2507E725AA9C1B7BEA38  
E45C85CE08004B2F96B5BA4181E4F8B53DF62A12FD44800AB28076BD11FE30DD46AF779DEFD25  
089104156F9B4F00FF4374E6D5B3F40470F8CE75B2C59B9D2B8328714F446078ED2CBA3AD5C34  
BFD3B4D673B90EB66A67B6BB6C92E5BAE22A663A7C4A8E279F5604BF2454E8CD43154B68AD5A3  
52087CF5503D43AD65C942B2A24BBFBE048ED195E75831E58F468FE3049B3BB0A53908066A6BB  
912ED2F76707DC5AECFA0D94C929F1EA950F70163F0373A1C450F62C013AA72FD63ACA6D3C2F3  
C1DCB571FCA6818F7784D8FCBC9A3CAC2EA577356AA03497C4811E5418A0A7FC97F01D324BC5  
BF50025582D33F3E7BE235C717FE3F8677664800ABFC0F846998CADF955B7F039171A9AB4A5F  
06FA6FA682F4989B008887F46792102BF23E66ED196C0033E225444664734B62FF55B277B531F  
AB8968CECCAD65E224CFF621CEBF558D3013E6F7545FC58FC8942A469F3243321872540812211  
B8EE2C980138AF4CADC65EF515F80370BDBD8A5DDE64A7840FDBA73BEEF284A2B6260BB668703  
D442EEBC1E067649DE66BCDE78940D8B1CBF30B431A53DA99E635AFB5617D72CC4A3F8E55C428  
D5D7D3B8E4E152D61460DF112531A5D9CB7C06152E893088D1C5EC150991E46C8D310B3954E5F  
E200FB74116E9E37AD62044FA95A011F1D4427984734375E05C46BEF6B65CC59D45BF74FFDDE18

A037D34A4A084BB356029431842EC8EF5F0485E32F0898DD90BCEB47F1782B02EA1C580E5C95C  
7779A0FF2A2807A05D62B9A1446F287569E60D73A9695A7B6CEB34813B2EB456239567F657A6C  
E18DA28485850D5ADB6F1756948D4BD4E803574A12DBB47F5D2D164713F3CC4C60FFA0B5ECC8  
2AED6F19916F0CD8C1452B41579A8A40E7A1D4E7220E6D78EDC6A592E2F30CA677AF87BF22707  
824D597541CE0B44ECF15683088FA2ED3CFFEE9D3FA26A3A4D405926511B2590953820D4DF802D  
00431F2AC3FC25AB5684018BFD1F5D7D714E5C6DF0F0DF6DCBA6D4B32D88BB1B740608CDE52DE  
67246AAEA7FA0111854B8DA2B0B923EDFB3A7330144DA966EBCCC58600724B2EF3BBA076E5B9  
32B34F4E4F4425E2AFA63F57D932545299FC145F004C076E8BB4D372F73F6EB6653F779456FFE  
3A3A12760DC02CD58B5B891436406A7919DFB9AEDC7D8A82F4C585483982DE2B086258474302E  
7EB26DA4183D363D0

---

#### E5bI Code No 20

4F01E8C687252CAA1EA80DF4411F92015BDD7DE90F317908FABE7B15AF8F7DCE47FB3B3C09DF  
31F58C41FF10A2748B2DE8321E8726F5FD656B7EF7F3154EA9A92E459551913DB2A69D2AB35CD  
692422229D5D7E40D18C7EE9B2560C7A9972D382C41C3C0821FF1F25DC86C8CA9F94E2054CAC0  
7A3E0DE5CD84127C245586A136884E15573E8711BB8B250C91AF5F78D8701E014F0D3B52951AA  
4EC7BE99F4DEEA5DA94227665E542108C2D674ED14A129031F6F6B465D5CCB450491F555FD32E  
89909C88C3CA00FC6D2AA72E6E13C6C5590546C8A75D8C4A14F3C5B4194D23F0DFC0B0A59AF83  
382A9630F81AD5CF275E1703EF17BB96D0F678396C898F462BE677930D60CDB0423D8AD9D5402  
433C8CC3C2AE542DC3EF514DD880DF842082F2074249F07AE3EA1D4075A87CC2F6F869A216D09  
9309182524A528C2E3C472A738F2061C87C93E4C0AAC9760CD0F837F0F2FE9624FDD4E58A102  
A3254B4B2A315E09B0D5017BF456741E542084E861B8828E7360F988106F258BD99FE5A89B61  
D399771D2A9CEA27747913CC00DE32E749180E4DBFB3E7F7AC12F0ADC02BFD1CD116E9628664  
31851374592CBA8AFE0C0F31384C7453C07A40DAC6BA47BF19BC91E5E808DDF9664567A99  
DCBA919045BB79B68CC9037EE8C5142B72B65BA2E8671D771D91BAF5864D63FC72DEC08ECC44  
1C03BCD96621BCA1CA20A81A4CBE03F20F3259F49835062F42C247364EBC33471F0D3316E911B  
35F80A6C8FF8B5C0938F34B1DCECA59D2F3F44E32CF776A3BEF5517010CFCAFCEE3AF65029C3B  
3D97C2857CD384DFBF2AFC9A42829AA62DED01318CE940C35E7EF58027FBBF795833285BAB3CE  
220DE17CC17B10BCF64F53ABA64016830445C7C4B483B469640E2FC686FA23BE89B91C28B3D67  
50FAD9DAAEC3E654B339358A474F49A1199DB9BA703BEE4ACB98A95F16A86CF5044F0AF81F5B8  
DAC4BF807DACA999FF3C774A2FAD89CF07A726F9854CAC24F3437D03AEE6DEF8F54642BAEDD89  
98D5B28743F715E15C2998CDD3C880323A1EB0728260B0817E0FD0C8D9E8C42B43245E43A2C1  
8131476F78EC78A8BE7EB3142BA8D4D66EADF2A61B7E0BCEFE26CD1FF44E7E796E0A917E4A71E  
E2746C6FE2BF313B4FA3AC922327D9F819A9E8E15BAA7506C1CE653FD4D4BEA49191C21157CF  
60A9EE03A526AD9E954805E36B5D731D5A23B73B9974390C37A681483EFB649734AB686A49B51  
856A2C8F22E5B5ADB851C7448A98013E7D106D153A910AA814B2E28084B6E71140B30F39E1BF1  
EDF253476215F80485FB5D7E57AB816F956D61E8B7D6BF98EB08593911D2A81D55FEF4382DA7B  
4BF2D3F5ACE9B1F7C749CA05C3BABC361DBB89DD5A1B5DB57755AB8FB6570E98C69E0F142BBF  
D5E505AA06D87210E2439D2E9CA9DE0952B093893DEE2A94E5BC77B65AC8C71322309787A70A5  
D64B0858C6D137F78E5B0FE02A56F75B6B69C4E87A3DA135280EABDEC95E8B1584889B6ABC0  
04F51FE5631D59FCBFA156D40805B3A5F5F68A687A81E17CDD77F8ECFF3CC8699B379D292A9A  
BF8A3359BA6A32E7D0261720B8A3A836B081FB0637B5A6FCAB7862A1E8CF1C1092924733D530  
C38D4F77C842D2B0DC97AC52A832B124BE512E336D743FAAC4AF92942CCCD61532596809D4208  
60847D5E270FCADD45521C34481EF5AAD4D025E63ECE511363D99415A6D8FAA80CCEBB2E0C8A9  
49A0D5C415F0722817EE147828551B7ABA696155B76632EA94AAFFA69C5398BB67D6754B6FB  
7A351631CA179C1AC

---

#### E5bI Code No 21

B16C9B01A00C67FB6F3E732B0B428D301E56C43EED81DBB504B4DDD2A7E4B3180340DCC6B2D45  
7C56DCB8A98E1BBC98FC453EBD696E9D640B8FAF7EEFEA4B78308290B5C6B643F97D02B689A0F  
AE44BBC9F8DD69D81D58A85B590520140357B0823E72C7CF345CA0ADD88FF63E0049F206F0  
3103B3D402DA4E719C0946B882B551B595A1771BA29BF91651D54B918475A71F91D11D9D2B05  
4E312F1E243A24F4867B599CA4EC59D88789D00381D872B5BB14CF4409992778C9B0ECF170076  
D1D28EA18DEB86898A5278FB285415C591D4A694B5C5E34C766C9BFF147F6E780F7CEE9F47B41  
1C1BAA8F2B669DD1DEEEA817D2A61A406D97E030BA1F6E9B2A9485F6E1F30185790895FC968EF  
E0C274817E860E2ED408A6F34DAE84B895B19F0D75A961C993781D3615762707425537717A28A  
DEC678394E9182543C5914593CC12CA6101DA188A0C349639828DC5480FAF82516CCC6FD622F1  
DD7B50F64ACBDB8EF5CD91C2482393A5C72A9BC07388282D393FBAAE9C0464ACA0BA08FADE189  
63CFD2948DA2D9502E759432145D327898724317EED482B04EC24613979DDAAFA0EC1C4AE757  
494F06138613F92266C9C38F063B8C6277E486DD8DE8C01B5EA87B8E8C088FAADBE209DCD45C8  
E9AF54C2C9485F7804866E4A9F42096E54E2728F691DB707E3A129A22C2C4D4726B8CD13C9924  
F388070200BC186E3F0DB92195609A064A813CA6BAC734C35B1F3AC473B733795F6ABFE0BFD79  
A046102394AC1C1C4B7EBFB26ADD\_CD359B9BB151CE1AB86DC5BDF05723644039D8BB1A739578  
9A0D10F7466788106187A8A93F388763FAE0A33D77979B59B24CA8B8DD62A7FD57E1F11003B3A  
8E0F30387C6CE86B7B1C06DBF9E1881EDC0AFD04915E1E54A392396893D3AD7A56464AA860B6  
1BD7D7C144DB048B959F7D28B7C5A1E84EA603C415103C7F418C919EBFD5180CC0E39266D5  
7EF24B335F4E2B5FC3A7B46A8C2A814A03775DE6462ECF0B6EDC8299AE153F7784B6008344D3B  
0AF4A4B3D721ADF4856A5B96AC67BB26092FDC45793DEE80ECDC63E4F8B62A3035477F8D27211  
EFEAA68949F1A72F88BB0D48A6E1D19D5663C851AE96F090B10C40126043952F477F7E02515  
7F07524955C7B9EE83F5375BE3951CD9858C34FEEBD8128520BB24111C858ABA3F2EC2F0C1809  
25C2EA9BFE80B9CF140CEFF4199BB6870730CDE78954525AD7F97002AE2C56A098FF8C7FB7C  
8191D7D5E923B206145C8619D4B26C587A15C00C595DC692B9E1E9852C9B778575E189636B85

CC29C63B49ABFD6BAD698F89EC4EA795BD54C2048FB687E283495617B90F925FC8B6FA71B73DE  
63C4E00777B41C3C255E3D42570AD4568FF670F864D2E2BD0D906CF2F97995BC6697238391BE4  
58711123E656E153B638C02D565FEB6F8734E5AB231D7A3AB3A8DF368011093AFC50625C27B65  
45EE7D8E6E708D7A0AFFAC25E27B6691EB3C7AC0C661555A151458C91697DF976F000828F39FB  
42FAEC5C7CFF5BCBDAB1B48EAFF35132F3E89567954981D617B000991644159F41BE834EFA250  
53EF6EEB51BBE36BBCD1B3E5AD9FFB24707E6E208979E8128B7FE97B7C99BE82CD130ADE9061E  
FB11069B32CE0A165717475B1874A4873C29A396A983B0EF949B65E26802D13B1F0503617C9E1  
CB6050A6AD6202DB54DD94C5941485FAE5575B03E445EFB80DE52456C373D9C40DFBF9EBD4172  
F75CBB72B4FBDE8B57A768C3D723DA35EC6D79FF48F94211D43102AADCEC758748447AAD12C6  
1C651316C23C99DE8

---

#### E5bI Code No 22

B2827D682D4012B8F6E4C6D5C7A047D69B1A34FC25715BBD5CA1CF71F88DFC65871D7E9D49209  
D1748F1B48566AC6CB8D253DF76E027090F5FDFC8A0EB82B4AAAFB939F13F92A7902E29318A5  
A23A4443480419A0173F846AFAE964C7E7CAE99229D6821DFEFD8B195E8B3176D079F11507DF  
23FD0C261EC61A0551136F7322620E671BEA5585A092DC613F79BA89D38BBDCB173949A580FE9  
634C2422C609C3EFF952C04CF103D713544E592BDEAB6DF35826CAEC60F24AA07F8B463F3F09F  
9967060DB17AA5B86BFC695F20E0C16B8500A68175E7671E442E83764B1CC114C90855E5B0247  
4A24824AF91B377C311CE30B0CC39F934C3F659A6B7053C9DAE76C218511E0E3B94CC15ADA4FE  
CBA803DCC7D6FD57D22EF851640B050C3C6977170E7290F0B02DB760E7A1E4868D1E0C2691A5  
14590DB206AB6BB868D4D8DD26D3D769EAA0A9504488611D8B63D03AC5A6DBA6CD79724B656F  
8D02F7317822B25B92B202ECE2F841AA007FC9B740D746DD1D20C9046C28AB6B8A1D6424A096  
FD4D2AE871ED0FA56F544AD760D798F167DCE392C184BCA729C4A10D98BCE22E7671C93D2A6A1  
6679E8F09F961443A9C09F08AF2F8573A0FCE4F3F2C429C3AA5379E5D9FD515A6F4A270719B03  
6D6857FBDEF2485DC29E55F4530B65B090799D4A9D912F824414110C28D946A5EC3F950EEF9C  
4C19BBE28B5F539B50DC2A6D5102243815C68396972A7E8C174B1909E38FB010805648137A48B  
71FBACAA5FA2CA57BB6166897EE52EEB55B12441F7FDDBE24DA6F3F75ADF97BDA227E7755B3  
AEEB342ABB64ECE740C3ECBF59DCD36BB735931A7ACC963CFF4E694C4A501994082C5F68E7568  
18AC2D919B8476CD933C110DDE2172FB4441EBC3DD21BDDC3B0EDE857D7DE44ECD00EB5ACD8B  
6847F0621EC24357054FCFF57E66B3D1B0ADA0F74CBA7D510F70062980E7B0E0542CFD044ADD4  
38A0581113CDF941C9F6840F41D91935B53FE7FEF3F163BDEEB77A706321E6F18DD1B7457D387  
B2EFD40A5712C58EBA2BDEA94C738907B11A5C5150BE6EEE643D8A1EA1A0A565D559ADBDD3D8  
72BCF8FBB404525F791B5AF7EF3CFB6FE10E833F19AA3F7B48CA9602212959FE244F3D3B2B956  
73EC9CB8EAD356125F4A6F8232D39E95B80F1C057CE08E1BAA8569A0F030227BA8E5673BEF1  
B5FF19FA80A8C2AC57A1953729881BAAC48ACF026D9F8B7D4715E16A14A842F7BDF027CFAC22C  
3597F81A065E985AA225EC7F0EA603995973212859B1072E081577C2EF6F6E883EE7F495BBFEC  
990479018457F50DF81CA020D3C7F34A0152684A31E19848A1C7F434B93E4221A77D39061430F  
FF183D86F41FF2F1CC96799370173F71CFFDCCEB0EBED8B8207856B514393AE1709DF732A5598  
3E9FA53AE9AAC855B70762F9CCEB49A14DBB200A4E612D0479DE1B090DEB4051C934920F0BFC67  
20FBEFDC6892E37D8AD3E46C1B41C8CD1F85B833068E70E0DA5054FFC9A4B87D49A2B082A201D  
0F67FCC2A697B4C5E03BF826FDA853C7A7096906B3F169472141C3B355D25F335C4FF43596F6B  
1A7084B173CC50D68F393883673BBEC015A65D9A729D92E8B0369B46575130E9FA4C997730B7  
A8A8B77824DBFE94A58BAA56E798C4AA866366CBB569751C89658280E7ECF0136BF6592F3BC89  
D2FFEDFC0504F9AF6F563ADED00D7307526283675E341A8A3CED3BF371E488DA987BA3C343B5D  
06F3A1D41E1B61C86A9CD85DA34A21194775259150595D9FE6E35B705CCAACE25DE1E669AC6F7  
D9DB5E59537978CB4

---

#### E5bI Code No 23

16C80914164E3DF298C8C6BC874DDA6804D47E82B95B17BBOFEEEF153E7CC64E5AB8ED6A4C748  
5EAB7E4D536EF3FF2FD6BD69C163B0CC41A60D8B4A21E1B0B7754E075B642937B635FE733D47  
FDEDFA00C8E9739B47ABD1EE0029E962EAEBA5268F22CF0B2638EA8EC73444AA98C909B19A5A  
8C5C6BBA58BAF96AB42055799F93D71D631B708E4F134BD59390F84FEE606DD04C106C612C0  
75FD31A5542DA5D3CC90F4CDE79942D1CECE5B93DAFB7E8B1065D3C78C87A738B11C2961CD055  
5E821EB7FECFF00595B50AC4EC507B0FB01013DB5800CD404A53B99AD740EDCCC182C12C28062  
271A15DCA67708091455CDC07105029982DE6A1AC2B94B1AD5BFA422E496C906E9D63738BC107  
98453154CB20525FEC9B7F06541FC9AF94678C6DF98226CD626356BF8A68ADA72BBBDBF8E626F  
1B6DF5545B865103F402E54DE75120850F0C4230B423E90096D517E19787AEF96FAC40363469C  
5D5DF8AEF1D86CF30D10FC805F7AD52555D3EC3E9E0AB681310EEF51A2E5922D9740C972C9E53  
1B90F68B4150A39C8E7FDA224256BACB84D0A65D241987B9B6A4EA6726073C38E374124497FD1  
FE998FD268D4F0FB6031FDB3E17863D81C418F8BEA50963B565E6FB80DC674F5602CAF63F4C14  
9F5FCBEEA29B36F038FB8CC7C9677190E1F07FD114705B11AEC538A2C59DF951B95D07285D1C6  
7BAE2ADBEA859AE553270C26581C633994D5690BF4A4721E297D1E5B4E1CC2948564801AFBDED  
CD3F3715FFCE54B393E9E445A26FAFE2EF1720A05C9C774BEDF251AD010D12BC4417E8FBE9FE1  
7B8881164677383A44C1167BA1C38FD8B8E5754D4E233D12DCE77A697970C8BFD3EA11C8DBD2C6  
6AA8D9FAD8AC8D5F891A4AB4EA4335C485358DA5089A3E141C221B0FB0D9614FF15269183ADA3  
A205942B8EB800964F69C34CC015BC2779BAE3E1F74FEB81020F1B10267C802178DA05C377A43  
3BCE4F2115A0F60621C623F3435F5D02B38FF97BC3816E6CF29AFE7AC1F00C4D8E0BF15A3EAB4  
18A41A55E9AC6B908E3A894077D67515CB342B8502B5F956B4EC258C883E804B451E518E5BB9  
EFC526CC4155C3ABB9296E8FF8385D74209624E89B6973E82AFEB915AF9E0AF6B48BCFC466644  
7452F0972F625909505BF9E21589C512CC0AD7CCEB52C12B6E4482E69A0C394F453046DCB4E7  
353AE0076F0D893A988CD9EC6B05E38EA856EB827007BCEBB678CA3DA0737CFA8ACDA7BE04F06  
90201F43B9DF94900C801958FF8C986ED9A668FF9352F26A59C333A2E9556145C79F9A61DA5DF

029FC931F12A2CB0C1143A04307A97A20025EA277C66D8ED1CC0ACC9112BA9836627AF2088C83  
22CEBEA70B9AD231EB622300268366A89E0578C6A1343F616EA0D15EC098BE2C93B5A2A1AB5D4  
9C2DEF7A35E708A5B28E6BC6EBBE823FDA837E7253859A5D915F9DD238D8F858471E35BA8C0AE  
9359FC07258F02BADB9A71665021966783BA3417D19362C6046831B7BB6DEDFF78C5FEF38774  
3C9AB786E861C3639D2A94FFA920EF4B1C0F1E59CF7E36472ED1DA506847EEB90AB79D09FBA41  
6D46B8D3B172C088DCA4993C9AB7BB775CFEF639EFC52C8934DF85E598B1360001CF805F99DB4  
9B5F1C2D28049013D4FE693E64A61B1C60D86A5CFB57D35AA8667636B506D3C1DBFD1C3DCF977  
E71CB929591311C8C82029105D32169231690EA44A37EB4C66A60CAD5169FF9FB4CF9BACEBD65  
B13A082636A7437278C916B33CD36BEDCA17A09F603300759DA178896C84E154CD3A34A527E57  
685478A99B5199094

---

#### E5bI Code No 24

7B570F8F888E0526F19DEB03BD80266062810BAD10649EEFD052E9BF70C29151F09A63D86F74B  
43AC98B1EF5989CFFE4A61B440E01B228C47A89C658503F02C375F5C66DC2EA97E4EB7DD74393  
F7186B6066C58477C81C53AAF90D62BF28AF85F0BC689852E5A9016D4D1E381D9746E65F26FB0  
DC9E0D4BBC9030EDB64540EBCD953573649B5CC607080E1305CDB6460D26E9F86A83546057F33  
438393CF7FA700CA2ADD69DD79432A3EC0F4D1F72A9BCB7E531323BEDA11FD0202AD8A2E746C  
3A28DF68E9B846C8AEFC952EB6720CBC0D23FB503ECA6905AE3661A96DBB09B63982BDACE71FC  
EDC2D0F7DA43963FBD0674719213176D002CF6F7CF46A77AF805EEE7B98A23C31ACBC9DFDE9F9  
7A57B61BF84B62A8482E0B0EB7AF54E05C07C3E2C63F3B9FD463679ED2DC52198AD3E743946  
6E7C1C0C5E24D879DBF34A5741FBC03A4C3179802A5780FBB87E0F0BDF99F0EE6E19E926F8E98C  
1BE65A38ABC45B273CD542CD10EB90C440037E90E97E4A4B66AA84458A94117F78131363D62CB  
3CB62DC32CB9C5D94B7A565B75D0FB8C8AC1AC5484EFB83F7262B55C19F8083904B70CA77796  
CBB8EAF62AF899D2CD41DE92B0FC573AAA27C5DEF63FD29961957E4E75F0100731604A611EB59  
BCFE6B371D58FA92034482AA43A1C88A73FAE9A0880287840FFF447FEA1F469DE526DFAAC6C06  
72AA3DE10CF9D78BA236A7BEF52BF0B8F15F2A33BF1C4D7ECC16B4C20198475714E620F694637  
F7A0BB9F29C76404DFC147472BBB8107629C141A7A69CF6BAD24FC7CB321829477541281A0DF4  
CDCADB1FB1818DADC8CE4123BB413564EA8D98DAE969E3EA57EFD3C1CEF4BA51C001CEA267033  
904831B96F867508F51094E5CFE6DAB34F7879F57BDDE864DC52EFD32C73C1E4B26EC22AAC6A  
9156DE7BE2DFE520F4325488EFFB330E196B283DA0DF20E3E4A1D7A5EC1014254110AE168A22D  
61AEF83A3D89E5C73CE0A55BB5E55A975FE534D0CB6D2A51143BA2D6E8A10DF83D97A2E6FF40F  
68B39B72A347C6C1CD4F92493E915CC10790D7B8FB5A4316EE504218B02F2D940953DDEDECBAF  
9CE150405EB2B1947D2D0045D9FCE83BCD530AE4A75651CDE9C13AA161602545DB39FC747D917  
F943654FE5D93CDEF3F8E647CE11167B546688FD319E0DC6B38180ADF97E6150DECD83E5BF132  
809CBC76579E50CF813D94FB6AD3F0EE247DAC86811CF7625966409DC99D907316C3FBE4BC26B  
8537CC1471846584D710157BE09D7BD6CD46C89C9DAF39DF4EBE657E9035E78E91D94263B0D87  
B98C7E4C09F741F2D64D7C84A283E05CEDA7748B74578D1222215A4826D1680B71DA08A57A89C  
EE3CC46BAB909C21BD69ABB33A2183E254C87DCF59529315DF3A378C8CE26DACA3DC9DCC3C15  
72EAE6A3331F369955CD847C801B8B69BD3B28525B738E5B1091668D83165EE76783F2D585F86  
F88A958F19F2E0378DBF0998E5339B39FED7D8019CF773C6EDD985A1248827C56302776D5AAAD  
D6A3350D844B766450566DC07774BAE6526C5884BD1C12D8137A2BDBB249D1434EBEDBDE69D77  
0624F07C69E59B765866EA0D2C1920C21C832AF4DE6CA22147E4D35A412D6F5CD1661E47C0C55  
9B4FAC070D422EC14A0561852011ECF5F57C2028876CDD75E2085A36DC463E5C6562D277B10B5  
43DCDC1DAB155D7DB8294CA040D66C770E6D1551C2CD3D55F425735055FF22D081EC031CFE8F  
7B590C3BEC507D160F190B7C0BCF8BC82848776123B08AFB04023DB0189E0AAE9CF350F6E7A45  
22BAA5F079300E908

---

#### E5bI Code No 25

1969C08944104F0F6D3DB64D27C76521D9FE8C35D413E0F30B4764CD45E6847D13A286614436C  
0C373D41B8A00240855A32CFC0F2130CF98B5006B86720A71D6D307B64173A2F0ED9C7A3B5F3E  
824B4290F67DF6479C01E5D4D785DA63D039791D2F0C914E0BAA93086052E74E30B0D2F667AA  
09243B0E5E953685C90A09CFE69B1C77774B1AD281010BDB5F8B333758F5C607695E005D8C00  
4D2958F079929F1E3098929892B6EEBE479A842FDC51A90B477A79E50235843880CC570E06C62  
24B2CF2B221271863E5BC72D2414A28ADFB349B53BCDE2A2669BCB73F7AAA21812D9C3A22D29  
345469BA48C31106E87CCBC14EA7D603367CA4D04D7CEA77A9E89AE89252F6584CDA1157A552D  
51C23331DEB200590EF5788678578056AEC9D0994040D50D8D46EC70BE649B7818DC31DE449E5  
BE741319C696CFD99CEDEB776D1D88D7540EB76455DF88262E3D86D7664484BAF9E6EC2BC51EB  
EB90C3E76E3236D17AA341B3B7F1B3EFF196085B46390C7AD5741751DE655D347BED45207E267  
85A65FD8F8E1408A9B8B58D0DEBBB73468B08BE76EDCDA55C61197AD8E05EB70D553A3064A75  
1AECE7CBF769AA5306CA89886AD6789C05B7723CDF88F28127AB5D8905D9D147F77DB1F6749B6  
1625E41B0D81905AD844CFFAF2D7EFE4880B537A0C2C35090EDAB69017C443A0BD36BD0138BDA  
4C7A1B1E54C8D57416C619F6CAB2144D681F3EAF9FB05A6FAA2FF108940DDD5D0716EDAE7D004  
AB7AF21073B76335D2AEEA54A8660F14D091E46603A748B4D9F3B66E1FEF2383745FEA9ADD  
12A12C66655669BE7023A01DEB9693B7FAF5631FF3C5A91BAA85F7DB720E6189EC9B068066D05  
A6CAE245D6C107993000D8B7E7C32A9B659A02C9F74471196A3EE4774685BFA93F1C2286B94BDF  
EF6B653A2520ADA1DCE8A6C6832DF79F46DA068A5DD6A40587CC8A928690EF9CDB73F0BDAC4A  
OB790309B6A27FD20F23AE7877E57BF70BAFB9AD6E50DC4062B2CD393B8A456CD56FD4FAA1D42  
AD33965ABEF471123486DD9ABBD8DC0B6E74DB20257D066D5AE23CF81AAC322BEBFFEB9CDEC93  
17925AC69F04E60E565EA4C20C682E33F6E4986FB9F1F677AF03612AA49AEA27BEFB6160A23  
91E44BCBCB8A676E7DF729E4FEA84C8C1E7A24BD20200E67E22E071E4C2753E1211F501C79CCE  
26FBFD21E9A57F809F193586A6AEEB62EC6B0D232CAB95BAB7CD79A1F3CFBD113DCCDFAC705ED  
3D715C36A2D6DD78710427B6A8C331FC525EDE113128AC69C538EA0D1A06844A0ADD091BA38

70A00D359FE00D74745BD7C11E76AB9D22002918FFD216133373C37B229BB2765EF6B67D04638  
47191D0413433D7861485BA603029983BF7D17DA369B7AFBFC64FBC04710CA71C8EFC766B8D47  
45D8F6CB78F00973A1EEE7EDACBA7324910A916CD925F3B37DD601DC6482408E964F488FF08F5  
624D279729AC1DAB38226586F042989A480F236A874F1BA682A367F1636F877B7C3D6498E7FA9  
51D8A0DFAEE1519AEAD4797D378CE77A49F020B839FF01BDEF59CDADCFC21CF8F678BAA531A4B  
2356EED839C1DC2A39EE53F19FBE4311F08A47A3091760F3E75FBC6DF3CC5E9C1F23F0C209B4C  
A563FB6EC7BEFBB6DDA80E86328613EA74DEEB92000868940ED956AB7269DA335D402AA54C50A  
0591EF0C21EDA4DAC57E547DB1245BF62069E715FE2174A9AC9D982379EB9D422A6C03845D14F  
043DC55ACF989D262D6458D07A0E198FEE889D3491DEDA7BA25B3C802A537327AB8C102FDA6C0  
33AAFC6BE8602FA7C

---

#### E5bI Code No 26

512FA9AA09712E0725988ECB3E10F8C2A6AB952A9810C3B4A372EACF9FF0E006B8EB2A872158  
2320B3F6EBA8928477A57F3EE089F5CE05DBA6C03F3DD5217D4A6A20E3633FE4C74E75EC85270  
4F0C8BC005CB79BC7D0B2EFC25740239E3F9C328BE021DD9549276B2C0C8EC3CE2D28E56096C7  
22738FD5609801B8497BA11D4CA2CFB2EC8CA16182FA4FEFCAEA1A8C0D8208FD0A3BDF519DDD6  
09495ECA765F66665E6CF33BAB0F50ED40CD59B40FC120A90941AFAB8222FC1E541423045D165  
6C4F673EC9B0B0DCA87D5BD5E9C9C21AB203669751C39B831300F92AAA6521635BD53247B63F1  
B3BFB01BCC0E22EBDEF5C5848CF2A73BB878DF4D247AE45B9DC6517B2173BFC045A223BDAC  
D719D55D23F6D40E1BBF4B4AE36DA16B1A180E8535544C5D29F0E99A17A763BA55ADE0FC297DD  
DB3C61D0931571F773807101FE225C6310E1D01E320E9EEBB750D1FADF4E3CFOE2E19DBC5E7B  
F273FE72DFB86029139F2CE11082D029DBDDE15A300D6612AACD70AAA0D78E4238CEC645DBB  
69F7A21CDDEFDEE1D243B200ED84CD81387D7D0F19CB8693D452F481B68BEE7E79B6D05406B76  
EE5AB521D4BB1A5843D87DD789884DD150760CBA5F93BDCF78ABD053E9699BC63D8EEA113FD  
217BC4967AC4BCEE02B679979AB757BA809151AD0969E7E723223F5F126BF05E3018DF9F098  
6F832B50197E45AFC40A927CC1AAE622649DB0B3BDA4492E4650FC8118B3AB22F97EEE61FB3D8  
D76A7C7A317D2BB18A7CB90E48204DB7D8F8210ACF33E28C077AF20189CD1EC85B8C1A0B3416D  
4FFB6212617D2C1F7BB646A958A48A27787563B6E94A234F3CDC9906F7DBD6E9E49E3891615  
F5B16257DEF7255C89A055C5F6598EC36872E5460C16101D39086BEBF0EC80CF8C9AF4891FC2  
629CD14F1A39B80DCE89C85ED26BF28CEE87CD914BBFD0486CBCCA132BCB4CF88253AD6D5D305  
425D286532166C3DE2488160694BCBC20EDAC104DBC8C056D6D7420A0B60E9DF250C8D07E0707  
56767DAF7F24F67C61767362AE647E4025AA34B4BE95A68BD54EDD78FB45932FD74548E837C34  
4591C8A0399046D69995C9B4BB47A66C2BF8B659C2E49595639C6AC773DF17EFE96F312F59  
2E54977879C840B78D551C75A7899A2C93AD600AD79BB06FFA680A2980CC6640B3F6647B416B9  
BEC68BC1C6A73115484397004C98F9F0637C2D956B8194EC55F47EABCFC3DE06447FED6742F3  
9C5170D0EA3BC5E849F43DF36251A75C4C4F723A994E92BEE217C526AEA701D95CF2BB67FC4E  
73DEAA2FBCBCCBCE10290788658471843B1147DE9B39915ED65306B71E90AB557E3B33E28396C9  
4992B66F5FBDF0946FBB1956198B78013F7BCBB3F39A65DFAF3E81E7A058AA21536D45EA46CC  
12C22CE15756A6E3160CCE5A8CA2351AB2CDE145186535AE86416BF29E2FF87C5742DE237D3F5  
2F1D96E10EC2E65A82F8E1A842C99FBBAE0DEB1827243B6E008998CA082851489BE74B71CB59  
EF909F464A14C8DAFE4859D1209D81430C3AB52DA3F5124D220124CEFA0FB86003DFBAD621724  
8E456D05B7D26E27C9922A3F186137C6BA98E6C79BB20E20B77B16E63AE1EB826E8E83323A1  
445DABB9616DEBBC266D142A7877EE8050C45768DBD0440EC6FB57781101F70C96D45D8C5001A  
49CA5CD852E8B20290145BE748D6244A88C2BD8938ACCE4D68D4A6582E0846F63613F70C4F995  
F673A98C0B09C29703D3A5D9FEE87AE2B3BFF7B46A674018F1466C665CFE0C94933EA98E89503  
38893E6BC9007BED4

---

#### E5bI Code No 27

73F36B0BB91CBBE1AF4467EACB75C940A846EEB5AA2B2BBA6DACA0DCEB0E21EB94AF736D35595  
390978563CF7400A3C87E13CE9AC82A0A92A960BF3DA6FCF59121672ADA1E834748056D2F490F  
66955B95EA45B26FBA8206A3566B44DAD1FC6B41D56FC56F6F38B8FDCE5C6764681147443A726  
8C622BDD44CAFAC9D7BB4DD6E269D80AE94683EE1552329BE51607B9DE76B0F8666F88B37039  
FB02421413DAB547F6E959EAC432021D33248ED0ED2046694D1509E743304A811FDF0CB242ACC  
460611652784588ADF7527D0A7810482C8C5268C5DFAD4A997D74A39989988940361B1E928FA5  
3E733901DEF53DD400E71D21CFA48CB470B41690EDB1E59E40CC1F8502C47425B17774B4A6870  
31A839DB2FE16B6936D8104D6631E183F7AE305FF3BA5645322E510E065E8B95D26224014629C  
FAE284A419BFF808DD20F42EAE1C4B041606CE1113365A32C47DF49B29610A1E01F818513FB4  
FB2F79DBCBB171FE0BFD029E3C6B08DD26BFB0B56DE26D582820CC746489BFET1A9B5673787D  
267CB7C6AF50EBBC37A8E9C029213246D815CFE1B812ABEBAF66B7A6DD001765B7BE6E60B9E19  
3FC9F9E5B605240704674DFA64C2029D0455C12A9D7CFA62F38F5815CCC472400EA13E077580D  
3EA2F6CE323684E2E8B4337265DB11EA5B30ABC4C192FDC7CEB5627353A1359213EFC8E9D07B9  
2BC73D36FD2A4DE2113AB5719AA7836F665C44248F1A20718BFE8465FD9AC11323E090E811530  
F77DAA5DF187CE29C16A877A8FDA753E51365FD425D771C5B310ED2B5A1A27CA21B9BB9F49DFD  
9EEDD6BE88505EB3FFC1857333FCB66EC8B10E104DE9CB27BA32FE1F5B6E3BEF7DBC05605B081F  
A481079A2D770DE380201DE980C92E6C5D7FC7995418E708B427408754C549BBF351AC7E165FD  
2319EEAF0E0B99B5FB093C7751EB9C040FEBEDC45D3085A8726EFAE9375299DD657C72320A3F4  
E2D7972CEF3C9E8A8F0076286DE2401A7540833792D2AB5DDE950723CF502763CA1777AF288A1  
57E7DE6FC701C6A26DB34DDEB87E1ADB340B4C08CB2F3ECF53694A8294CC90F0E152AA6F81F77  
E8EB0B902A3D6B1523972C50709E81F4418EDC67869A9D4ED29E6CEFB236B11C026804C0503EF  
573EF1A26DA78194EBB438754B48269B18C43AB771424006438409A4C659349B405ABBBBC70EC  
CBE922FE4FF3EEA94EE9D9BE1B8753D2EDCE0E955A51EA839E370908C3D6F02DBC5FC46898F1A  
5415A1F7F7D0E2A842482E990E6BA271A47535D7D9E1CFA8E8C3741249616F321D624414EFA4F

4C7C7EB50869722B8D55D9EB24102689C7D042B7169533827C72C7E9992CE40EC693500ED9149  
65DAFF96655583FDF3942558EBD0D4F57FB8A640C5E4C7B584B424FE46153731CDB72D0548F6  
988E84B30C5453B7F7F0AF7C344AA42C430ECB068E2F99B37736109E4D9B6182F2E0F95846EC6  
C796F02BA87023F5ACB5B53A6B561BFC66011A86EDFCFE457CBD06FCA17BE8F978F15E8549AB  
737D92B9A674E560B48D04CDC58725EF2DDD7A24DD43A39D15B6A89AC8E219BD6753CB99631F  
05EB7641AE249390FC4A4E85699405F7B2874EDEEEA3E778B2D99F9CCC5FB1A28042088C609C  
7FED35CD0896C7653E317A32D86860B2829DED99DFBBFE27A35A9405521DACE8422D49D2415CA  
DB642BACAE22E5A6FB007396CB84CB1952D3A240BADEA3F9EE0A303C72581E31A56B93183F784  
FC7A097A348F06515CE89A26CAE99D21AD5C17301935564AB564AAF4C6290EA68626EAC0A2365  
72DC22048DA24C264

---

#### E5bI Code No 28

2D531725771175DDB1061663798BD8B3A0782B5377F7488AD000993DC09ED4C9158D498E391C9  
C750ABE7D50144BC976C5CDD80FCDF1732F3E69313BD4D381BF6AEBB5CC3537A2366FD6E49FB8  
E71C106A6585630A67C1B4F9A69D2C5C9F2B7CB3E2F3D41306461507FC35FFE83FD68CACCD946  
D7B8BF434CE4E837BD0AB20ED05F726725AA320956C41A4864981E7866C120069821F90A24E90  
2D3AA2D3039D532DC306EC284612E9DAB3DE86C29BBF9C9218BEDCFCCB2865D955E0508E4A82  
5CB00BAFB81DB63F1105B02181A5873010F74583E4FE8548403973D9A634C6C1C3D02E04A3D9  
D7FCCD70CDE6A129BD32D4075CCC588A2513B8E2E9458EDD68378D9F249FCD11D3304B75D2E16  
82FCBB87B218440748A8FBBD7E9C7F92CE1895B1DE1FD5486D90442052322BA16DD2C8516AD  
915DDDC9196809DB47494722BCD3248865D159127D216A34A972B3738231ECA3665BB683A3E5C  
A8287906DA73A9BEA1D01C35FC56ACBCD28689A11D10796B3C2C12F3571F72C5D4F7E38A9E993  
B675E4D11FA7D38513ADD163F31B6CC8B9DAE7CC1CC9C1EFEF74366EF346F72B31875A121464  
47E5CD2C802666F67C8C38CAEDCE4DB2F08AD32D2310D5A7FCE33060639C14427B04867035DC6  
F735448102E2683694213C490D24AFFAF43ABD44046B00286BFEB4CF7EDEED09E17EC850C5F1  
2A1E8E4F923C9F576A77069149D45B687CD16E8138FD79CE0AF24ECB586FE6E2097B6768C41AD  
8BD39509B49AAA6FC1092786504DF3D1172C6C4FBE6741B0CEC95012528003299CDD539E3E5DB  
4A051FE2DED59FB02699098913DECFC8EE2DF6DD9081F9384260F21D242B92DA14F998F544835D  
7E79A9E7B99A859D3D6A05A55EFBAB356D9F8B3BE652A7D4F9E7B082DDCC769CA69A32E92E01A  
A2C7A5DA908381D8456FF3A31CAEED50ACD72477FF235EE56F8F3DB87EC793960522D8AE35B36  
AFA6460E82DF18DE082CE3705600AEECACE7EA046F99EF1328E2A15EDE3CFE3742ABFB142EFD4  
A02F2B9FC7F8C73C5E6A16C61D119C48F2DE667FFD135C0DEF914D1096D2F0D6D571D26D95CD  
D13E807611C0A5D03C4B6E0099783568CF23DF54710281E1F688498A87F5D99F3CB7B226EB326  
23DD1BC60FB7BEDF8E9A9A48604892CA3781C4829216955A546C6E03B04AFA167F3F2ED8CC830  
FAA91DE22A575DDCACE10ECA494C10541748362293F818AB2215B31A96181EB2251530E5FA74A  
B71304295064C097D14CCA4267661F5D6CCD956656C73F60C022B633085571F5EDBADCDF08C30  
B2147D7A8E54B5EA85B37DC780986304E2E5ECB372BF0304E0240B20D38F69E652D5A96CE7DB9  
09131B34FC9F8629196D3661950AF536DBBCFD85C1EF14AC7B19031D2A52DD288E6F559FCF2A9  
9DF11C0BFBE556804FF18FFED3166BA5EED0E933FD3A3F41071AA1D62A9216851EFC542D15C59  
CE9D7708AFC6DAE0218C08A237EFA099D08994BC0E8EF5618B7A61095D53603893870F3DEEACF  
2A5DC2DF218011F2F63BCC868B668C88402C5648A6D76A6E86D1F1D02D4F4ADD8E860FB73CFAC  
F5882FBCEF80CC24A2F5129861E2E0A8B868CF8524CE8ACA65D4D04746CB93E0E61C2E965C198  
435796B9E19CB2450717105B9265EC4E344A86EB273E03F646768E3C29975EF12E719C0BD7E5E  
024C23DF3B754E5DF6CB3F8028E1CE3B2AF006906FC074B91CB7BD65C73903B922D74733AAFD6  
5E79621D0C287FD28B8698D6EE00C05407747993781C7EBBC76FCE86663C608516564910AA394  
2B57037E89D3A6344

---

#### E5bI Code No 29

EC83904B22E1DB25A4BAB428325537273B908BB5F85BA90A31E93839FC2477BDFC873CAE003AF  
61C40B3F1ACA29CA2043D4825DE28DD691645E3C322B88F5466FC52F85EB5B09B63156954430C  
2672263A37A2E1302ACCE514D29207844AB02A23A7BAFDE44FF4D555E36948F0771F5F21AFA6  
F8BAF1D69BBE4AB1573CA09C5F4852D16280335FB4FD1D4259989E893F4A017C9C50131826276  
65D7BAE2FEDDAABAD4EDFA810D0BB1462161F01457FFB24F5E8C845237EDE082F139653F0ED9  
7F9BBA3ACB4A7424B721E8DC8B0E0C824D4477A6680C405E4F92901C2726C43921321208F08B2  
9B442F01EA554B1ADFA8FA04F0EA9992739DB100DFD29D035522CD4CF946DE29CF88FE047F43C  
AD5A141705FA6DB068B0BD83F42EB7D0EF8EDE884A4975FBB2C028B6E15FA4872CDD61D5A7DB  
B6332638A3B28DF5F5C446074E3CD95360EC01021F8A94496A9FB11C77B2FC8C9D14BD67201C5  
4CDDE046CEEF8912B6C17A0CB99C3929488C9A51D048900809E1B66BA2B872B6C421195BA6A4E  
386656DCEFDA6F6D6E5A9C175231A03FB31EE6D2DE4911D6301FC11727911338896ABB2C44B3  
E136DD547BE37C5A367DC5A0C9D4F1482B52FFB7EB32D4749F8B1D5FA808636B675582B58EE12  
84305259578867AC6DD343F5A58FF56632B707A0C0223E533C1D2F0862921A588C9A43A1EA927  
EE8FE1FEB8B625EEE9165FC14E331E88768F4E26BE029287C5F317860DD5F435A475DAF83AD  
AAB3C14339E70F523718510F3FA220FA5FB884B7C87B1F24129150C0D35B3854A341C76306092  
CACF7606D24D419763E2BD3B6D3E650DFD608F753E6EA1F7EEB8117A2EA248D8ED2EB51C356C9  
B871925257E64D729D519BCB673BE0F1D23077BCE147BAE7BF6DC26AE81B823F34529569AC48F  
7F7D161E53ACB246AED762C2EDE7D65BF395EB4F73DA983AA5E949AD05242162F4C092B9E974B  
B42A8E18237AB5696AF40DDB6F3C94BE8185C10B4BD1236B4366C85CF309D5B277ABFE64265C5  
E8E623FCE2854981ED73C42BF6CFDDDD7D14570B6279F776116BD3E6900C5BC50776779282938  
9AFF4FD14C532E55A74A7F52004B3122155EF078CFDAFF0BBC1A141C7C78E38AA175AD27B8A05  
39BCF0DF0FDB8E3AB2308916AC045938905CA6509CACEE4F771F4F0534F409E8D07D18E1DE491  
02E431D39369DF8AD109638D2E1DF7C00921C7EE29A26DDC1BB9C83B151DF16BEE4CE6241B23B  
B4B0B2F1AB0FDB2FB92CA538853658BACC738A594532823088550F6E2AFFD38A0612FD94DCCC8

EF8866E6F668310996D681E466881E8F2F5E547513C45B7722732ACA968D2D9394CD22F32CE1E  
6AC0F73D91C85152D44F96DAFA3D47D7EA7C33C02F6ADDDDE8FBC66B6FD107FF715836FFE03E  
62EE9DA9305FD1E4FA10632FDF8BC58A0ABFD11105E8C21AF37E72E7323D9912CF1398266E970  
F3AC2787998638ED86F0FB7DF8F9DC2DBFE6B6CECD3B679D8C8C2D9F4F6FEE3B91A0DA0729B0E  
B81A041FCBD5A39CA6BB6ADF8A56BE4539A56137E60E57A6D7C0F449945A48CEFBCA06746A399  
60BC24BB3DDC06DD078A24218271740D10AFA5FCDEE923706DD125CEB6F52A86F4D9A10B6DE70  
A171B1801AE719D74A31C1F3EECEA312D0436E3DA16FF4D2723A394E4153D08EAC9950DBDB75A  
BB77D181E789AF8A17A88FCCDD530E6ABE74CE034F34F33B88FBA416BBDF1C54B0F9C11EDD164  
8478CDFEAB1CACB493A30609F6E76F7A01A857F374C66034170E817E6330E8EB1B36741ACAD95  
917486CE0887FC090

---

#### E5bI Code No 30

380374D28B44F31397486F759F9ED530CCD71F0590BE4721F98C894AAB422D58CACD3EB2E56F1  
CE283C122A91A45E34CA340CCEA1D9ADCC6794CA074D5D71304DBBDCD5450D1D1EB18C4C8A191  
C07D7B823C6272955F1A4DB5681F8320E975E28FABB12F8BFC710C97D176B4B351133D719BE61  
50F2FAEF09850CBEA485BF7E5D7F37C180DA94A9566A1B5C46098C68A08BDB1BE347CAAFFF3EB  
E5081324761746DF895F1150DC87DDB185A4E52804ED72B0CB1C6E508509A14A9E68072A419A4  
3C3950E018644CB8FECD125053A88702A64DC7E07DAFC226C23754EBA863940DD64456C6F7A50  
4E82998B61BCE0FEF250706938EC881DFB6C6D0AAF82AC842BC717C747EDB0157FCB9BAF5C2FC  
BE0E384A8C21D34C06061C88588DF799933521FE8B0623FFAA6AD72991A4E1CD1BD1216A4AE7  
99A129DEDA8FEBAA5F0E34E2C4BF880DD319EA467790810B559C98B44BAC195AAA07D7D7BE429E  
A79900B1AD6B6591CADE647F186BE41C9A0831620C63800C72EBB52B45C5DD6B237246CBE8475  
4029C2E9066F62E814EF6A679F6559723741539B129A3BD1097C65AAA31A7C7A73B678835F7  
F22031A1672239EC2327464677A86EA701782910DA91BACDAE9952C17DF09586604A7F978A424  
38A3C96CE6AC3040267EBCB7C4B66DBD65FADD00FECC58CBE8DA7B31FF3945B442B6EDC9BE5D7  
2C47117EB4D3774C4DCE0CB369676C4ADC930028B9C5131661D826DD57CB5F77FA319905B7DDF  
F947201159D5952B343E6686EEFCCDD6C000AE170F94E78F1F0D1C5C2176F47EB8471E3D6EA4E  
23EE8363E3CF4F7A187D8F008530829673109D8411855ED62F7D5636FF00D462E05B4834D1DEB  
26739B772088E183AD9A572CDDD5C4A9AE62397E369709299C53B3DD1A821F3A6AAA79D490306  
57226501154F804306BE09AF3551EDF13DDAE5DBF88212F96CFB7AB31FC53B227F8DD858A434B  
A1EAAC9C7148F771A3AB6E7403FAE005FB72516E2823AF3664BC62820C2D647F91F3A3563CD40  
42374CC1B0753A683A1726CA900F9989DB589619D4E6BCBD3EDDC5C02A8CCA0B9953917E5E30  
E6FA01998ACB5493E751736B4F61B5F5A64DC284662D7BF3FB48AD934A42BCB005A11D81370D  
E158BBF771C8C536DC7F2983337E42694988DFB59B36923C5989D258FA9F1720B0BC6317AC9F6  
59E3B48FD381323CEFD3A5633405EC1EB1B5D617C18DEA13DF44A76F07001F3CA6E64EBBE1C9B  
319FE2CFBC68DDC8A723840041EF27B235F7953BB65C6C01100BD972DA61BF097526C89AD4AA  
C1F74A0F2E9CCA0BCD83743A963CB6A1F493B8CD5FB468E659D25896F2759CCE33E6D1A6F2BF5  
310033986E0FB13A66A13703D7453CE3A95B584BD67113D556CF793D4BE424B3B13E608A0A781  
52C370E37F1385C737805BACB654F97DF97A4E3C1E330A864393165833C00A374B9CBBAA6AE1EF  
A7473BF7FD17C95DBC6597E66DC9F5BBFFAABA7D93592A425CBA62ED5B2BAF5DFFE59A83F4E3E  
9F175F12AE98A15D522C5861E30973EB4141841E8C3F8D38A9491E27165B35AC87C5A82DDE88F  
5EC8E34105558F137954CEC51138C0670F85762BE7EB5945CC455807B6E6075A6EE882948D5D3  
92281BC134A9E540FDOE98616964F01ED2FDE29C44EC6F6BA0718AEE440D6D273A0D726D9FE0  
A3C20E2D5109C472FE65BB155B5A69DD784D25C8CE83F8A38BCD23B54FC74FAAB1BAE3055E4E4  
70514E7EC5944DD8B3F61086A30771A831524B6AA1E3871BC851D6717938431F86E4DB31BC0DD  
663C8267835F87934

---

#### E5bI Code No 31

46B4DEDDB85B3D8B7C21C2088EA9AFC4A4D27A43DA786B758F04AAF815305E17831DAA5C594E3D  
E143326A607599169482BAB40DB0AA54AB29536DDF5F87DE9EBA5E799433D3727B73EFC0D1692C  
10C455B0403ADC46CAE3E75A47455D26C5A1C0A8F4B8FEF2B8675408D4AD880D4CF5A8EBA3E  
4AAD5191851F6A9DB1744D846086B6AEE88EECBF77477DD8212C291473445371A2F1471BBDB3  
93BA4CA488DED41DCECED130987D7AE96627C1A7896CA61BAFC0C51C9BBA32AFBF2F4382F64C  
271EE9EA3A44FF8FDC6D503EFA29BF687E26D886BA0669F57C41E15C510532AFF0F07482356F  
0A77AECA610251C0F5875CAB605D7BBBC4BDA946E1F15A737CE38D8AE4BD4943E17253BC8D82C  
7430DCCC05B73D011E97D37805946D54C13C53896FBB9A0669C515EEF13D0F79511E3B1F35883  
8731D98C530CC5CA6C20B39E0E284573CCFB106426CF5EDCCF05BB0F877FA465FE2170C3B8E9F  
3CDAD14BA1429A916B4F69BEB46C4550860B4525070282A4C6911A2BB3545ABC7BCEFE4D139A  
EF824564023A98A601437AD10DD8DF19577B1F9047C08BA199DA243DE8B133325BF5C39FFB80A  
A6444C916BAF27E9E20EC0B611819B47B1AB0DC8579A7F2E034D90E54CCC2A551C02616E3AFD5  
7B78D3718D7A29C0BB17D2AA14A1429B3B33E1C3AD7F0939BCE6969201C107086AECEEDE59AAC  
C515F4CD7F80419CEEB005A85E6E4C4DBA9EE594E28FC6FB571A59098AB431DCE9B0FDA2ABB0  
190412BAF0A8DCD77E989B66DBAEB82478FDF037A05FF8E918EEF227F6D4966D0897053AE653  
7C98EC2DA1E9C642F724B500D8D019C512C0B4EB505761BC2A07BE86A9A55DC5DE683F6EDD594  
C73BAB7EDD9E455608C2178A3F8CFC24CDCBCF2D80B6F3DCB43280A5D0977BF9EB98F31DB9331  
44525900770DCF8AD3CCEE0AFB4673F644F733A1D8E3A400F7C42B860A0069AE8CAB16D0EB598  
E692DD48232DB5E37BCC4D30C19E9303C36D8D9A63AFD2AD6E9026D8796BF190C576CA311C53  
FFAA55EF42E0C3D183805E451924E56F88F561A30E0C4725BB1AEC9BCB283BBED3CE5CF14680  
495E160D6DA33B6C84501EB9194B5D12F0625A6B9116B3C04EBDC97EAE7659F1B456DE06BE24E  
D6831A2B2CB81F1613C8C43A9DBD67BAC6214E3DBBCBF8E30126F4F84E539DA744B49AFFCA1  
5C19AD660E05C19FA00AC03BF6E69CDBB149A78153403D9BFC1976242A0E04D6BE04919D46011  
1E974C4B291B666F41713923194E643E2F60EFA566D4924D0398B4D6EC9EA8D275D0AAB536898

CBCF3A877ED1CDBA31B552086FE54958549C86D5A8AB6CC5C342EA04D363A85AE55EC0365A7D4961580AA3CA7524043B0895B58F6FD508EC9D22CFE664073C71FA9539405C282ACE1E7BCCF1B49A17E0B7CC9F6651D32D527F50BD85680718ADE2DA27D46647111DC540FE2C8033146E6AF88533B4C17A5E4D5949C4762BCBB3813899FD1B63668943A57AF41F5A4A8302F370659F1CB02B009FE83B334B0B4996F0932E5ED48D84E28FC0001E015FEDC43272683323EDA06F6741C20381E3C9A8B2A45976525D5C2EF680206BB8A0FA682E283D7695883F31352C2660737B71D0EDEDBC1F8FC99649AE962A7F7E4E88FA01B0125FF307A20D8DED9A461223AEBD86D27324092E0D1CC4CE094DA8908A30FEB78F4A5728E633EF43AB9D86CEB9D902C1494A6FD7838DBD3C64A3F29A051251344CFE2D28A8CC0ABA9219258C46663B203CFFD7883C058846705A16E2DC4D95B7275E56B518AE13ABE5B7B2B5ADC1B8

---

#### E5bI Code No 32

6C01D916F94AE76996498DC689DC21382F033B000C775A82FE7555C55A4336EA42BC13E11E1E57618CCEEA206A8A03A190FF4706C676502A7FB1EE409380702E302A93DADCB2B6563EEC614309567A872EBB3267027D140ECFE30F295AF75433FAC6D8B897B255FAEA971AE7F69166B9A9B8ECC4CE13E8227A2B0C48E0418C5EF5947F8F1B077F2132FEF89B41F702D966FD8132483B241FA069648428D358C31B2AD22EF4D2C7AA84AAE5AD4F3E2A299F6FB52B350000DFF0EABAD65AD5FAFAE468970254F98B73F24C9CDBB5588D8F4385A0EE78E935C95EA35C76FBDE17621116CEF94451645AA57811D06E26956919418276EC6E3C5699CF7AD4336EF26A7918487E3D4BFBE522D9FAC5C1DE68E1B92DC3BD477EB78F3B2C27175EE8E89063491F2F99DA575AF8AC42DBA237CF991413BF5029F81C4E9E8C4D6320B931BB6316D2E593972F110386701782C32605499EABE557E86810B7B13BCECC9393F17933E0D690C47E782F439815678AF96BB122784CE63D4E4F541A74ED9E026B8582331D044F3CCEAE05B2EB891B02EC27FF0A56252BDB16B6315858D3D101DD852AB5E4B82E6366DBF1C14D5F9F10549326E345C1DE94D83851D36073A1A3809218C1DAB9183AF0F605A382DA21B4766910004C8D7D1481FEC6FF27C9EF80B8E4DFA4C5499CC9E67B4A8E2CD42C78F71D5C0C6CA873BE1F709EE911C1592BDCD8C68E2B6F4DDC012C2B7EA4401940433B24162865D60FB022D6B617CD95108AA582ABFF8D64C7129992435049481AE803796161DD928E9979AAF636D2039BA24E14E7B89D2B7257BFAD10AF8B5AEF6788FC731A7D9553AC47F72319F98728B6B758BDE633FCE36F4B2117249F5DE167A8814381E1F3C547DECB751C9A83E711068B801AC6A317F1840F95FB4196B2AD7C3C7CA5B254D6220524582F25C6CAB9E4E77CDCE15EC40FDB77350362AE60145451C1DA6041B2F088105BEDD3745E9637D7E1D1D5B7F1E234BBC1CA693E28B455246E2D972391F496ACE57C91D4D5B5049FD41B62E165CC9BD02A1F68F515DB7AC6C8CBE5C2A13F75A5C0AD56C9731F191719AC47FBE61B1F4030823C92E1A254A22F60F552C7926143C4C3B8D49A8C647748426D3D7A209696293735877822B2723CFD0937F6A9E5789FE023EFD841D8A478A215E74D74A7D185E1F0B95D87F3F52D813D11B2A59485A6B9F42EC44183675937209E3EB1DD03FEB96A3013CC7DD0E24353EFEFA73E19926A206E85E6311E00811E6F83CD137BCA2B01ED116E9BDF46EECAB8E463BC741FB3AF8845B93204211A581EEF20B0A5BB39CD436786201E81CF1220BFBF8CDF8C6F7A0AB106236ECD19DC74219844AA0471FD411A093148DEE650C3B554363532A414D08B55660212F89ECD0DC1783173040F1D73C6B484CCB2635587265745FE32F4E42A4AC792D4189AEED7E932ECF45827B49696FB5E98135250B7337E5C50ABE2E3316A8B3CE0D3C1761FD7161D7832BF67B2CDBFED17968679534797A475CA1EBE982F36A8CF1C4DDEF15A64CD0D553DF8BD7A98311F5C26B4D80B482E6942358B16890B3BBCB3ECF08281C7DCFFF62E27DC1D357A55728CFC4CF75507F0FF9AC1B7ABD11653BCE119D90B8515D6883EF14B749547A2B9082ACB7726010A69755356528243C4C199544BAD1F8174E177236B45B4949C206DB1AD27BC3C3B1B52B5B717D8F928B6DE9A2711E329ACFA89E1F16AF825EC0E0E97888F759190753020B90F4D704B2EF364C9543AF699206960F0F339ADE71DB75D91671DC AFC

---

#### E5bI Code No 33

0E0BB666FB0BE2A72FD69E9D35984BDE044EDFE05515CA4CEC9B5A1D6319DC4C115D3291FA7EF5FA972182CA14B828F9B43D9A3664FA5A0D2F0A7876BF5298B5E6CA12D98605F09E8CAC18E06BF93A3ABD6A2F18000E9A3AA000CFC8CF1F49D55D3EE0B943083765B717CFAA30718B5C28744F045E563F591A8AD463CEA6D0305BF06CB8D90C2FE1BC929DA8CE85B1A673E52704042515949BB706E68A11417C9BEC9370DBF697C615BEE56ECF4721DED98A0C0F07D8B97443C7C84D7FD4F4884E9DE863ED9009AF9EEC3894B1C1795E05F48F02F589EFF280ED660C449210A1B38AFF929F1514567FB0C6BC6DCBBA3AAD6263128FE04C82D9EC2FB8BB240A55F689F7AEBEBFB09E89EEA815055A3F9740F2C9D4EC812F3D33706E5C06F82B676A83B21EAA7A6703B4E25ACE4F461AADE0198E738739A7DC828151217E8C0E8BFE14D3E8454D9B9DAFF977FD09EE7048C7D9C5B3DFC0A1BD169A2CD184C527E0422434DFA3AA1EEA77C4123FC77B5B1C3E6B888B1369F32E30F54A25B04DF5BB4277E714798B5AD040FD755E340824F7CD925DC5DE2E9E299BE7A13C48C28DE5B5066A3033A7DBBF86B5B715BFD8BED11B8154408C5781CEF8E9FC8C1042B901494A576A04750BBFB13E0DFDED9715807F7F44962601D7FEBE7F7CD4CCA6F4A8FEE7D88EE07E1FB5CEABFB731C6F6120C8A89DE4BBD00E558D3B71895D357FF5ED081D7354379B290B1C81B7DC63A846596B238FC198D1E916616576C2B0ACF0DDF7C934D27C107A0AA9D002F91F6CED138E802CA9ADF6C266CAD94B34C1C2C45B1165D08D9DF0FCBA5261B1C38B6B3848F68FE003496407F8170A0E7DC4B23CB65BC02726D1A94F3B846F0684517E31EEE1BE0CC8B1811CF724F821062324D2620676FFAAB7B69E49E32D414D51D5804E5B678DCAB548BEC889B04E468C91A86B9884C5910D5B4BED1F925600E046AA6B5C7B2206F21AC8EC47A7968F066BAF5B22DE951FF5EEC7F516FB70D8B74089BCF942C12CA0661639FFA0454FB607151C145CAA5586242D6CA5322DD202513D347522439CD3CD11E30BCFC9E18D6540B8B7EBAF30A435570BBACC869F83D30DA317C0B184DFC65AB2A1271733F0BBA0689AFA1FC97552BD188C08DB532B70E8C9BC811AF2F8ADF8C7A4A59F4404B940F1BB9AEA3DF987942344801FFD875DF439A3AC83A263D7EBBC2921D619A54DBDA1C3F0A5C58E3D6A84E93159DA34F120BD387AD3ACF89873B12199A6E54406E436833C03CA5AD9A20858EE47ACA614697A6255E74FFE17974F

9B8DAD2F61DA7E39423A5598F38725E7D0E044DA19D2DBB2DB8EC56FDD1BE2BED816607ED4C58  
A702BF3C484B283DC29D23A1B78EA70499A434DAA240786A0FA279EABA37BEDA0232724565F46  
6FBA00D59E6085A1E77425FBC2B39559D393E571FDB5981434E079AEB80A01A55377B9B0A7F0  
E4D4015341F232B6568474A779A76601AA4FD4A702B7BA4B0FADD21A6FAFC9CFCB338C937069B  
A79146C5337BDE084B331462C04EF29B0B2038070642F5149D80280454AA4D47F2F52121A1A70  
1339C33AE39773438F92499FE4BEA04055DEF15FE22090D27E0A68D357327BCF61D3EA6B334D9  
628973CD6B363BAA9B79574C25FB2932AD98E40606C72F397E77B836F5AD9FC040045501F91  
0B10A4762F7C5F8AEEA911FF040816CFD1F25DC59A1E840DB49966A82B814FC911463C92D8A10  
11F277C77E974A8F6E6DC3162AA53F93E71CCB7DD9C553C3BC5B8DA10DB7999ED85EF724156FB  
FAC44FBAEB6D986B0

---

#### E5bI Code No 34

2708C751F8CBF4830B2A03CA1BE2173F7DAEA8728872684AF7F4C3AE960A8D104475FDA396967  
BAC4466FABC0EA4DBB26E58D9CC3F5B9041ACD3CFF08DC81E7FA7847B9698E4B45EA316541F3  
92829872083B05C5B38CF188F23E10952C896F68AFEE35D4570F800DB755A142A3E900881A897  
F5D55CC51863C4A2E53150E02686D50E1657794D18326DEE198972A132499C8A23278E5558665  
DD3A5BDCAE0A0C69C495014417A7FBB7DC0BD40EEB05699772164C70363E83EADC06AEAB79F09  
BA8BF661789E0721A1F9BDB68494F57032F8DF0D329086D3F5765455195D93DABA860E7704033  
B39EDD4F86838F8B8019D4B30DE31D7410F0EC37B55266BACF419E51A9A0A884B03BC6B6C6E29  
9E991F34C7FA4CD03CFA30FE511341C19907B16799623D6F5A385EAABFCB78DF2C0F57C661008  
4FFA69EB26FB0D3F9C204A9F901B9C28D45E7FE2B5098BF68833876D45C1343BADBCD17C4565F  
67AE44C11B7B4F1A8D74947071739912D6E2A3919B8C2FA7F566B17EBF8B343CB6C92C8C52077  
14EC2ED4C84E7B4C65216AEE46BDF1BB6A501F2416EFC3970E8B4A6DB55FC83D05176BFC  
FF127C29B79E67D6F6E6B640564639390C5F9C68BD160F916B4843917647008EF0E57AF80A5641  
D4300559DD992F6565B066882B32467FE05AAC7E81B7B1990D69B062C9E9E6CA4BADDAC09E5A1  
4C994ABB007E299F2136386F9F66AAE9963A6DD16FAAF35553738FA01E3715D107D1AC57C22F4  
7692315600C41533DC0151630F471C504CE648FB0389B8F970435E7AA84E1B27824743DDF5F78  
3EEC1597FEECB9DA4FD30405EF6818E59027E824D9FABF9E1F74AB205BD57174960F3619DAB55  
0DECFC42974ED12B8960A07C838891BD4A95ECA6A01A59A052D19F554BCA488D0FB7C30E371  
C5FF02A31354EFDAB54B1AFE6904C53E0FB60D5F0E5155811D2F28D65D57E335D52AD7BBAD017  
D5A237E490DDD6BA86FD608CB847566C213EAE3CF93012AB8D2326D93A784650B2DD62CBEBOB2  
7F4B4CFFF012B69E6CD10F9171AB683C91C55B96CC56131929492B346D57AFA1D4476F3D0D045  
84038F66F97A1364F7C54912E246965EE6813F6EB36E90649E68D7A9EE84E47CEDE3BF1B36A35  
1BC1A3737E1A1C7D74F063431E6A09B83605A760AE6197C640600FDC093C58F9D5E4A1F4DC5A6  
5624ADE6FF5C4ABEDA0E81D1E4E452BF3F98247DBD07C51B71C0321CBCA7F96E1BC5161AA245A  
98E84B22B4E739099E155E432EA4159C1DDBF6F20A6E66396083893FDDDBE7C6B160955052B30  
C104AB805F6C883264885D18875FFFEC9F12A1C7D395CFF3EAE00A3E110FB9DF8DBE5E15330C7  
482895EAEF7A8B537BAC31EE295B5FF274A32B278044DB01C69BCAB1A872C01EB8ED8663766DE  
B4ED4D0F3E5E6BC77FA0E27B85B6920A71F712F9778F968D6FC10F9A6E01F13060C1EF6CD23AD  
468FFAA78B20178C6899F3B0DC9070019EEFA269DDF85D6E30E3C73C6C866E5FF950F40E65876  
8B0EEFEF93BC31F0E03E882E5BCDF57213B3DE582A58DA0F9F7E574C8AA3904B06029F21497  
88B7B32812B898BCAE538CD8A86F02DCEFD384A2CAC422FB9E2AFA8421D8B4DC6D6F24109DAFD  
3AF52183A9E1EB096794AB0575A962B437F36008BB3ABFBDBC89464C58C68DC546D6B2888A9AA  
A1DEEB78BBF707002D6003CC1A12F7D59179108F7B53C40CE89B4EED08A56E4584B0066414C64  
AA8880571BF4B80334A19BCF45A1B222AFA9320EBDFDB99114D7E7422B0A703AE10D932796BF  
AE62037BF9DB0720C

---

#### E5bI Code No 35

265B55605ED545130DE90D99D14322D3B9621758F5A4456A1C5372FCA1389D780F9AC24962B51  
83D68C702F6ECDBF485A4B3F074AEB2D55FD592296F9103BBD8F0F7E1512AFC84005E8AE1825  
5363CF623200684A053D4A0E7438E73B098D1112A40FC62568545509302E349089432776A00B6  
BE015340C1A27D6566F91ED110D91730750A1F1C389E1880E3CF59D173B822E7303C90939EEE  
42F161AA9334CCFF11E87F83A8DF0012F70FA1D7098DC99A4ADB690812D48316FA7BDCEE5DF  
4ABADF1E89661D0D1A51CBFDDA8A3860FB223DF3746304FC785981EA5F10A0CB707EF70A1AFFF  
B8E58FDC55968778E417F4697A2C2088E197277143A04196F418B191D6C461E593F32686E49FC  
A45E032DE38620DE99A1161B591924518A049DB001F14A9B57AB822FAEDB2144BD5F76F135C01  
8CACAA275BBBD42B9ECE505C7E8F7B6ED6735B8397F2C692A491CCDC59E6CA4AE57471D693D0  
FA9FBA4F39193C853ACE2D54A31E83951C56565FDB12A2CF9079C33DFB40431A3A81CB747C8BB  
C286BE9F58F15EA1AAEF77905086F574317C1A3D5EA3476DA37108C1F0674C6232E22E885457A  
D2659704178499EC8D265264E63A7E614B83346BBCA21F167925D1EA6264F76F5E9F29607367C  
DE50E5427FA1746D70F5C55D5335F2F3DEDDCA0BC8CE7A6EDABC73A44BC31BED3F06101D2B79C  
9E9860D9F660CF0FADE47EF55DA4BA78DC4B61E2C09135ABF941B13818719AD3E7456F2FF13BB  
D997B7CF26007D6DF31C3FC51E6695B5B27DAABB4443D01D1AED3741DA517E7CCF3F4D31DFC1  
47DEE3DE18F62440C041A5E28277EF2785C6AAF4C1458023EBDD9F9B7CEA1CC7B032944131C  
0DD7CE236F75948784E0D6DC66EDF3915E1B30B8105CF16E507348CA81F56EB6A85CC933149E2  
6A6AC5499BF7435275476EE1F2F635E3E7754B2C7D27538FB2941F717C44A7A9A2864ABB83F13  
0F393965DBA7D82B7DAD4B5BFDC5E3406C075FA743E076947D873EDDC4F3143A605659E1D41DA  
24145930428F0791BB784C98EA63897B7D952029A1F5B02A0F13534DC7688453EFE1CEFEA0F9  
743846084AAB1069400990E86BEE387472E6A658C72CEB0D3DD4EF43C7B6453581E86A48B152D  
526F995733A66CB7E415F1E819165466ED314A461C8FF4F9EAEFB13AB11C3D344F33063BC948  
E8DDB358FF436A8D1C759AB2F049A26D474281335BC04943261239D6CF13CE91AA45A0F38950D  
DFD2FA5E739880D13DEED6093398C30F8C0E5694749B0C98FB6E59D1F3638AD6D6BB638C85D29

EF98D6CCD32E8FDB082D895F223FE966BAFA1E016FFF5558681D06CAFFCDC00E2A52ECB9527DC  
CE00920963CE1D3DC7ED2B00A3023782ABF3EC317971E544D11F9DF3E2CB1DCD4BC4D8F2DA3D4  
A88D99B4EAA8EF808DC07EE0E89725AFE8E006E466B48946ADD37DE462772E89EDAFC75AED62  
B942FADE7BE7AF7449852735480178B03A4917A9517D1B7EE3691EA545D21FE2EBD82B22225E8  
8697C27BC085714A7D0A06A8DFCA205810B3D022619C73C0EBF5367D154CD25B39508676D23DC  
6818403F0C4EB81A5953A8C8F4849B2DDA6840E464A69625D02F6CAD2D399A3C90ECB1BE37CAE  
DBD45167C949D01288FC417B47823A90F52E50AA373098ED071F70608A2E1613A657B1D23DDC6  
2AFAE1746B0999926536DAC57235280F472720B22633AE06026A1D86389D432D4FAE6005C19F2  
D484EB68B3C033F5B89DF23F5554C789CBA7630B929B4D0EAC925743F3F16A1CF7D3D8F1AA29F  
29F5571564FA4984C

---

#### E5bI Code No 36

A68E1CB79436B0575C3F49F9D7792D1E401A79AC94077CD3A75075AB7CA34EE886388C72B4FB9  
82A10E1D62E98D1AF55D03C2AF5F008F240543B4B5975CDED3EAE0FB35D2883C1A96BE3A41FC  
029B7B4F9D8A8F934BE5CDE5A09963F6EAA54481AA0B0C0E4CF058CDEC2134C819D0D503FCB28  
29390D38DC46CA3C8E78980AF6B5EA74A307B4BBF0457AB22F01414CC927F73AEA536DBF3C044  
DECEED8E4429DED9CFD013B04844A582915E15706D7F1EF64EFE9F866F68B3520037EE9465953  
F1BCA841F5E9420D15C1D21EE71F89EAADD54CF1931A38F1B9FADC1B61545F2AA6508D2DAA48  
F1BD247FC8CE391B5BCB183887E805867FFC6EB9A9702A98EADE15C202C16F2CF5AEB50964A  
42E50FBAADB88698B8A2EAD0BF307833A0FD8A2F5AEA9C562E6D7EED05D5B33DC639E22C3994  
EFA7277161B84C84E3A7D25BE76580F3C1D30D7911CA715B0D63E4607B5CD81F2B9AAE4FD924  
77FD3F410973616F418C0EAD9350CE238C8D84935098A9D76216CFBF755C610E29C0270B71023  
0961D960BE716259C9330B80DEECB7BE9F842E0F0D9A72BE1D200A8350B80F698DAF00110383  
B05B5802DB1AD3C511860F2A7C7D3D20F0FCB3F378D5610AA2305C985740E243BDA7CD95825B  
91CB40B22858FFE20BE59626D327FADDAB13291152C5939E61C8349080F6B4F916063EAB31  
EBCB492966D8BD3FF9F9F302E9D18561C9E77383AE0964EDFC521965D36A8CBA9308845FB1BA1  
0C2D818AB4057B058C5376E1350A1101A19247D0DB5C23AF619BD601650CA27FD0E540B692CF2  
497428E11EC3BB94DA045EAT69822EF702A8FF046FBD959F4996922751E871F46756BD38A0B12  
134DDE60A4DFA3C9144784DFF48B5505FEC3FF737D2A4641D82C95D4D334CD2110F3E8A5D1537  
B3FC7C040977C46B203DD1512E42F48DD125190BFF1D1E82E3796B7E579C7232F4979233F83C7  
24ACBC4FFB916E58F7DAD3668B25CC42229288FDE1669CA26F15B1CAE44553106100BD8D3179  
F41C5625DA3D1031FC66EDB8C68B707AAFE69CE6E59753DF34B2BC5E43AD021926866ABA189E  
844EDFD78F5D7D9F067F9396CCF41B5FC373D093686BAD3C8E0A7C579347097E82163C0B19581  
EB7FEB4CE7FEE9E434E4FF63B27D18DE0F406DF53BFB9D5B0AD57356A09955D4D1106F4AF4AB  
3989BE6522D2590CD7FECDA82A638DCBE8D236D17277695B602C1A11BF3A0FD16C585B64E37E2  
750975726341EA19E6EE9B5982EEE46177FFEC4EF0B5BE15FA4BAB3E0EB88FEB8EAB01277BAF5  
D148F0338B1F8D24BCDD37171DA60D9323BA0A9D4F5342490E2443006A585A0439A221E1BB1EF  
92DADB8639BE1A0CCA82861320DFB99119FE1C4D00BF629BA5C8D7E14E046D610BD534DAD73ED  
77E66EC03E7F0B93352D9FDEB840837CF898FD2A5CC7026597B713C4FADDA930B2403457AF054  
8FC02922C2A0DDE58C956B6EFBD50BB52C9142C35EE7E28C9CD5B60E1F4ED96F513CEF6B1C25D  
F8AA793A077A39CB55D0F4E6B31CE4C94F02FE959C95F72688986B4A7FCC29E2A333D56B82DBB  
02CFBB0C8765220F6A90A3EB3684BA4D8E22CD99C19B6034A6A60342FE12D2A87814C7A2695E3  
1E545C4FD4FA67C171350EA8C2CBBAA59CCA5C3E2197DD96B3AD0E8020AD09AC44FB87A30FAFA  
A189EBF2AABFCE084E457E42A7A1EE077C92CEEEEDC0E3D9C0424467359FC82B3296710DCAC6  
BC23C5EBBBB79C94178A3771C11A337863A024A105A6B63DF3A60AC8FA355E38EB54086CF63  
8F921642DAC166CBC

---

#### E5bI Code No 37

C3916EF4D0FDC771D077AE01F9F5E078E91EC0976659A02F468794C8CCEFB5A466918F67C68B  
8DE9763426281A2D3B3CFD1B8DB762585AB799B51A74FB8A008CF72A2D8230646E876D3F8A7FC  
CF3A93B29B9E70131B2D4B05769AB350E4A4FEA22FBB8D5A16CD0F4D9769F7206BB78194600DF  
FEECCEFE5E6C371BFAD352D743963754B1A9BDA1E2C727F0B68ED60E82EE39DFA90574C806BA  
74FCD316426F51DB2F44D0C87B505F72C937871C2BFAFC079814F9477F6ECBBBE13E1E8BDCAB  
5051254F40024EC05B7565100F141E7982BECAAEB0E80B763181DB10496964ACBE480959295F5  
051456A62D67A2730A741CB51C6C9585CCFA9C6784D5185F15CA20FAC79C18C7D590E5DAC7D7D  
B2C496EF790622669DF19C5D115A3D7A66717028CF6625C5A5A72E51FF5085BFE804A915A3F9A  
401C10D640AB0818940B4F5BC995CD5A713B196031F5B8A0B26B4A1E2CE709526DA01549FBD1B  
87592745F7F8330593073587AC464B967DD17F8A8B8854ADF62656031056D36FE959626FE5838  
80D9C7600F5045BD238A785239E778BDC56EA9D21DC97C572C4DA832BFE929B0E1499745378EA  
13E760E8F228728C7D8DDA79FB8CB9A135EF728BFD9C804FB1AECEF929D0FF0F375AB23CEAD2  
4F05B47D8A7564C89AF207B1B3E911323AFAD290E72F655E59502DC9960528E6E5C58E0F92769  
BC1942E3156C8AC0487945EBC2C4F11262F0BFF45594EED244D6B8B61E03B5A7C90EE3B0E7100  
97C051649ABD1615EB88803DE26B83E866468F14FB22B5653CDFAC57646400215B192B703B659  
CB892415F001C2457DE8EC0B08F3969582D6C7CF26DB7E5B58387A82C76F7C016B27D2ABF3557  
04C98922EE667E1AE76EDA4E58DBF4C3F388423C156E3967D1E52306C84E94B061B28BBB9CB2E  
B6E04440215147B3DE26C24852AE0B710122860784929C932E313237471768789FCB9AFBAC5D7  
F72665D6D2C51FE5E5520C4ACCFC2C9BB15BCDCE756D357127FDD9FD8BB5A008EFEF7843B1A63  
10761E0F83FB61FA8E30695135FFCE7050D7ED09879D3CAF36F3B990FA3211429AC2084D8AC40  
CA4B49FE83BC537FFBFC06386691254DD47D9699EBDA13CA00AD9F7526C54553511C14CBBB2D1  
50E9DD6035167232D465FC39053BD06C4FE0A0FAD21B950DD3DC1B717F43838AE12D322A9EA1  
D378ED0E12EA74641CE0ABC9FF3AEA2B2E61CC523AC801E61E94200152F0B1C4B35AEFC0AA175  
C8D65C45B2002706BF2D9A9A51ACEC1802B9059CE45FFE67B69F79AA15A17686207DE4D67054F

EDED7374A46ED3679156ADAC2F71242173AAEDB7E004B45298BC6EC6A0521EF47EEB804B86B07  
8C8D6A2D0F1239BDDA751C96526F1CD51F28D23C4E4C653579CD37A89CBE86355B087218856F3  
59A702436A7DA65747238BA4B94161CFEEADA0922BF1326600B7E0E67FD2475BF43412FE527746  
5AFF9E367A902D1904026790F506304D925CFC0B90278D587F91D3782DE0001AB9D4295D67F7B  
D0039BA2917DC567D280E1719112A7B3C41254EF82B42653E5F1FC5631E8DF9FE55F862E42AE3  
4F4D8BA19B76E66244B71F911C051DF63C04BDA0B0F1836FE3E3F7970C042EED4EF0C4AAAE9A4  
90B40FCD55765C365FE1535D99BA5FD887E70529891E77809D69E35F5E9A52FCC12DD6032B11F  
7E725DF8D00FEECD19B985C57DA531EC7AB2913870CBC73A6F38BAF55B5B6F06A6AB853C1B84D  
2908EEDFFA98985625C54C5CEA882BD8366346050CF004C6462647C89443AD1013BAFE6F61F7  
AACB88A3824145138

---

#### E5bI Code No 38

BDC595588ABC103EB2D3C065D92577A696CB28D1A17BF96CB61DCCABBE92BFF6BDB9C278B2CB7  
7F6ABB0A1FBF516395DBC894E98702E5A18EF28FC248D10807CB9A9BDB540714BE47B3CA4EDF4  
33CE84717C7C0EA4B12445F25D3EE604AB598BA606C10CAAADF538756710FEE64D7C79D3AC2D0  
4F95798946A01870F4AB18337EDE971C3F1958CB6DD51531CCCF357232814D6A7F35163A5E04C  
28DAEB0F8AD281620176AC90D583CA8B63D8A846F5FCD928662BFDD1E083E272D5D0384AA4F1E  
95ADA8A8445D5492F00BE98A69370B887044F757318761244BE37A0E25E8A0B7F0B1EEE6B773A  
9399BB42633FD4C155F4E27C8EAED2140C9AD89D238DFBDC3145AD7B13377C1B7491A968C5B7B  
EB6BA7C996EE394124FBBE7DA26D1FDA241FD9A9F70CFDAE8FCF385E5BE9104CA2FAC46664DE8  
D4A9083B0F944CEDA34A4FE578ABC8A8D5F941D1C25387717627046DDA105E76F7EDB61902872  
6CC5A678ED28F93B7781BC11420B5307B22122A3114506A48451B2BEA9AF10C02B9E02F60EE60  
8AEB57F91D345B2DD3D8F1D11788E47E38DCEC02D8678132984EF7F5F1808F7CD102AAFB0641F  
F627BB6D3E29E9CFACT7D650048C182B1E9F5B2F1E95D4078F5D7E8E9035BB8A5C755DB2497DC  
03EF268E1D9ACB631D7F03E449A7F865AF41B8D75D6F40120793F11B879F6035BD9DCC1DBB38B  
A47E1C949891DEA435494966DCC1303BE400D9DDA0745E01600E35BDBDE018730B2AD28C58C37  
5341BEFF914C55CEF195EBEBFBEB1E81085B5F03D404EBAC001CFFE43596541DB6BAD58879D9B  
4E29156B8F7A2B17985B27583E2335EB8BCDF0C606DC1856BD8421C812824ACEE86A1DCBEF3F4  
4E60E4DB38099E59D5C573331127BE650E68776E609C819A80F15697D04F1A3392CCD5A021AA8  
3A06A2AC2D4C18C5B168806EDB96E4283B22DBE71FC1FD43075E73E5787D6D02777BCC5E25FA4  
141110761ABAFAEADD55BF15C6829898DC70FB3E37E06D7C8D1AE6FDC71408869DC97B256D565B  
035EB29D13CC728AB2310B137A361B02B772231E199A4582E08999F14CCB8A7DCBF71D88D848F  
F827A17A756F14078A28545D2403FD5A7EDA997AE2EF48E891A116C74D9F70631F39F70604B8  
8AA52232E405CFAF3DFAB862336EF2436CCE616705CD9A871D3E25B16F3B5D54CC876D38E6F14  
99E520810A5ADBC00B744CA190C5892A43B39A78D22F57C9867BD73A468FC0CDF0FD7622D82DE  
881AA1AF674310DD1E1C7EA8B8C23AFE00AB5FC18C71CE271739573835CC0ED4D1E60734E9E  
92600BA19139D69D88BF7028DCD26BF816F22F5490C1B4AEE92AFC0B77DA3DA9AFA0AD459D5A6  
02A09847739816B574F189E5E9C8FA87A20B8A9D0DC07FA20353E72062F295A636AC44EC364DD  
718B618AD64FAC6F37ABDBE9BE09DF9C8E8F0FB40EA866F3566F978F907EF2FF1D30EF313E0B  
317E873CF6B18A0CB7303538167C155C2C0473B5V194AACAF5F6FB6F7E4691CA69BAF6BC81C6A  
0DFBE8CEC7480DB342D452FD7284431ECD1B206FEA1D831062F3842F08DB1DEEC2F51064194  
C7C0D764F2CA7A6968E5065341C4E6F11759E96ACCD5AD736FF6F0F471E933A288B5AFAE36C1E  
F1F117D91BD72B1A33B8F68CAE179EDA81526BA4187AF6C10776308D179089DDEC292DF871DA3  
1E08E738041A3B2FBF6E5B52774A7D0B6713B8AB0A4A5D9A3E2B8B8A219276D28A5EA967AF6  
C95E1C56D7B7E3E877AAEEDF70B6985E35E4E0811C02EE4B95E64DA809A0A378A41399D504C42  
70173682FD353C588

---

#### E5bI Code No 39

1327D0DF4F98FC13CFD8FC87EAC26CD9BF52F8844EF532BF7194E4F4CD8DF9158FBC6A11D9A6A  
F40901A6FB4FB82B205364A878A433040F9F5687769C7F1CD3CB8F5BF9D05526FC5F7A952D702  
FFA9CFC6D30508F28E0C802020944BEB591297786344DF8B057092A4082DAC163E95AEB74ECC6  
23913CC3226C095B9D5FA48185BF6CB515502E9083E1FD67BBC749777CC98BF205F35621523D8  
DA72A674BBE1AEA89E0327D8E6F6A26DFFEE142C5CE70716D2D8235ABAB9C619EDC560504647  
620C1DB5D91ACAC289AC2EB8805EDE5496F51BD13D90DE4366842109A0B4E05F1D07D03C719DB  
321806A9E7ECB5FD70C9E80C17827552D443DE9A92772239F5285443096B7C7276B767E48F7  
A6FC57460EAFCF6E12155D6427807E152D435E00E305EC7997AD16217700C8B859F89F3391007  
DFF38AD6B34A8769644976F2C2BCEF4B1272540BBOECB22C93CC5FAD1EB5A1B1178504F7A35E0  
BB42153CDF5E4184E63D5C9AA140A66863B26E6773FB38FBC3EE829344E55F8C7FBDCF6636656  
17189886216DA9FC6E64781A195EAF8E2705DE5A9095B93E90D1A31EEDF0EBED20B2906E6ADA6  
B42522093AE922FA4A530BAD07E8EF0A5ADB4D49FAC1DC4A5A6DC083CB38DEC75EB4A9257BC3A  
9613FC6993D499F5BE62AA03A1395E8D8F566EF09D95A58A4C85CF6F406558BC3453B2C351DC2  
90E55A356A3CE3D7A56EEA3CC586ECAB35320414036667FF6BAD06E471A1363DF7BD65B360B68  
D6CF7FCC47875488A386C9A77839008B596B3ACE279C941A48A6E751EA3AE29DDD423C454D003  
2EBF6E17ECE497AF832B9ED80D4B4FD4CA48CF2612EE39EE8804D5E19102244609063D9E9B01  
106109F837A857C4879B01CEE4D2CE94AEE2C827BDB6732DEB9A1DFD4E691EBE956979368B0E  
8AB626887FD05BC95A671D1711A6B8E3AB37827A7E4CD9D0B9B4D596E67099966DAB4E25040D  
9059720F651C063DE8A890224052EACE6A7570D36DABFA0B6BAC8A38BA99AFF1B6E1D8689FE22  
D8194F6D96B4223EB41EC4FC071C47B4CE1845C40DF584A18668BDF1A00A36CA409E47357E910  
FEB3FB44DBB7D52A7976E90D80B90F0BF530456BBBB0B328FB05FD223C65D24BF41BC70519BF  
6C599E059E351E33E12739E198803FAAA48AB0401826BDC7168236DB0301587924BD2AD5A65E1  
48858DCA1914A7A6E5C055AE6CEC8F2B7C114EE2668D990309BE76573AD8FE078639497C7D21C  
EEE3585AEC412B80B6395EC69E2242FC348E2A6FB222D3A9ED5CA97D71076C190DDD0D8078E0

300A202B342030D015AFEEF2B43D65C29CBE8706CBC341FA08D69D2DCF32AC9F5E6387060B10C  
C37F8F30C5552DFCEB1BD3C79E7B47B44A80EC57A9859BC7DB605DDB86886DA64A2C8BF5DAE05  
B4A01DBE4879053C8E1A38FFAB041F0B5405FD04AC8AABD57FA3A46413C21C320F346C7CFDC19  
B631B29812C4E215288D6F9070876167A7AA68FC4862577DC02E9FD50FB3A3FB61A5530E1697B  
E4A3ED6C4E322242EDCEF457923B0023F6712C72975AF49A1E73565A4F17552F3C9B4FE16072F  
65568D78C51E4BACD6A849C20425F32185F79E1E301FFAD704E2D885F2BBDCF152A4B067B4B38  
2AB97A307D92EE1FBFC1C10AEF5090CB8B5BCB5227FC3207584D0F7223916E1EF2CACD7C02882  
7B2CA5146D33965F9C4EB431139611B6FC2427E5FBA87D968BC853BDEED3C33A3788B4DDB5957  
6983A3951BD5D85779C76419C9AC0A54A3957CF3C0974F71E93B622AB66CFF037C91020904546  
672DD0FEB05BCD490

---

#### E5bI Code No 40

EA921FC3D33DD155F48B3356D78FBC9990FEB705BB3E02295DE80D7B39FCEA061341D7C410803  
C2844243A1355F0B6F15D09AF71D12A66A24C5C152EF830B95AD3C0F7B8CC8DFD33104E5C6809  
E22BA86B45078456A848192784A85F4939D90C9F53BBB31A7141F91B5140ACC1CF4634DEFDC07  
OF67C4041F15796D7C2CA4E7554B12361F2FEEB8E7A28D0CBA2F1A707C149A30DB3FC0C4C964  
D9A8E06BF872940C22E6DC33058BC59EFB6ABFE6B2E278084ACDB53CF8BC2C96AA58309730B26  
03045510E19CD315144F51ED99419257B5B29AA177F1625AEFC95925947DD67C5FF6A8D704AD3  
A2DCF456A78FEB2431CE62D037BEA00FD8C25DCEF37CF5579A2EE1C3F1465BA89EA2CBF2EBB41  
2907B64CF0EA7624D8A839E733912E7F98EEA283C87AAB455E517F8F479A7AE8B4DE47E22E0A  
E8DE0AA1B982D321A3CED0AD27045A14D202B191953CA21C751230321E1E4AC73C3049403A2D  
423A7BC8BEFD783D5D3E5BCD7CDB75F8EA10205CA5B5B8ECBBC8564B30EFO45C0B3215E768DF4  
D6420EA0BD956421065667E24B52ADF162ACEB33D5082C211B9379E6438D7F00A8CC2D247296B  
570D779A34EDE8D16EF70669DBE7EF52CA48BF3CA6783539DF8A415D804D404F46D91743B417E  
4244E923A01802CF9F5F1ED27F252B991606CA46987F0C49B447821E9147355FB20735EFC4841  
2ECBB558F04A70E871DAAED3A2FC8B7A23FF915C88AEAC4F0CD8F12C845136C4F623566A3BAE2  
803716F02AD5F3FBC040E58C913CE5B28370C516E7C7E08FC21CDE8461DCD960138723990F50D  
B0D427DF0634A490F99ECE15FBA338C3967E4715FF15578538CDA1027B664656364D58B05B8D3  
A06A4CEAC3F7B49AB2D6540F9A54B4E3CFDE20F44BEF251D5565909FEBFAF44F5A23759BBFC4B  
A6021EE7D7B3D0B5C039535AB331CAAB665D91DE334B854B23CBAE5FCBB9AE2D44E527E6B49BB  
0082A0C3EE960D251AC79CA0CE4EC8DA79349CAC602276B51DD37450B95629CC7120D08E3BCE8  
909D17BFC5EEC278F6BDCC95C2708B2064209B4D499A12826A98D13844A8AF00454AAE910AA51  
45C3B82289CC034E7C82E3E2ED2F8E23E8CDD5FC40F97FCB35EF5AADBB7EAA95BA76047171191  
1995669F43D73D64D07D56C69A4B2B2CD41DC03ED9EC6A92241D3FD084225D38FC625192F5AF8  
5D299FAB778CF6E0E0D3FDF3A7F79942085CA592260C3458AADAF2776ABE79F372AB0BCAB56A8  
FD04D8EE81DC0C16BB56909114B91B7DF5E56C374111D032663AF48EED3765CF698E675B930  
B76475DB9AD8256CB7E4A52C5BA9F2A3C5808AA2A43A013A9D2A1976C4645952B43BE2061798  
63A740FBA8239AD363440ED9CCBAE423F22FCDC16C48C65EB0F484F38EFBF8F1E1D7863E96F6B  
82F04F99CA434831DFF74CF080DCCA900214258CD747E96C27F1066778A5249576B7BB12FF31B  
F8A465C2B04208233A1FE0875031264DA6FC8AC54F686A7D40DFC65E2EC9A78A8BB751C072196  
FC9C238831BA2A9F798D7D3D0DE08A7FEE095236DCDC8B9D77EEAA0529C831485CAC590C2404  
D4C3FB36A590D9D6576DAD650D4BF6A8609C85D9815314603C365C07AEEE1FE424C0AD100780  
C8C85D8397A18C8591C26D2C2E48C64582B9FDC534220F12189ED2AB30A972A647BB60DEA0724  
D4BC12F64484B647DA7097F663BFD0F63A39DC729186873B333A92B0787F4E8A335DBFCAD7E39  
9272194F9FFB6ADA78E296F634770F69FB851E583EEA8C9CEB5497A9A643044C777581F09A1B3  
FE6DC46290F7DA584

---

#### E5bI Code No 41

D4586907EC637459D2E42A147B17CCBFC1A79225D518E2515F2C89E4AA560FC958DDF8F81E726  
784B064F97EA6C6C853372225D4C8CC2B3F5CC2CF46173E83D09F68A5E3CE78A9D2EC2F7AD0E1  
731D59A86F44121C0455E850FFC48CFDA027A93D74C088C94FC94F77FB04F28792C50F714387D  
F767B884D00C95C0F07E13241CA878A324B4F08986FDC52393E1CAA82D298EB791FA9DD823A1  
2AB51E8C9AFD7A2D0A922F694BCC931F62916A4C348DCF4BF2775488B923434DD905B6DC97AD3  
31355D0F442E44440ADAD1B7B1D630A8AF4330CBD9FA96693F4250C2D2E264B6EE736E368EACC  
2CEE260F1D7EEF4F8BE70771F4C3E31383268937E722E40A930406B4BE8AFED2D8138975F3813  
C6546C5DE1C72510203E0540E55D4EB7A14979505893DA5545458DF79781CBE2EEBE5781D1A0B  
0F1D1444FB1C5E600C6EA92814E2DF764F123E015A1DE147A3F472C5D5ABC7D0C2DC631765EDF  
13769ECA5489AA0747338031401D56431AF6F8FOCE2411CC12AF4F8C1D265E4FACFFC71F43238  
8A39D622264964B14725C9858F8442E0781561E0AC303A79BFA0FD5DC07B71561265B9DC3ACA8  
C68FD7765B504B78963FAB0948EC9B90407897A1E4966DE16CC1E332DBCF44422C040C617D156  
71071359E93959ABBAFF81AD147C5359E3734BEEB3D4C904188762AB326B4CC635525070479ED  
D06B67772A652F467F5E95A10D79FCBA8E1A8306D659D0EBD39DF618F9363AC3F96E5E4BDE7B3  
3A4393CABAC960CEF4E5E34AEF678E073A0C87E80F357682DEA11BFD6D6AF70AFF4C7F3FC6109  
891F8C0AFBB24136F2EF7C976A9F2911FE14C87E5F6C09439417118CBF25983C23879A254B966  
13F61F56021C039BCAC420A12081A0D49E6EB460335620AF6C359A28FA32CC1EB2277211739DB  
1B002612DEB2B787875192A4C41236EB20B133C2781F7B97712B6D9C399BF21EBCDE6B0956608  
6F309373F56335F4039A100B7813B2E048B90258F880D13F7F8B6BA20B4B699A2DA8E983D1E2C  
BA039037B1B39922937ADF1CFFEF4DABB70F1EB5028AC1A40DEE89E29F01031F1ADE0A80FE46D8  
D9CDE478311AD21F01B79F67523EC39AE80FE40D5EC2FE853F96A4267C5FBE26F1BC3E77975A  
4FD3BE9D2952B65EBOA894B4C9F0A594075C9114E93844A0DF7FF53917DAED6E30A42ED59B70  
4AD4382E85CD0A2FC77F37F303169C22B0D79458085898F47A8AB0F1007932EADCC62F0D18528  
C48CB393E94012FACBCB00F692A85FC3E1A5F07924847BAB7043A7BEFAD5F7920DC75DBB1F8F

97F9B2B4932AA3D1817C26EB85812B486BD7E3FB0A9647C57713C5412D564B0E3002D7DE3DDA3  
F7296879CAFE0470FB6CB81B67EA98F43DBC302429121B8849953D5ACB20B2B5EC95B9E75091  
C6F9094E58302E87FB7DB179F56322DC25273EE63EFCBD6BFA3DD57DE04FA3A6C3DC468B3AA47  
280DFBDAE95C1822311D42D33BDC0FA216773E8E3016F3270478819D9E2B532C697757547CC0B  
4203EDC24F2600D37FDE321D69267B45C5D4F7A52BD9DF858A11BF649A41A2D6191520D3A29B6  
6812A02E4E67A13B553707792332F81787D53B2C56176F63FEBC81F842460864761F9D90AEC7A  
990139D057E0A82B7C17F30A37315AB2DF7D76CABE6BD748E288AB6F576744581488C0757F6D  
AEC4E3D34F6AD5AF0616D7436E92BD4D2CEA92B586755AA582BCAC95A392D496F7EF7DBBE4AC  
50E8994D27FF3A503EAAD5EF1F9B7A84634B89376018803095051C0D5D165F9393E3B84C51109  
9A58D4D7CADA3DF20

---

#### E5bI Code No 42

3EB98A46F91DE7E3870144CEEAF95CB692B022D2E19C84C36BFA9FF42EDC5C413940812629873  
61544A4CB4ADED1CCF52CE3BD731F4EE873CFA0FB6900B0348397F86111313558F297C9B82CB1  
85DBDEF29AC2723B5E0E6F24FA0F456A126899E99814F45C40F2278845145D8D8445CA88BE687  
A3DED47604C121E82FFC55E9DEE0797AA7CD9F9F5448BE6E200119DC5AD5826653BA1E3ADB859  
3A79B466C5AF053FA32D57641F51EFB15DC52F5150CBFC28528B8B1F3FCC0557EA9E2D6CA7D84  
ECAE8E9FCDB0A7FDC9451A0C9F0E470DB496B1BAD754CE861F87CD77B800D7962AEB8B5AF534  
7EE2247058D7DA26CE7A926E7F8139EB2D5B1DDA6F5C59408B48D8863BD3CE3294B13B3FB35D7  
1A5B6C057154D7657C87EC3360BACF69EA3CE7D840FE64338A91C0B2E6D568DE270DF5920AEDA  
D10161506242CFAD6098400EBEC2092079E3053E2DC49666B36AC49273S5D1E77ABEF9E5C21A30  
740CF91B42443F4FCCFB4B812768A18BEF06F809CFCB221549B7EAE39BB5989A8688F12321E13  
633C331BFC529B69877EBD10053E7B35F3F35A1D62F525A5FD014BB74E7FFF811564E776FC65  
3067A0610766C34B7BC4C562F825EF73AA1CF5B1DBD08CFCF8326F9E6B07D231EF35A8497  
0F81692E8805B1784CA6D79DACA06219DC6F2E4A00A12B0CCFF3306071EDB64000E599D9B5B66  
1240C652768BC6BFEB1DD7725291FBC2BC424B2F46643EF37469F15441AF27B59DFD16D2EB31  
B45FB1DEA9888CB1F96C6FF49918706F39C301D5C8F47E647A8DBF7528E7D23F51481B15F6960  
4C72409E518A9FBFB680EAB4866F45D81AB651B45AB8E0E7E0230A3B475C147B5466579413414  
26D20A7AE124E622E18654589ADEA5AB06D643D1366198AE4CB77D7435BB61C090120104D56FC  
19CB3294AE25C7F9469B45F1F68D3FE0A7923683A0C000D022DAFCC6F8BDE4F739CA0B586CE55  
A42B851A812EDE84431BBD50DB77EBC018DF85AC0C129389B7C02A9CF59DBB6BAC42028081B59  
C2AA25AFADA52D471C49EFF6535C2AD8290CAA84771844FF82F5965F154F3B1E2CBB622B50D06  
36597F9091FC5DB3E0377E8EF33AFF204B7B0D072BE2C7A35580204FEB394D3504693B6284A44  
1D121D0A91FD97432EC7D4D2270BD37148065C46E568898141E11C36945FD6F547DA97F38EF7F  
610CEDB5D3CD2A7BCB2754A5B443E21DBB0ACFF71DB4F9A787A94185D0C98C2B2654E2430A3F  
E43AF4B9E816F0C3CCC13DF612590648C0DFF408CE967965D38AEFB813431881A051AC9F896E5  
082238E88B52DD95C95C95CEC1CD7170D08879C6AA1ADB4D5217E587A3AF1FA4461CCE3D4EB7  
A3D82432C90052335366738A60CB25B1B5E90D2B39FAA80E3052DDF2BEC9358868E0F97E4FCB7  
07E15FC051D21810E8A38C6CB5B0FF05361F225E8B8D10C958C7BF84EB31813DB1DDC2E8D8980  
58243A9A2F41E3B55B33B87E832ECEAF80DBB33E34C3F830660E6E228586F6B6E825F874623EE4  
BFD8E8FF1736627881A3F1F06B498EC6D5FB0CEA203D5C7C145EE6F09B0860DCD86436B036C7C  
FD873A245D976C63BC5432B487AA0DB087A62BFAACC6575E265DBAD89D41CFF89E626ADDDA668  
35CE497C17F1440371146EFC8846C7FFA13C4D446078324598E59A68D8DB15F2D027DFA3DD2E7  
123E380B63F01D8D07C5B42B43AD76D95BD7B57A5CA2EE971F1B9BA4DF6F8DB0COE1D02074C07  
0A745FC09D1BFE1900D1820CC42F66FB97C39BBACF3C66FDF94C09F64FFD20430BADDE7A84C3E  
F0D82F6E50B96EEF4

---

#### E5bI Code No 43

9FDE160085FE8806B43B4E731B2026CE6395293C827458A52B4F92D943674A864C1948C7FB165  
D041CDDE90CBD1290D664F2D4DA43674073E420BE61A4D4B0B20546A64FE8B9B184622698E676  
60C364BD2F97FCF5176D4E84AB5215F02DDC3C47FBEAA523DC8CB14193885850ED103109C3EA  
9D49422968F54CD66D29E94187D73B446C21F369D506D6178C91ABDDDFC6736C94C7C5C8410A  
D4C8DD6198928FAE1ABDD426402810E6FCDE33D835C40D41330642EB2D7FEA1480A517E39B78B  
D85668C2E0B6B1E30AA9C1614B0708957A20BEB06FD51F5D73FA78FA6434E7A1979AA37906E4  
21EDBBF9A2097202F5A63CFF2AD0061EF94BB830689EB5A057AB19621CCB551D75AE0BBC5F031  
C7870F35CCF8EE8457171911E198F58A6E79283DDDC57AAEADAA0C5D0B7E4B22D68C2F9DE42  
316643A720A8421FF8E6BBA5BBC639BB235B2BFA48F69E973BBA14F30078B178CD67FAB150DC2  
4390E8672B3A92B5FE92D30D70AF6A6318E0FDB466F3CB9FCDC58E48BD8A37D18768990C4424  
D4AD0A7A269BE56A7C58F6191B797AB4E019C77EECF9B79BCBF74616E7957BFE239E47F6F9AD9  
F4FC1FC16BF82763F34609BE72A4E6C90C18141ABA71A16F96C25AD4385340FE67FEF3A90D643  
6C3455D39BD16C7C4E5C1365B3FCD110BEA8E0D2FFE63A3DF63CEBBDD7FDF7680A67C83CF514  
16B4AD115E7054A5CDA6443476E207D5FA24F87BC438A30A5B078F24AA5F966DBB87CFB2C3FB  
F63BF84ED3CB4DFBDF60D64AEA1786A62E80176E3D62AE69059086D3B3D71313A7B0DC288FE63  
226570983C85D857862716B6002B72DEAAA8D4842AB531FBCDA7009996B6A8788E2048D7807BE  
6D1C55C45F8AF816F0D1BD633F80F346AFC8AAD1A350E3A13FFF3B1D16F600A1985AA43C53761  
60150561FFB4333974AF3DE6F22B24213F35E101638C93B216F5EB484FEEEC67FD38F4159DC52  
1A47AADF8E42B6F1EC43DB52AED253B75883393577366084F90D6D55A56E6DE457A3087020DD9  
0753D84008EEBB88310534B4DEA40EB4F5282AE9EF2FD20EEFDEC1EBCE713629113B1383827A3  
81BE262F10F0971D45C2597FD9A108A09E32DACDC81783F283C44049D13680CC7C07CF03279DF  
86A22D7FEC242A7A265DF0319A6F3B703F84310B62282C3C46A9E19E81B474341D4CB16F763A2  
B78FCC4A56FC128048E8E61CCF1D77023048150FB3C96D4A0FD7FCCFC8855219A30DD2A3469D  
5670B465A5D600C645C802D1479298DFF8818C152A21208D520C301E7FBE5C55F744E6AC45F56

AA31E3A596B31AC4836F53A78C427D8B3284A34B77B38B6AED44362AB36F72446A8EA179A2784  
5E93607C3F77F44E420AAADEE877A90AB39E5257B6A5A801A04B3ECF2B78BFDE9089C5131D6C0  
31DD3D02EF4246437502339139B5484C6EB481C3D3337376842BEE792F148FA3DA940A0208AB3  
AF8F6F96F02F64C42EF0D0FDBDF178493BD724700A65BE1165FAD8706FA529DE891A95B27C0D1  
5C8C3DA300DE05DFF7B03F7D542C1BA5DE76CFE23CC9A265F69B8D0167F25F06C5C5918554CB  
342EC80CE1B5D671E99ADC2B1EE0F93DE52325CAC69BBD25647E43E8D30C796845B0A656506D9  
BAE8B9B43F1086223020703B789E5F34465BB2A2E044CA2644998AE6B299DFBA547F0DF087CE3  
7614088DFFA6D1444D6639C3D7EB8FB6518B3B6C2E8C70BBF46D53E982CC0BBF6648E403BE6  
C7C50717BE49BF4BCEE20C57569B41B40C666BED36B7E986E91F72765DF50E36C75544A766E0B  
83CD899C2095DFA70

---

#### E5bI Code No 44

2A04CABEA481FC7FFF3DC02DF99CA09574A05F592C273C050A81C787EC8B7DAB7C42C553EF9FB  
D8A8F9EBD77E0115A205194015E35455E80B48EE8750C546A6BCB6F782F1D6231386B1CCFBB1C  
EAD8CC6565DDF39995B4E8404FEEA9BB1EF537C67C7BCC7EB820DAD3B1708EBC9CEA451F6F87B  
6369615F39F0716719BCB7E4799C8AA568DBE32B3B279C1CE3B48B205D23CEF041869039D9A24  
69D5C5A757E8C3F4978E50A4FD149E85CF51D9C2942F8571252B6D76EDD00CE538B2F7FD2944  
709BE2AA58B801780EC89B596C8FD2C938DAFFBE05B226919BDFD56D7385F8F0929001D3BD96C  
87313B98BAF1FD1F350139FC32A7E84351F052868B55B1960D192FA20F9F7940FC75B54031B5B  
D73DC501C86F253BA07B0DE481D97F251F8E2789D47AACAOAA654730729971AD5BEBEA7F98C32  
B3D61FE2B84D5535AEB0D38DF4050CD886D7FCCCDA95480B3A7657A8EB3C518FAEE316322CC33  
A4AAF71AF867BAFF4DAF11BC70E8DAC32CEE8A6E9B2DBEEA34CAB6DFF3973748F1C24D8EFAB30  
BE1C21BDD33375008FB39979A9125A3CE7544ADE580699CA17533752F483970B3F5F0240EFC71  
CA97F808950A85CE99351389937F7EDF5F54B95D4A1D09044E210E284C0DBCBD6DAA44546C9C  
9812464A166418A1E45FFD83DA719D65FD31A67012AD8F710B9A74DEFB72FF688FE69916C0E2  
824375548455EB1A81074610E48FF80C25F13EE7BF098D5C4844868019511834BB8AE6822F198  
8EA6EDA00102B679756CA8B560A75F62E74F35B2FFC31E0490760C0F5AF6E6769632D2C5F4790  
01DBF076453D3F56A935E809F2376E8ADE65CEADE115E6A41F294BBB08B4A15DF94EE426B0B02  
A367FB261A0D3D321CFCC0680362C0A1B4B7834873050C2FF42FC943EA973BEDEB99639FB1F7  
D6C88E024518D7C99DE7886E5E17B5020ED44F10C7842766B8E13F485A2ECEE3AF0AB60D549A4  
20B166B8C5F51988EA15E47A6B002E1DF56CCB7E6BE805012A2CC5D00FBF02D905537B99F7B97  
2945B4444DA4DF44202E5D406216F5D50E8100A099743C3A0788B6E3B2747861D7A36945C2613  
422AD4875D8BA62E6A08C60A52E93249726657014C0D91094C3EF4109D2CBE40214840F49D25  
8FFBDADE5939B73DB80D89965D5DD219EA58D7BA8EAE202BF9CECCF9DAB3F1685DA45CD948E0E  
D96E6DCBEB179BC1577664E4B3E1A8A6D45A08E1E481C7E2902D16C79A7051F8D57DBCD2A66F  
45FCF9F255599887B3E7343FA48B1D32994E8549AD88348443DB287C51C170BC2FB01DAE1EA09  
F7DEE8EF145EA61A48EB94A4B555C79C1742EC06269F9D5D819D3C1E8AFB6E1954941111096E  
4301B7FB8C33C638FAB53B6208FC4A4146F183C4FA61CABF9E1479701B555294DFC59130D0FC3  
B9EBA0F1203D7A1A87D38E2DB07E469A25449E1AE16B3B84BC27E6E67BFF93D3BE05FBB2323E5  
66362D94694B6004E5C536D9600C7B2DCCF660341C035A456D2B7D04048A87D3EC579773889A2  
776AA85FDA398B91A5269C60FDCBF33B789EEFE9F5EB5A5DCBAF1F3C6280BE20A54D5D0D62B925  
9A67FC97A71424DCD4E94C0CBDBAE07A39B3F481B521E375D80484BE055D3296BFE5AC1E752A  
3DB73C3AFE2350E9316622285AD2DCE65851E392858939B3E3B2FC25CAA2C0016E2FF6086E030  
3B8C681B84DAB2DAF1DE22B36E6BBCD31F27F233FD08D3399EFE0B6C054F8BD1EEA98823EB7  
AF305916536AB0EA077F5E092466B4417C97CB6789FE34AC1BA81F3EAA8D0A9F4C8D3F3D24D3F  
126B392CA4B18D3B4

---

#### E5bI Code No 45

3CA56F1313E324915404FC17ABB1C2BE7B841795544CB86C08ACF2AC69BE7DAE0C4A6447630F3  
BB8D84656ACD18C74FEEC701806C9E649C942245FCAC57819125D78349BF749A7DD7E9847AD3  
4D855FEEE046F288C72DBB40534D494324BEFB896315E232EDB57E9A4ED4CA39DB9D72EC9990  
7A690D6FDCCCD744770FB2F8B3B57C7BAD559502E04EF3DE53035D3A38C8CC678945A265D708  
586FCB2501952B920E1FB4EDDBCF2019904F47E95E7B542C33D1B338B7165918926A786FE8AF2  
A86089B1E0D06117742ACB1E8B2F6CD607C90A0355FA5128C6FD7FCF0C6E50D1D9440E5664577  
1B49071C59E298E316E72981B96A53FB979129DEF897E6B7E75C2DE67A5961CB63BE8F360C8B7  
DE5092D6B3ADF79B1B143A5660E8BFEB5A60A240A5E94E65DCF9E8FD25E00B7BABDAC300693B3  
111DA565DCF8B4D97FBC4E23DBE163E0A42F2E3181612CD80B6EF8277CEDBE43A59844A1FFD63  
2B9CB7F8F5C0C60C926007C0C487B5E15E2D3FFC672A48E6A2D88A51F095109DCB055197DEC6  
7EF6740FBD63F5A6D6B2A94B646BD30B981493E3905788CF8EEA2250E7F6DB02FC09C119FB7A  
CD45A4C26CAFFAF820D6801C3C9F30878C0F6C3C6EA9D565CD122E5BE2D21E444BEB5ACB64ABB  
A1E93DE184293E704C2356CC8695948D2BB76B90251E944062D163C39035C73A5E94F9DAFFB10  
DC9F89B553B488AACDF2F4D0B51B7CC4B6D1CA603D9DC1453B38609FF4C336B296FD0DAF8F037  
6D01D973671A93E7AA744F1A4EA1834C8743EFAC70137F4B6873008734FB864B9C5232DE56415  
B15AA42C786ABF2DE1F6007B9563F9166118B3F1DD7DC40BCD5E0107A56FF3602B4FC4446AEC  
CA6F360273A111315E86778C058331DBB5D206B9A8568470402F5D8092A42F171BC10A0DDBB1  
532A7FD4AF79C5D103B861D07A18C9DA515E51C8176F79D674E5D4032AC04E5AD6384044B280D  
F9199F92DB83C8779634BA6E4601A5EE0EB381E946765F989CA9DE204766BA9005684BF6DA5BA  
8C2F42DF2A6579A39020685A375D9A1BBBDF02B90C2977D0486AE3D45D75D2F27836AEAF4AC29  
8AA6D4401C72190167D64A3E35DE0529128CABC2367F803D05F98788D9D024E0D88F8A8E02A85  
66E46FDCE44DEF16EAC95A0944E67F1FA9A7DDFB0EE1C89EDF63E44A6810000006FB4916FA7D5  
C993175FDB8E27A45DC405242AA4CC3257FD3B0FFE430E6C574C7AFB448975A37D6C12A399B7F  
7527853FCAF1020D514E724637EC59152FD4BE8A232AA7AE574DE8C104F90FA4661E278A531CE

FB77E6B63EEED1DF950627EA67323D0A9FDF002F2E93DB0C6AB0C2B8F1D9BA0F2BB05FAF1089C  
403DD0493A028CE7F792B6C85C1226398374FEE446C6F1FCE1EF617B75C7E3C398FF204C17838  
24619F49A49CA9D7EEE9377B619A9CC8F5D20C7EF89D0026D219B591632E5CA909986FEBE7C5  
18A0E7C92D3136058D6768529C67BD84664E4FE4D34DB662F0AD738B626E65C86A7F9090042EB  
11816C4E74D12E07222B696C8CA460689CCF97AC81CFF14167CEC153C111270048B5046DFF64D  
DE18ADA9E6EA2F6C7AEB0DD7DFCD9FE37D823A53B9F109C5F600FA9FAD1C21DE694335AB817951  
B2352DF7B67A19F9BA7C684306DA14B2395CDB3F1C1BACF920FEEAD158E87D88EF665A9C3D3A4  
3025BB536CB285B5012D3A3D81A827B1AE89B4977FAD4F5E8249C5D6229A78C031415A9F3D1D5  
A55F2914126F7E53986C05B5600C526A31732B3EEB6FABEF5A7C707F057ACCCADAC4FD9447BC  
A3D5CFA20352AF8EC

---

#### E5bI Code No 46

03928AF2A832A21DB2E2101BB6EEB4D135C6311C6CA3E15608F112373ADFAD87630BB678090A4  
1506810F32576B24789B67C9FF8DD654956934E1290941F7C55BFA8821794EBFF46B5F62B2855  
5EB2D34FB60ACA9BEF8149D43227A4A83329ADF75FE42CC48B154077A3946175E799B69830023  
8F7A5C3389E414462B987FD9587C2FB66E873C12BCDCF897423FD6DA964BC84FCF1A437441C2D  
0E62039EBC23424842E0E63CC872BDF00F0B1CDF0B597B0F1D102EEF68358ED8918E7E1727CA4  
6E49D2504421D45DE9E744063B80C8C1932E626CAA99504514AB5527EB387F4936B335421B267  
8F737EB17EC133A3DA1AC354FA5D885A4BCC5904D858515A5EF2EEC3A9D6C85AEBFE721B9831F  
511A52FBA7E626E4966CEF6337ED45F2B3D26B306A69700843B0B8DE0E0F70A3D480ED7E1186  
CC0917B53D461557524E245F51CE6B4E20BA5D8A26877E6528365964F0F729393B48CC5FB3C5A  
1D46F497BEF2E824BE03CE7CF68D891D67D72FB6D67EC0902153AE09351FA3D3F24E93FD55F  
75DF561EDE2AB8CD57ABA3C745CCC6B8AA463B00EA729971D665919154D149889B21D64A19267  
C043493C72CCB25D8A5E4A0957E417D8BCE0DFF84D786C1E4F727F72C7CA7952F4E1584AF3  
8150EAD2664249F8C17F93A53A099FA179AEA9CDE4E5936B3F85A9FB41BDBB64B939AA712AC4  
20FBDF051A3132CB88EAE09E146C50A8EF741B57905CC3438E56ED0E90427728892EDFE685D85  
7FD196CCD2B62F87D0CE8FCE5B7461EA51239FF6A1854387ABD9B248F576E1BE9AC34C0F2CBC2  
B618B9952FA804CDB7048956BA1847440EBA306BE3CE42084AF8851757857EB38F661AC4A2376  
503DB5614C8CA4C9C9564607B421781B5503C2D71CDE7F7272675B8B6D8A633F24E2BF4CEAF62  
5692A695E7E7CD38378D2665AA2466B90733098F754E96E37E00B549A2CDE3C634A5A64BEF38D  
4510A5C586E9426C3EECF0247A5D2737121B84B2CE9243B068ABDDE5214A3F7814AFE3BED1623  
AF9B222011F48783B356395412F7E575948E6358F53859C9B47745A3AC08498FE9AB2E70E3041  
06081215C75CA41C7F108544798F56EC23A0A34B6F7120162BBD9B0E2CC605B42CB3C92CE8728  
5407E6187A8247DB60A1E207F47D7B7EF39FFA73D4B87E62B36E7051F744CE074199CD04CF7D  
7709A91D04068178DDA51DDCA5B90C9552FE2378101EA6D7BDA993040BF2F114BAC01F7B5EA7  
E89C6AF9219B12B79B7A76D1FC53AE793B21DECB9A9855E5958F9E17ED2F54F1B8B2208185CFA9  
68A183B66C9E536FC943BF0F70186B5CF7F74FEC1BF07E80BD8650DB2745BBC368EBB4EBF07EA  
7873187EFBF36BDDE8EF65957458950441C5FEA3F666C5F296359CA500F21AC776C4580383B66  
BF2DDEAA4B88C366C52D66DF26735A27E03D92ACC01D74FE0812FA63863396EE1DD95E852894  
D4B4BCA87899086E6AAE96A03ECAD7F77C78A477C2694F8FAF221D5B1391B7E820492C039F1B0  
03C4128ACE0EDA2131B2E4D9F879CA6B7229FE21CDBAB2D8BD7B3F9F23DBC1850445C6A50FE4D  
5B998B45B54623076F507584366B29AFA7006DA4761E60C116FAAB0D6AEF0126A41094C6C77  
B11C8A6784196164AF92BA8AFD58BEBE47A3518FC5DF653602222870E885E86E65BAB3BCD85F7  
28055584D541A60B81C3438566A908A35036468B63F93B9398600E76F5C5AA4E7A63C49D34382  
D3B5E6071ED3B028368E4032A528BE474C7817DCD889E1C1DC3E17521FD9671F6A25678637648  
CDE6EFF885C419534

---

#### E5bI Code No 47

4FB5B9E9C2DB1949B53FDCC8AC765E5606735AE1F566749B0268F3B2AB3EAD97D321933EB7D8D  
FAB60ABB792815BD22DFC08E3C3D34A0338BF4E7BD07982C2CA71E2FC8B8EA7F915FAD64FEEA4  
64990EEA25FDCFCFF77CB6C153942D3BAD6C14721C84F7EF4600F9A5E07EAB16E3846C6F0E664  
F27B80C0F82A16180E65003D6044875FF4B36F85FD7247325EA993E6925982A11243A115D65B1  
F93FC715B3A90B90181AF0450C1573C6F1582F7FA0866698BA9F3CBFD6D3B05557EA7547F51C9  
D55F15251DE8358F788C555E42A28EA250724124BBF0F9193D03550C6B7D77ED523704D0A5E12  
62EBB026119FC1AF766492DF5EA6DD019428CF3D64935AFC1DA3E5960B08B2FF0B19A1B551F43  
7DC25A71332FBEC6C0BF061A521B8605E1E9B45FB17AFED028D51B75EA7C66870DBD8257D7001  
E5EC472FCB247308C770CF49C1B8989689A1C48212A289FADD4C48D5386179C51DDED4832C848  
AEA9B7FD85C867181EF081F2935F5E3A6FB01122DACE51BE5E7B9D18063FA722022922EE48D82  
B69C556509383AF26AAE533EBD536B52280586CA0367CC622938D09B0A7135A6552C187607640  
D8D866DD6DFC68C986C8318C3A5C3ED446AE59D0AA656A4FB0C4037B0975AF167CD94AA32F448  
5F467FD7BD3BF46FC8F195D7157DB1EAF531BFE65000ED01844E7F0835929049C4534BC2CFEFF  
0554D0639255DFBAF7C9995F03AAC74230D73DCE1899BF3F30D9936ECB98E3B61186987DA5A95  
12EA71522CCE9C6273B5F6DDCD69CD7DB11C2D921114A7F7B3C88CE1234E0177B9202C7A06651  
C49CBCA7E7A1855BDCC8C0ED401E8EAA4C32B8472E06EA18D152E5594D3364791563992D8C521  
9D164CD48390386CE4107D547BF045568543ED7B535F8AB942F177F78405974E37F123B15723E  
C4FB9018A4029742D0AD69231E16E90026916C34E608B2908217F32F1199619AA95C892591483  
FA1BB847E144D46EB248D660E35A830B06B9E4795575734F043AA9D44AF566151478126D4B0B8  
9F5A0ED6E933BAFAC360D82712913581EA0D692735103D8AC41C444BF0F4952F869F63049290  
ECB411CF8143E78F45B439A18264BC0DC0E1B635FCCB75F345670AE0BCCF56A39C44FDA88EE0B  
1966871032277F5D79767FE48B286261B9CD93455CDD87972F6D7867587829423ADE21341CA  
240139D9F6F9CC89FDDEFB1E59E9FA53D5A4D6FE7039FC8C3A8E9CFB89289D5E7B78ED23C97F7  
1B2AE502C091E216F376294E22A9FAC057D30A061DAD81DB1E342336D32CCC62E434DAAD27B72

56ACB48BECEFFBB6318C17AEBE07B905D1D10BE64E2D73FC58B04465BEB84972DF6D0ADF01D0  
77BEE10695070A7ED156DE96730F489F92557701B85D13BC1622E483D42A6ECD2D142C8C59373  
548F1FF0DDAE5F9E08F00EED398B082BE242D705FA6892D2759EA4E4E29B971375301D96EFC35  
50795F802D0A066AA085B204330E0BF87C2034E4301C1336465198BC924FFC9DBEC1346E217DC  
FE80C6DDDB44E9EDAA88C5E44CA81477073D6771690CB73214B8C75D6EAA10A769A640F188C84  
0E1A359AB439F846E5CAD3EC0789D5E09DA11017D2296DC4DADFCDC5216605E26AB808D2C51E2  
0096DC9FD250C3608E1D94CD17357BBA29A8B943A07A56D76B7A2CAD15063885E477D78D7833  
0D0BCBEF9C894CDBB2FC39303664FE4B27211ABDEBCAD668F60BBEBF8126402A1873FB651168  
F067560C5BC14477D5D0757FF0E9C0C1360F76E0305A17988A0EAF8E2E9958030F81D4F3D56C5  
BAA3C34CBDABB130C

---

#### E5bI Code No 48

101EC76558BD3A5C44CD26F555F7313C54093840EB0AF55F19260A5514A0816EBBFF4D7A525FB  
48E98A45B0BAD7FAB31FA0CAC69A6C43B0AF7B6A3CD33348F0061F637AB98A1A0BACBF0A006BF  
432004C8054EF8ED573ED868D2AC47E3C6467C6413204E7AB54A07C893B98C3FA8D5E2BBFD920  
074CC1C0469B281FD949C265D1B72160257723CB8E84B0657A33DE45C2A0D43FAB8BB2C47B57B  
C7DB419C2547468889D50018158FBE94F82A589B1D3F9F5B155DFBDF4F38D5D5F4C37CD6D35D7  
45AF47AC9EC65A13BB71E71B9267205F35C6427B7CBE90BFF1331E31D54CB8B30E3ABC8C65F89  
213A4A2A3860C10EE76953735907911D975C88360591F248670CE5609A8F621BC5B08E8C2F0EC  
D645D77566D5F02F972ABD7015A1C620ADB7783636B6498FB8D4337F85528A68BC8652F08D55  
81917723463A76C9EEF63F2FE84E58265A851C0F19676A57098E6CE404DEAAB955C02D339390B  
75B3AA9653D1E785779E9C2284707864A68CD271699FA3EA62963EE6F7D1B0A582A3509BF66B  
E479E6AE5A0EEA5114A74809B4736C3425E03A9149B22154E6BB9D546A6D5F92FFBAC7EB619A0  
9BEACD7410B594832035D1B96829CC6CBBFF4DA53B7D6BC133377D2512C8B77EB2B72463EE917  
292931959BB2CC8091CB958AF5E6E28B2518D0A7823F8704FEA6CF5E901B3777F72411CE4811E  
4D64D99E84F10A1FE1BFCDF212EA1ACA089216E7839634A1751EAEB4DEF2037230C5154A6D86  
62D670306E8155B701525313DAF7CA049CCA57B270A25E6C8C99B9F4E61C8D849FEEA4356B516  
BCED68F582E31783CB6267E2A317BB6D08BB0FC93754F6AA84320AD2F6E802E4B1AC6C009D69C  
00FFD390D8A66D4ECB33539E6279A755283EE9F552745DC2E93E2499E4A8C1A9E2DFB40DC291  
60EC04FFCC6D6821D1C0BB7534FE0E56090983C3DD1CCDE18B5454B5C3EB5B2EA5935788C57B4  
21BA641A919EF4A105A56FCE207F5084AF286C39A858E7F58CCE05D69BB1DB02ECAF9F3E1E7BD  
6543E70B6DC019B51A0580E5F1E1F081167CFFB5F8C7B5A999CD0F66F114A34A1AB6D097818BF  
E41A955AF2F8406917091AF923273017579B28E5743539E0D60AAED6487C74411E82C1334DC01  
21160F407F20CEA14F504D1D52D79BC1B0A2C1C34AC9EE1D079DFF59716CECFFFA2B4E89F606D  
31B20B8B5E1AB6ACEC60A391EA284974472EB1D6676A5A1DEA5E22468CEAC43A4FFDBE6AA23F  
CFBAB1B14C7274F25E7FFAA8CBD5E3530D4C2097361DF9C3FBE45ED0A7B1A6CE116FBBC7EE  
5D80E6922EB23A4664339C2E219C5FB419105B9079F3A228A4D412D5F73DF3139A751E91A07  
5BD2B8A34430A7BFD3506BF8F9E2C1ED3CF68D26A141967370F0E0782F70A50B2ABF8081186A6  
B629C990ADF48E08343CCD478B44C9A685B7D19484B9E82F05EA853F77E7BCAD705F35043D34E  
EE2B3022AE9038D9268635A2B71EF912F1E90CD49CF7A8E4F08AA1BD27C0130AD679D63A5  
B586488339F86FB6BDBB381E2FB70D726F3322FC6E0801F24E34AC97A23F029FAE5148AD5CB8  
A17963F7EC7E9A670AFFD90966C35DED303DF28A3426307CD11F5E6054B0AD43D0358C7666DBE  
824FC037E87E84D214C92D4ED2B6319727729A53924FAE54E48CE4C522E97C6A5C70186835D99  
7265E29FFD68B5C9CE5C52D90130F36BC5C8B206B157FAE7EC152DADC94ABFBC9FF9721F5D39  
A3A2672054381D7975FB5B3BEC6F35D7175B82DC73F8FD42592097126775A28FD7275F733E65E  
BEC299749A236B6C8

---

#### E5bI Code No 49

C91D4F53C54EF5237894D424E84BB8F75ADF73B0F4D3C70751D432591C3FD585A78F29EBA3E8  
E1BF43FCF2B84E9EB7DF6BFF20BEB1BEB3CB8C4B7897252E1452172EAF89AD1750A1DA4702AA0  
0A532F2E90B2220AD9708AF71B1EE042ED8DA8C3337985D75B0E250D8AFB24B6F2FDA32745C7  
EAA26F8972006EBE2BE4F164190823A3C30FF5B5FB66DAC921E7BBC903E76601CA9C8A87C00  
B428C6C3A0C987B5F1E015E479C9CD87BF846914C0FFA96E6C584690782CD602B6FC4A56B8A59  
D97C0A34FE50216FD8EF5B8A891799DF06AE38443D3BAF5F5E013F89E0CC4C9A8DBAD2048494B  
246B22DF66612C2DE8C89AEE0B59E3E062A9F8C7A51B4D01BA2617D7F7C79553C119055454948  
F57146D3D665740BC5B6F7CFE6F379F073BF82562FAC75843A873E9F490161A9DD201B419742  
0A562C8AC27214B09150C7BFD5B395872F7F4CB41DA9671A234127BEDC4F5D9E190AABF9E6D  
D65702E88961A75F2E6CC96825FB78BDBA68EC710F5C53076F9FFC5989C3F0AB4EB89BE340FE  
4FA38B315C9574912C73215C99CC56F9D9E85CC43C9D886B6FEF42E86CC7112CA8A56DC9EF282  
ABE9D073F64928B45A050025B4F44DEF1011804CF339BAE62EDC5A651974A414DE8D214E06AB3  
57FD3B604AD261CB8285E9EC1B52FB84D931D6A6BD9D539E4A0401941FDE961A8B732F043ED5D  
B88E895CE2009E352838CF443B33FEA66B4F69F8152B03EE6B44B750673ED3F7CC29EB9BE2D45  
0F25464ECCEB7E3DA44BB55E47E754DEF4255988FAEEF63ED79B4CA007E0ECA2270635039A924  
18D40C5F433C00F47DAF5CAB3CFDE14F7F08B2FADFFD90602077EEB72EDBB81F55D69400E1E90  
F16119481D8D117A5505FAC65F96796347776C6DC9CA4823C2F3CF3D48FD10674E8085D22CE7  
4812E6ED4B225D8535B5D36CAB4354FE6FF2F7F856B2D6A592A2A902F6333F94D46665B9CD64E  
7A93110B78C6F1038CDF403F8F65F62E4F972F0493E87981E535297D83EDB51A4CB0110CCC226  
CA53A1B0CF5643A92DD1B1204FACBF10539DEA656A69C2DD650758C29A008B3B99E43FC45B9AE  
1882B27C29B02D80714CDFCAFE5E079116DC26F47E3C9916E98C6A1017474B8E2A8326F05323F  
29513A611A048C8D2679E06D71F6CA45844077A5009CF272433FC892609A94C99ED91FC513043  
96FF282AFEC7096F2002982EE445C3B2FE3423DCF11BC66F36CB531E141383C11B33879D72A16  
727AB8B55B48928E13110BB9604D4209A6B1B1484A4B2A67A35F5B2E4793349EE92287791C928

A65ADC0DA238EC4F5484D006829ED66A6F74883233251CD7326D01FBF2A26D1DA98F62AAE0703  
C9C70EE11E39504966C7E7F7A9C6369C69733C08A61A123D05C879E05A26FCF31B137E21CA45B  
14DC337045B73922CC6BB14D5515EC036AC01BD970E99B68D39A454F83373EB32D0E8F70B80E7  
EFE20371E4C054BEC3308EF920DAD6FC7EDAF01C2F40A03F249656246D08EDAC870EEFB37DEFA  
6DE812E38EE3479FAE7CAEA76453866D2166DE450B4B88F360DEAC68268FD978FB50A71686774  
BFC213E06D59D08CA7AE9A7C7DCA14AABADA9A9A1269B0DCD9CDB7ED4F0D5EF15A531745E2EE  
1259B3139EF29B3566F6E94ABC7C1053923D7796BC43926BC6A927FAA15DB29473C377DA06698  
CD366F8E68B07F71F932668E88CAE07F3676F3864E9480855F1557BF14173B256B3BBDBF725BE  
E677D286084925EAAC0E428AA1783401043B0EF734FC0C5912A9780CDED5CB613BAEC37D623F5  
33AF8C634974A3374

---

#### E5bI Code No 50

AFC22B34A5791F52DAA66F3DBF2702032EBC688D1DE2824845108266F95BEF050B363999B83BD  
69EA7EF3E250F4280314E5D832C58F1D85E22EAB4255493F913AF7B08CE0DC2AB3708E4A3F779  
196B339625C38FA87B8AE0077ACFCC9F5CD95EEFD10BEF5FE9A4EE310716C4E9808501BD584CA  
7C0EE23976D565A9499210A95A3D2A78D7182F49009892716972323ACF295881DDF44CAC78983  
A4073D8CAB2D0442C15158CA46D55ED2B8950F2D85353CFB6525560B5743F61833101F37FFE  
D90F1AE204811952000E608356105E43EE3D3CF09499A8593120FBF88FE0ECC4AB465B9F3FD406  
5A2A1951B872C92092A5ABE984E5B24AA606E711075AE6CE179B951E5B45B54EF72F8787A82DC  
82585A82D2A0CF368286AF117B399766A84A4DFDEA87072F18FC0A847B8D485FD28AC3C0F58B3D  
FEDE3E076D56F27DFD19D244C7564688EAB0197A61CEDFCF1598D8818BED9A53F973DD50CA6DF  
6FF651D3B8242655F0F0C9D22A886DD804C799AF860B3802C270B14A1FFDFAE3F92E09B31C125  
74DEB4ADC8684CC5B47F87C2D905DB1BADBF7E8F1B7382C35E14BCC2AFA0020B942E1EC369E99  
CE9072C4CC0155ED1665839EEA138161EA1239AA10A5B5A6526A5AD6905F5C7EAE5866085F64  
A35EA9A8ED52E382DF5E42D0576008BD378A5FB0A289C02EFF02D6797110A7777D54845696BE  
0A7A78BEA81742F2F98003C55129A47D1D62E712A6B8C04B499295E0957A5F304A91AD0BC0070  
24A0734EC99B769CBOC725D875B08C352F14C4A6245312278F67EFB74E16461598CF1970E3045  
6C1C667E29885B3B291340514924D9F726B8A3EFF64CA0248DD03C45E5363FF1F17FB1D98E51D  
CB74848A028C42E864A3E477CF90BA6D14BDCD58250E849CE88E19DEF46476B726DF3A4D4A859  
BBC49AF7D1B4F4F2A3101AFB0D0BCDB082C712C20C7C8DCD344361E3D9698C3A7FCA20BD554B  
954ADA52AE0710549CE57B5200D34795C91129F33DCD7DFF9F3EC88E72D2EECF48376A991E08C  
682C4A18EE1D97A6A8087099882F775E62ABB5A75408C505D9DCE34EFC173EBCA5C14DDAFFCAC  
5CF77464A22FE6BA0771E13C398B7AE6AAF10CFFC8CFE238FA9066F449AF172933BD0AA73AE90  
E406431BCCF4BDA4598818775D4D6233CF1E696810552890BD793B104F17BB1C219F52F6028EC  
1968F9C532CC723DB3D18D261721CD922443ECE10DEAA1A4703DA1393828DAEDB4CE3541382A  
FC79BA928E7255920A3577D56EE8192F43B9BB2DDA58294B74C7C859B39EA7426C3397208703D  
A449A941ABFBBA8C0DD790B6FFBB1AC5F5237B59AD1C259D68E1775C6D001786090F3DF27F73D  
70A11C2491A461B7E8E5858436718C254DA1511221D0A6C8C88E76D3243E3815857B556ECC9F  
9AA3B198896153B287F80E68B8DA221E14D620DBFB2B76DCAD209C6B13876CB044A4EE78FC01  
F00F915F62ED2355EE9094071AA99BCA1F58A9F1DECEDACDC4FB94C26DC54C447A08FB4CFDBF6  
E5861F83B3E9277FB5DE96FC6C46C3CEF41ED9F187750FD51597D5A3D1580CBB3DD28DEBA103E  
036FC8B2508BD1A6C558849AED46C6EC216F6BB9306CEA01FE33E0B82A5E7D18DA377FB5CCE7  
5E6E3022D15D9EB3FFD02D22E2530D3D342C561F59BD0989865EEA7F59FC5F197D769CD6C6273  
8646810ED1C94D87B0D47C13124572DED11BEC718C8161C78F0DE880A9E39257B2DE14241A0A5  
163F0B3E41491EDAC323A050F7D75DB77821608C341F5DFC461F84E7DA25EAF86E7A7DD99C1A0  
04408DC9DADB36F08

## C.6. Primary Codes for the E5b-Q Component

---

#### E5bQ Code No 1

E49AF0472DC849AFD1529E7227F001FC9FCDD82A502640F54EF88A2B201F911A1F90562966D0E  
4101A8846F50D25B0ABA49171E3A0C8384465B39458FEC7D8644CD6ADDA0DE47617495DDD188  
6FFD3A960A255D58DAF9333F73AE833D840ABD6DD1D749C20B8EEC0C29E63661B0E0BC50E9EBF  
44CDD0FB5B48E141C16E196ADF48314E28E87986FA609DC9F11307B68EEDFE077AD6A5F8E7A3  
33DBDFB74C126FDEE4E13E4C879CB19A381067DF74A075176104A3C60FA17C934F01CD20986A3  
844CC3395C2F14DBF38B4932660051732A813D7D224D6A9A46347702B342A8A1F214550A3E30D  
E0D007029BF701A32DE08148C67E341C95FDAB5D31FC4AC790DEF1521BED12156D12E68349B60  
431261D99176797A9CD9F855D3746D03C575D6CED7E62C401E24AA204A3571AD6316A9F288E02  
E99C4B29AF9FCAAAEDBE83306694FF697B2A894E350A3C2DA40EF7CB537E8C046368E47ADD96B  
FE35755871927A94AD9B7C5C70773FA1B707FBAC5483946B33887C82C27F7D86045749BA87170  
02FCAA21CDCDCFC7A790CDC9AAA43825374066C254C65D7EACD1BF4B2F32E0ED7C4C93A62F00  
B652938FAC680D874461D9F8624F23E26F7C40F52AD7668AF00CEBB7AAD8A47F144377BB81D98  
31DFA53DA0AC1D6C1B909FF9708B05A248EDFF820A84B08F94DEC6B1308C2DC6A44473CAA01A4  
CD4124CD99130899FC85F7D2C7FB1A12E5A93F75DC461F00290627EF320E3228338FAC94318B0  
D767956BA42A38B58571BEFDADD77921326E5C98F8983BFC70B0CDDFBDB8C628A1A5CD6BD01576  
7691E85A3D6FC1702C5F9ED26DAB3B8148E28DA4AE64AF460EAF272E262BCCB5F47209438ACF  
C0743BE66C9285404C1703331A6420CF3BFEAE100F555C633F91FED3C382E7359ACC381A1E104  
4148A2BFACF132833E748119EE745A927D24B72C1D9296AB2A28E6D23CA85905AD923757E605  
28B78804E37CFCFEDDC55F79946622E9F20BEE58193FB78BF63F53116ADA238C24F44ED12EE0  
18AF62CC20CA45B1EE8D6344D35574F395B065C4B876074704334B317A512FB60E24BC5B3719C  
471E0DB67010F622D4B65400728CB7DFB821D63A79DC10090EB8C5D7E56F939F9E5339C29EE16

73ED994F19F72FED83A247FCA65E12F3417B30EDA9C9B917BCBD372D1CE32520998E60E54F1D5  
4ECBD87F4A5598600746D30011FCA3764686972C7FC3C47E5DCF79E226DC61C66AE6C70F2ADD  
41D34407F847582110810BF5F92978A50D5AACBE93F9A3632BEFA257B972D0996A6CAE12F87B8  
BD787016093BF64887367B84559C215B2C148403102DFE1D143F6724DF7078CA2EB855FCA5BF3  
34010810EAA5C03094F2CC9EAB888BBC88886D7B1D83AB723D32FD7B6F80F2565FD7E087A4F6C  
48354C0FC63500DD7DCABAC255BD92AF6A6918B3159EB776EC62E6B4AF9A7A397C75E6963B925  
15FC9CF1123577B069B07CFE5F01E986F28A6E0883793F79F41822944AE6CEBCACB4CF4E2534C  
C70EF682CD066F4EE142A55844C104E1239F51D69D3C6BA1ECF2720243C340B4E04DDF68FBE8D  
5A07B26F4C97583422B3C3143C2316BEA8C96EA365055AFB39B719DFC45EBB2A52F52CC67341D  
E493D5A788E89671B705A6DE2F92FB0ACC6C31E200EB38E689F64D24E902C8AE95CC75B22BF9F  
44DC95130F9CE91B4F1C7EFA96D32001DCACC26D9D3F55B0C653D8B09AFC1F7DAF71C721D55F8  
2F89E3DDE413080E8334898A5BECBB4B6FB2CFAA0D2390753F0862BA6C70C6CE011783C624071  
2939C93DEC36235A8

---

#### E5bQ Code No 2

CE701F7B81A1EE81DEF8354D759C27FF6E4C6EBED2153250472ACB70A82E3BE39DF9DF9BEF543  
B6645CC6C5595565710BEFBCAB8654CC62A8B60B6A90492EAF1216B47227F0B088A43D4E3B5E  
81946A7F49A14BF917765460C80543EE8867C116970B2957EDD5F7110654AF69375D673C72580  
640146C7A4F640F6524D3CD827342FB29E5A211FC373C94E11F16771D58D008EDF116230ABD8  
F165797E8B0FC589FEA57788516502A664C04AB9F15310C55758CADCD63FBE743FF95DE95AD3  
9DF253A669B1B5286C32F379AC7CB91973AAB3FA7759255DB068D225FD85DD5D8AB38484F4D09  
ED5AB3CDE5924851848C695E8BEE717B03919256AF0463CCF030ED39C5B38A5F4E5CAC68038  
9FD80A7FB83868D09D18EA4BA07B19312FBBCD33715B8CCF2380060BDC7850176AEDB634F21BC  
15AE9BB76A879C76F10AD8A09D4AA8D2E4AA1186D744E2A15B0A107C3921C10B007A0D41FC89  
025A9CCAE862BE52E136611F6F0B3742E115F29118E09CA13B078775CB26DA2C693B8EA490F3B  
D7882D397DC69F50999E9F4BC3C276F6951B0E2281FA3CEDACFE572930350BA83D0055D492C3  
10BD8E3B74582BD98CEC33847266015E207DE50CFDC1CF01530E76185991C238E63CC4AE2E14D  
AA55851C405EF1F38B7449C1C626555403069BDBF7D5CA63355EFC82F85B3CAD343BCF5B386E6  
974DF401E130BBD16A44F282F7E354048DB322D9CE029718DD62574CFE8614CC891AFF3905968  
FF8BBF0D6FFCAD3F738FA3B6F48714007024DC10FF6430FE2B4C9B4EA2CDC2357AC71529F436  
2D9A792D4472E14682EE124892B8F186F397810496C4EE7115E14D991D51E8B4FCDED792E53CE  
F163726760741FCAEF963E4169B20F37D5B9627F62A503FDA123AE58A780875171854D4D2C29  
9E7B0E8377CF040313090AD9C53B4C79C7E49BA110A592673122871CAF826AB15B3E97275AC1  
CFE3948EA832E2D0EBBD317F8547CF916453D57A7A18D39CD3295B25977FDD73949B1E752CBCE  
E0C285DDCF38FC515E509FFA2721880892BC6B911289C3D437BE6F58E36FFEF9557A520C772E6  
20597C691E85C6A6321CE7D1641A41055681A83CBD1F61024C6C475DEA3598819C7BC33F798D  
0E0AF48156852F9E262835607D496AE6A4C1261ED97D3BDC8D63A93EDB484089E228358AE37CB  
5EED7EF4BC2825F6DE89F79E4F8E5C8483479A3A63B0B0A5D54F5F79AF2A8657E167D08DC73CF  
1D912855DA0B1277477B4E4B348F4167443B295730F4BAFB61DADC7F45D4EE9938D195F76CF1F  
E8947CA68A6D59F2469DF27FA3DD5068E7271C55B42F882B54F5840E5A4FB09DAEA73ADE9056  
04018C722CF9E1751C6998275BB40E8BB254A8948C13997BF83DE5E4640E8D40300FE6F708BE7  
B1CCC62063E24B4DFA3550CDE01EC28FFE7FC55F2732080E3FD4F9D06D0D826D49A1302AEFF95  
D88C7ACEE213DA40F29175030639DDEE713F5A3BBE9488349E594A5B2A27730B18C33943A895  
52D17F5CE967B05C55CFEA5E23230F49862375B8C6196650BB9B1B39C57E1878A67EB2C59D486  
CCB2D0AED2ADC102B50FD88C62CDF3C45221A76C09FA43F2924497B328E3AE725D108EA1907F  
DA8C8F75C1F53225DFE87C3E136BED8DB491D0BE615598C6D6DC0C6D33E844E3DDBFDA299B1E  
12C11819FA83F9BE494A081862FAE5F687485E2264D9D7F0117CA3FE00B0EF59E03253BB2C598  
9B770951F16DD8B15E9D485E163AC60EBA10974F158D0F121C9274B15FBFD3C4B639F04D32F3A  
03CC2E632A7B4AA8

---

#### E5bQ Code No 3

54B709AE2BBF27FCB2730AE75AC1B3CF690A17A43038405FB0B8F87E2C9A2242050998FD7E79B  
96CE5AC5CC9B986632BE6DF55BBBB7BC0483EF2F1B27593C0408487E8F773A75FC51DEFFF6581  
423D0155440563B04767549F4965089102A0ABE280DE00E9F92804D386E2B84BD9AF5D7C1F056  
5B75F04BECB19C156776E75C73A4855A5E18DDF796B8C8E7DFFFCD51F3AFE9BEFE8DB161FFA8  
D6CB37044EF3E1906667BAC68EE3CC9A1ECACD94C2FD20B6D8EC553796DD9CBF3A4F81B395F7C  
2C8A56CF8B6CC27069A352DF4CE53A783F94823C233E4CBOE928335C744B75649E2518B8A8BC6  
E09A704DD025B73FE9FF962FDBF4FCF25653026CE0E66EB947A33727643568447C91B9DFA9623  
204FD4F127A708311CD25F7458E97F408F76FE14AB7267A4FE4AEE0D28B6DEF4D4309C55FBD68  
86E1372EC8FE61DFC89DEEE121898DE2EE7EE61F436BED8850E8C28F569D2CB2C9944D4F8838  
4C0907A8076002E5A3E80F09FF52517932D78A647455B3D5F1AA72F9F70697617ED745DFBD402  
331BE6F72238C7E8B83C6A7B0DBC617D1C4D41AC016D337ED5043C0B7BBD46237949DC9E583C  
580A578FB36062F5BC5107E5D15508188FB8FA983A01C556F472C489173A1A219EFFEE981526  
5EC1F0E87ED545BF55CC80AC26F5A17A04EA1C8167ADB4E97194D515B23B3DA5F1B7719B37F5  
FDDACA0671965C8AF2F900B0F1A26CA56EA0C3A801E05AE3DDAC42C5E975E7D8D65151AE24997  
02CA49B905F8FBFDA83225E363680E76B3C84442006EB644B19B01698BB63DEF284DD9C6B78E5  
00EFB4C10AFFE3F5B19B755A9C47A6394551BE0C01F56DD60A7A0E6EAE7A57A74096142CC055F  
5883BE9B21010B7D6B1BF525C80C25DAF89E12A8C9BC8B09B7A796319D5562B0942421E6BFEC5  
F9A891C28EFF59BE7D93BE6A9AE3CE6BADF0057B009C3C83B5A70A546984181EB121D23ADD7DC  
74BF9318AE200344E200DA0496A930215EF923DF384C69E222B4D6C95D3E6698171205466B04  
2E1EDB58F786172DCDD960C6F76992ED7DD5B8D88C8D4A3C452D30782206032C4D50AFAD08953  
1863F5D3D12D7C12790E6D68C5AD406317A97CFA2970A0F5EAB7A6AB48F6B246BE7A9F1C17BCE

38286190CAD21C0COA2EDEA69CD82C0B50BD9CC9BBB321D1AD292632EB0D3793D6DABA3CA1217  
B25C72964464DA56A6731F1CD9868E4678122B0FD38DC51418BC199BDF6185FC9BC6C4596A638  
3A5409D9C32EE8415C3C9AEE2DD158F748223BDD80A0D4E78F8E452822D360BA6E34AE9E50D  
44D34702497837AD5E095A4DF9ED4C018DF813D5D89E04BFE1E62424AB17E9640C6F7503DC9C0  
3A85BC094B3D3077F263E11CA128EB8C14A4BD4F26DB8FFB2D0315B38EC76B46121E95AD03ACA  
CB851DD792F8977056DF573E6F2B200FB02B9C26148EB88EFA66514C03ECD57801277D77744D6  
D77C2AE630DB858A29DD219DA84A814276F7A03BD0C4873CBD12C883353130DA044B887DCB397  
750C94AC5E047683D457E25A3E25E34D7C6E8D5905E2B04153ABB905CBAFD3413ECCC4C022754  
C05C0C0814EEE8284FB399EF2BA34020851E1B233C1F4095302F2FCB07BDA74F1483B213E74FC  
9D1A1B0FB1FC00ED8B59CA2EF39EC3099713C704D7D4CFF0D83E95B1B52BCB0A6B5AD81A9EC98  
8E8165C8C1BF36FE3CDD1F416FAEC8E8255ACC758194064F4F75BFAAD22F2D000DEF179C09F10  
297D2D5307ADD524E23D44C36F1672D1482D15399450F46EF33A36466F34B15795388CEF2FE5C  
060F32F337AABDBE8

---

#### E5bQ Code No 4

641AB1974308060B0EDC824D9A911F7F95EE18C74C95D97E6998D1D8F2137FC6B95615004C2A8  
7747D65C96A11E58CAFAB597FA901588E2F66E0AD827DD2F3CBD3322E9D9B700C67406F154C3  
749C349958CD199D7759C0236AC94868B15DCB0C85230CAA19D56C7BAF7A761C61DB809FA99E6  
3B394DDAF765643535339FC270EF76F4734BCAB1938397014D334221E05CD5C4755BAA521BC69  
33120825875F90FD3C65651582B7F60BC3F14D7C289472776CE821769A4BF8FD204C0298C78C  
6BECC7E209666210593F7E0F78DE625CB684B3D4EBFD0B29F965FA295EEC2F0CA520053DE4651  
4DB165A02C1F218D4925D4AB4E5ECFDAE4506DB184A181606DE65BC857AB778549AD8AD878D1  
1AOFB9AC44504359D85622BA6BBAC2F8CA3FF4FEB0DB05A98E2114A1B58D34FF416BEBCBF71  
4BD42269CA84853864C21F3DAE1153390EC1BFAAF3BED24B7D0D0335DB04F528922A2A17F188  
506407F2FC7782B33DC5D87C7F0B4B635CDE1252609650C994EC046722929976E64BAF5C2C094  
AF27BA9BD2E4CBD0BB67158DEB6B5E8A0A1C8992554AFA3449AE56D1F0EE41E924B907507BE3  
BD7996EE08991F1D55A8F1EBC949A34B7031DCFF2049166489D05A3FAAE6B4A1F1B31607BABFB  
74A0F92537E1BF76CFEB1F76B56CD21E1F262ED59BAEF09EE800FA1A9B30DF7702D8CBF40AB6B  
19DA2D4D6573653CDC092B7B858F8A4407A555CBCDC7D6C8B671032A5DF38801593557AF5E7B  
F9B1640A9BB183014DCDC068E172224E48D04023273F795E3F1B966618CFC7840A06518B3CCA1  
987B186EF749E6FDE8F1C85F4C757F5F628E986B093C2F46060ECBD40D9C8E547CA9AD57D9C  
62C411DD9E484C2228F34E6105E7A94C26932DEA29C2437C1EA011D93919C029E08221F633B49  
41EA1AD3B8562A5E0499D01F236811488D9416F11EAD0294A959268BD988F946205EED0B98897  
DA28B21E75361F5F08804C8864D14B674C91639A9FBA0F1B0DDBE5073C7E9FC157688E48A14E5  
868AF395C5514BF30931B0EDC45EC49C5D3A4DA37E129CCCC5E284253FFB7133662145C3351B  
DBBDD0BACB370DDBD193C23BDE59CD55DB29E54FBA2D7F890063E272E2DE88BFF0849B04F8F2  
4D1A0CBE0CAF25F815BDDB7D4A318740654014E89D12683C0C2ABCDA3456F475A9D79D7FB685  
8914DA479FD11A2F545E113293DF5D8B84D0FEC6E49601606025D8CBF071A4980BEC07E8CB3D2  
047543D56FC32DA90FB77459E4E9C7048526B31386FC907AE118ACCC050403F9AAF5D530CFD27  
B97238B91AFB9F36F2F3D1E6BD5C8630D0C6D92ECB21D87FCC314AF7OFF49E50A2BBF36E7D  
19AA5C2D785F1926EBA6922538E88530TABDA921F99C44565B2FF4135CC3C3B6D11AC2DC0E38  
44335F8A5C3387B6795B98C468A48E8794B110A3B3BE39DA16586171F33E1162623CD4DC3E77  
C3A887B942A7D792684F7E3EC9FEFC08276241A2D0051682139D23F864A31358D83415F4E2DA5  
AA16660D74C00539564A0C791983EB1BDC5384C975DA16605B9676C61EE544877A27F5E6FF1D1  
C6F239917706AB2FF9CFD4FF0543E7B33AB7D573467041C88A3EA30AEE484A6A2F2C73856ED  
EE40101D66589D52F44867ED29506376AFE0992CD3318A674B055EB9B970E183ADB4CD6BCA41E  
C3DCF7CF14033FCB1FEB4C38DC18B84FC85DBF488A4316C9C763512D6058C2659645E2A2AD7  
9294DCE325D00B9BE94B78AE970FF25109FD7BF9DBF42BE0EF058B2771B7BB7455D5905CB66EE  
700A8DCE17645074C

---

#### E5bQ Code No 5

FBD0AE56FBE835762FE2E970D976200CE1798C3E9C416B2974967BF06D9C937FF318888EA7D27  
63BDE785CA9054DA3315793EC4C53815E0397CC274D510A81DCEED4B3D5232D8F19043E56725  
3F0B717D6E7CA009A01592BF499D4BEA95612D126D46D1B62E2E2100EE640D55398CAC05EAEA7  
045AB515A8189C50940E15F2D0574F9CC46A3D0D3C0B3DC11D9FF2D0453B6B8D8C28B8B3BEF3  
5EFA9DFDCC9A6822EFE365B0D1A7E63A86B92A2FD34FEB0364B41AD17830AE9025EAD29AC32C1  
C6722420F5F1C8F9570E3C39D9EBAE407EE9EE4D54BB70A5525039AA38CC109582C46DD190DB  
CF28E94557986C53724C64CB02487DE67ABD26895D3286154D2DCB91D66DF17D6FC53E3F4B02F  
55F9DB19BDFB744D9815E35FB285E331664E99A41DE1278C5051E8E8E1904F80712F12E9203  
4423B05AC4003121C55AEF7AC8807EBB0461DF9A6F92027F4B8829BA4D81A79A68653BB132D1F  
02CE72547FC7D36B69084FD1541EA69F6648A0F2BAD4D45C95FC0B9F34962E8E4A3D001D515BD  
1133476810647DC79989E7B7AB0603E9FD57E156D13734071A136D2856040E09ED9C6E13AF417  
CE477635BA9B7D33C6AAE826FC5CE4490AD53B537FB8CAEB110E81DF15BF7FA679DF85F2643EA  
CE2D60FCADBA01119792AF6AD86C88E508A6784BB679851EB11AE07492A8E963C13BD7914CC02  
F4836DAC1CFAAB94E51DBDE7B9D3E6B4DBA96DC8E7A38B8A5C58E724F417E01549BA56DE0B711  
233A370D51EC73DA83EE1F8D92B343F5B1ADA8CADEC9774623B0C59991E9A09E42D563F69E54A  
F3A6D286F88050E01E562CE23E45B8366B9847024C96E6BCDF756AD0183FC8725738DE34C3F6C  
9054AFF0B17EB7ECF36FD0850500E258C3AA9BC4D9E988083346F0B03C8FA394DCA5AEA0F8E66  
3520B726346A0A13498E3CE45845A2D6C4A8AA14E1488916B3751E70C18C98617191F785181E7

231F2DB8C712A7DBD0340810F07DE493C7ECF8D6EC3E9DD80608A31D0F4E0BABAB397704DD4EF  
D12D8F27541FE02B104973D783F18223147D12E09F5A6D0127D2BE9C5EC0F5F348AA61F534D65  
51991A935CF910DCB5DCB09BFF6E8DE3F4C17E2DF1CCA2411BD91D074A3E6295CE365EACB1A3F  
B61AC2AB85B8D60B01E290D3DD1088BFB15F7FAE3D534011B7F2D985DDB4C82B6454FCF80BC03  
338E0DDD12B080CE9821F09A07F790B9538C20020C462A535773A9EB1F84DF63678FF761B8251  
A36AD896987006161C0B3C9A5ACCAE1E1B2A7CD791ADD02A9C41A861EE6AD2B7882D84A7E4AF  
7F1F8D15CEECB25C3770ED938F31A8F6ADFF298D7FB7C90E96677A7F0A78DE6F4443C61E357D3  
FD2ED9A0309B65185E02001ECB4054EBCF7DD0D3D4926A1C02FC39E9F160A81CADEB6A43922D  
46C25D9C15312B8D634E72FA49EE822B748EF959B0D5545499FA75DA1BB24F48D0BEF9D423AFE  
2BDA14E66266BE6FBD5754C36881475BA4CADA0E2A8EBDC6A25712A55A6D546CF422726AC8CF3  
4FD8176FAA5650D298EDB15A3663CF28B7E7AD50B0A92F429BF8CAA807F12A583DEC5890D3FCB  
CBD2731E7B36EE58E3FB2670B301BA7DF1A7135CC2BFBCF052D268A6A636465DF743F2886B98  
5F8DE35B8428D6515F32C6F9FDFD3C04D3B2816D416E2906FF7814E82C9178836C2573C545AA9  
76C5DC44DC87CA242360861C97332AAE38ABE73D556460316FCF35F11069C8B25D3064EA9F62B  
AFC0759F419EB889849DFDA8393A6B32E1BE7C4FA7B93BCE0FA21898D879EB0E3AD4CDE61AEF8  
F0DFB33E408E9992C

---

#### E5bQ Code No 6

0D8BC96A69914CBDD029FE74ED2E51FAD1714E703FDF5E3475B864D69E68453B640813982F416  
4AE4B86CDC523D544387215FBEADFB53862BF19DFFEA39279DDA4205C4371045A6207114E151  
B055FC03FCF21E8E71631B249E8466568F1FA8D290D63A4E2121F04877213FBC758C8D1D5B7D7  
814C9778FAFF5CA280D2FE81CAE909D0C04D29315E7713F8E1C64DBD1D91079A26BCE900D29AE  
70B8820264A4BEAFAF6135EBA6172C887B5A64F7AEDCE15C85E4CD8222C3FF3C16B6EB153F190  
EE23BE455B48757086AE6A5FB7474C01A11469120D8C5618B315777950E4BFFF3D5BA4AA9015C  
B3623B706B81F3DB5CEE23B93F111724D787B2CF9DC9CE02E1CD35C60D86BFF8A68668F2C8C5  
3123869547889C72BE1E54F261D3755A9D5EDBE95F72FCC57643778E3039570FF6F9A67B675  
D57213EDAF80C2C59F46B3EE7B27E54281CA4DF4581AE8E780A89E46DC36EBA3DE258F38F963  
405A6B0DA44C03C7ED52043252141056F4BFC4F57EEBD6F556D369166FDCA966702BABA54046  
53CC31CF17354A9E6C9EB13EC892615380CB6F3E891BFB3B4E39B191982855DB272117C758E51  
91873E537EC9DF004C4C9A637C819C9538FDE6EDF02F900748CDC07B1CEE9E20717166B4FA6F5  
A2A9DB613B9B8D4E9E0D5B65C73198B7C9BC2014DCCFA3A8B6B4564D2CC0352DC85BA2FE18E2B  
5DD9D348E45E9B17C1A2FB24D1297217F06A5FC96480F6D7438E1187D050E5ADB681448DCD2AF  
16DF7558D90B06DEB83259C2DEA3EEB5CB8E882AAF853556582F423304C62C1794B72E4C4EF47  
AFCDE04128065F8CE6CC0CBFFF0A9F493804E7F692945DC98677BACABFE1C28F0E041EF081D8A  
24428A5FF845C91D034573098401C292516BCD1362A72E44D0E0A88ADAB019008F4C09E82FC  
8E17DF47CA600F090ED9392086C37B65C18B3F86DDC23A1BD6CCE98E5F671CB183F90AD3A0E90  
F0FC4DFC3CAF9CD3C4CD3E0C37CE41067317849A58181E079726120095A4C2A71001037CB003  
DA53F566C9C474F3D82C5688CF9D0EDEA58EF17898DA47BEB7CE2BDF7FAC23F5EED9D4F31E810  
A2658AFBAE2B9F92B4FAE99169584FFFEA64AE47A97E3A723EBD291E054C790C9FB62661874  
C61432780DB76C2C667B78DD6FF2639E1BDADCT7F010AED1E48EE61C9742B137ACB7C5B0647  
7DC55CCB53F400904020422D93F60316761ABBFC4BF664836CCCC676EA8C818576E3A505D80A8  
E750F456201395B6BDA1E180513EE17AD80EE3A06F8B36CD3F9A6E041DEA6362B11FC8919345  
4EBAF0A01E1918BABD7616D9366B6A33E890F9CD237E43A551766DCEC80FAF344810AABB96513  
EFB30A72C436C22959C7D9D9A9F26F5B24D79CA7921B75A9D8DA4B068089EC5AA09619C0C2F5  
91AF17B1A16D796D61A7BA98AA12F9F444FC695C7AD6C826B7E82BB59992519339008EE065  
F485153FBA0C6326F58C2092AFDDE5BEF1D111FE65AE008EE249E4CDFBAE7BF084A59E38D81F  
C0C4AB7216C84C9104316439FF387909CA66A7D88520C0F2137B5465598B93869DEF41DE46347  
B20146A1C274E6E908D2CAD97517EC7732EEF179F69C299F227B2B8B385DFF5DCB6103C95A4A3  
C9BCF35C46330AEF530541953B77C2BCF29C1A2974C6DE07E0F3DB47543EFF21C307274567532  
B150A93342D1FEF7B4675349089A1CBD395327E61F2579883D4BDCD1BDADD06721F1502E46267  
893BC76560CBCB4A1BA02525AF67C6D023C14B38CE284333253B522E068C97374D6B83635E70D  
9BA88796342F5B998

---

#### E5bQ Code No 7

805FA54A4A543914EEAEA33F40E46532D09CD4CC4CEB1E5987770B405EE24848BC2170B7B0572D  
058E726BD79E7DA005F0D6A11A083CD2BE82DED9C5355C254F645B98EECD37C0F0834F0C69E1A  
E681A69BC2A0F108AF1205DBB51A6D5B50D44795DF198A94E1C4AAD78B680C84A7CA148EB6698  
DA12792FBAC8FAD6F7CF086899E147B645EAFF7D8F4BED2C7D0DD69DC3F0953DC6A6CABC1E3B9  
F72C07F30DDD0971D9BDD11C861016D0DC73A946D95DBF07248BFA896AEF4C21FF57D76F89439  
9585EB2AF7299472ECC6D5386C9E219D535D8CF522737A44A3C416BE88249CF607D5DC7EE4117  
34AB878D5E10D61F7A2B501F5754740DE92397F69A40B8763642496CB141EF5CDD8AE9454F6C5  
639EBD70D302E92C7ED592EBB3EE0F6F6714E113403726E8383853CE8E59C3400C00BA0B335B6  
212035BCE33A91C597009F8BB933BDCB3481D2F790499923B45470FD6EE3F2EACC6BA84B68675  
2F826D7D0804BC53E677DA1E5198497A91EB071562ECB42E38B3F5BBAD0A47AD06F4F6972B812  
6618E773C35E464962FD4E338C33273A167189C8AE5D7A62D78302189F57FE04FC420843137DD  
8CBFC2896174465DB4D178256170B7DDEC0D8093D0951A5C8A8B25C94C318B56E7E2DEDF2FE39  
E49AB6C5D3B3425C82142866EA2F1C1FA55EBF420578D7601F90C14832C7424FD51ED9310FE6  
2AFDF7648E18B8F6340FDFB50B6C34992DC45C06F5E887A511408FE836464BE40E5F672E09E4F  
BEC8FD486B4313BF60E2F6932FA9BED0ACD0A76833DA40E811EBBDAD6CE221656303C7E881F63  
E08E74DBD10054C30864CDE812016293A419A32BF5400093A3F9EB405617B0B6AF64ADCC70880  
936CF9D4EEB17BBB8E416AD9813F1D08BE078145DD493EE752D3954BFA12136FFAB11625948C  
5E7EDD13B2018D22B6089EB4FB71698BB7D3B9B7A1E445CBEAB19DCF146375D0FE53D24978F7B

5D7222660BBC5B95211706E865D98EEBF4D3E88BA9137CFB74D18B7285F540E2770C9DC2BF7F6  
67FB3C7708AA4B3D1CB8A71E374A9BD7F3AD6CAC883536A78AFE696A7E446F766F1CE5FB5F6F7  
438F2FB04D09EA0A27945DB95C29E334F526B699C9758B2654EEEE0C1D1ABEFADFE7BCCBB4E34  
72129B8F8F083A63564A6856F5223B08A6FE3181878C64F3C83DED97DB0DB3F110869B7929BA2  
F9C3715E1717779AF88A061FF91ADEB7F1E293E822EB38947FB6DD1026980FD33E118FC9ED9C6  
9AAF53ECC127A92C82FFB025DA5C6396BE6E1BC25D4950031335A2E24F5DD034563700F9F8C9B  
FE35B1250F96E34E4BAD34A864693DAEEE7979E405FD7302C47DFFD3EC860BA280EAA1168114  
CAE3C229F1B76BB5B486534C7E3D9D1A871CD69AA1FECCDF7D5FB8187209878C240C9B94C9F9  
224ABD2B0AD649C71B850E91836A293ABA64F12E0859CACCB8A0F52E3DF38FAA483AD9231CA0B  
797FE57758AAF7D8E7434E7B8EE4C8FAA8D403FF1ECE06443C19EC02632CBDD0F15498D8CD6F0  
1B23D6300171C8CA10A87C321A2891BAC887299607A644781A0429657F5139CD2BB2147FFFDC8  
DD18D16FC0B3B20DC1E21306DDD17981E5AD27D26CB43272089E40802D48401CCA1225E3F5567  
8C5093C19A65C9FB882C295E3B3DB5F3A94EACB5B0D9C960FD7913A997904610121D033BB02EE  
D60754B4E7C0E6C241A95E0A6BC7A9958F8256AD9F2EDEA9B6D6CE92F7AEF8BD5D651BCAA6483  
CBEDEF5F9550CE2941D7164FC01ABAD744A0E04DEB0B2EE2622620A593D8F8188C5701967F70A  
2592E6E3D8DBA4838

---

#### E5bQ Code No 8

D86BA0EC5F2F711EBE19B487C0A3DF6D083DCA33E132E879AC4116BA4028CF2D131A6146C5353  
2AB0CF8969C0F71C8CA2D62AFCF9D98FE3654B54F1D09DD01A03B1D56A0D49F0C651DF4A07B50  
F525242CD2C3A4FBABC116BEA13D3B7EE5C12D4EFFE45E2C2A13DBCF3D893497A1070D089232  
BF38A2546F381F080AF51D7AE4BB9A7B6FF7D70D0D9FD49D91E621E8B8EAF4B06929A26792292  
3B9A31C952B83B60D6C667C5B177F3196F0AAB6E8081F6CC5F222B17FF2B54C9BE6E51DAFEA9  
6999A7321C458BA3D87E2DC1651159CA8784B416F003B525CEE296EFD412973D8BBB41084C921  
5C49D95ADB95D8F763D7F1E34CDA773A3B3071454E7ECB8101B30232C4CA479AC5A03E7C694A  
8F27F73E4E8C02D48F9A31F6262E8EDE318D0EDFE90973C5A53A9CDC46F5318D8B21C9D5A8FE  
997DB6C2A76BD2FBF3B9EBD5FA58A65279F517DE527CD91B9617BE9C8065AF3B0F141C9CDC76B  
54CB352A249EFF27F581E592A46F96FCCBF8DFB6683737B8B3C1EAC067F2CD0103FE3D98E5C1D  
05644AEAE2876660C423C76E088F78B7EB43DAF6B6C5B3F7742B61F71E4B94C6BD65A1CF72649  
9DA0356773C709096E0896194EB9CD737CEE94B0BA86469D460C871A4FD8C094DD26D14410359  
0A9F4BC01EDBC94D6008DA48391A851C19E374B2249C5467BCB68E11A77BFDC4C9EED771C5C1  
6CF8CC3B688A7479D0F0B99E54F687E869C06018A87B75B98B87993D9C58829962D4588426B96  
FDC8892FFAED3168401D8FB01F41F59136C9286C45B352303141BBAE6520EC6620B645A010F52  
0846959C4810190A7D4E6AB27A3A678E21557A5127F15E4C6050806A5BB398FFFF75AD33F1E84  
249455A241F006EF15A02506BD171669C296E66794FEB316DA723C7B255CF8CCF8ACAE60DD86  
B469A2C44C6725DDF13B70B940514FA95EE3982B72B511BBCD1FD3B5D19C681807DE3FF773022  
9675AA0A984985143ABFDF75FC7C350D8154738A6FC37954C5A98E1B672837BA729D3C645FE6E  
51EFF9414CF0D4B826D331020D2073D703C25C54BF0F068873EAAE4BF39018026F1A8A3A73F  
9B1A73994EAD149C8A3CE889208C3C949C48B679E499D3DEB7930828285DE1B5E2D09F44C712  
1508D35CBD7598FDE0F7B4F8754D77E048C5D53219C8275B72410E79744E582911AD3895790  
AD3F721A608EE3B5F7A30DFD2BE9B10B1C5B5A0662E54C2531E54672C99AB3647CCFE1DF7DC50  
F9126FCB4E71627E75B31AFA829FA1926ABF650DEA8B3AF7A6692C10A3888C7795C3764949F  
9F12E0EA1577EEA3EB29AAB0ED64D852A36CD3D7C9151DCF7930828285DE1B5E2D09F44C712  
5E893E7808FB17B511FC2487572977A7068B5AA90E6518A603410A4C26F9BDCB529CC5F6741C6  
60AAC3E37F7F4E40F32142331A1E8F3AAAE8A9E58C717BDFD237CB29AD5568F1D0872B11AE18  
F361D4494FB609F438F3429AE675B7C59991F745F7BC16BBC1581AB60928AF522AE91E8D5A801  
BC4FE8F9845E38627B01D14BB2FE8814D440D78C8EE4C8AB3771E48931DC3B7E18C7736DF123D  
A6E3BD0C303AC115FB93EAB2E2AA4B3A1496E35E575664E3A17E8C7C6C3D54AB4E9FEE8754E85  
228241B6971F7863044AF204F67CC72505169F72E3FF1B8C9AAA8CE86EA01BAD7C87B788EFF66  
F721F5FD0A61E558AFE11652BF4BEE5664D81F8E2BA453B40D8AC90DD57E1A59F8F827156A656  
02DAF49BE12857E811F8066EA48A9014F501BEEE091F8E28ACFA7E20AB6613641FDEFEAAAF38B  
8BCC107EEC4244CB0

---

#### E5bQ Code No 9

A7E921AACFAB06F89B802EB01EB3A09871F66F0B85C95860BFBF78E7CB2F078BD27BE0948B42  
145F900CD2DEC1E08062960A14CEB9A8310A8C5AEE0E2D5F5B86A0351C83103C03C26F67FE5C0  
9253C11AE0DAEDAC78DA3581CA6F2B51EFFBC187B0BF960B20AFA083D5A447E08F085A71F7B628  
838C0187EF71894AAF78ADFD312EE590D210774839367783B7C8A538B408E92DD208FA7A9E6  
D999DF408B5E41637A7EDD0DDBD69BEC7F9E39D1AAEF7B36AF6AC977EB0CA783F50FF42482AEC  
F9C88725AA45E70E3D7E492AAC74FF351668A7A2FEEC6EC2B3A08156504983A493B0A418A4211  
72513DB2F3FD9057F42021E12170D3815EE52B5ED0F1A49896C532E478A86D497585AB2153627  
FB1A9D87EC0DBC0621CC81477757ACE26BF6C7518CD3629D5A7408A85E1EAA4E3EAC99F2DC0A  
2456DF0EE69AA48A2B156539C0B2354F6857503325A0BE4C6B901B8D98505AF502577FC1695E0  
39DC219224248D3F4C50C1A6045D1B5B02BC61F86ED3756E9FB1F5B15919776309452E599C6B  
737EFDB8B0B1BB74B5F4EFD75DC98A4BF88BF5A4A6C20DCD155E8D03E1519E24EC3613F30094E  
F287B27794F03C519C5E7B9113BED1F1718CEF5C98A6A12E192296DE7D806C77854E0A35CE36  
E4CFC9EC6411B267118D4FCA89C8FD9554EB90262D49D727E83928DFA27EB2FCBED2392901CFO  
9C7E3B14EB8795A2E152063058BD213964AA5DD8EF99865255AC7CD5379017B96A6A379A736CB  
1A5D041B1F2CC43D27F7C234DF3FC5A7E4596E0211268781A30BD9B3A10A15716E7753BFE3EC  
8013D4ACAFDF6F2918D901CACAA5A53FB31246E6D570CE1D7EDDF64065C4B5EAE52789E2D3AE  
39BC252095C9B703FE57507EAT769BC64341B5EA6BF320520E02D59493453837A219BC9851435  
CD6B8A9D902EEEA658EA28AC5DA822CDEF1EA0DDBBAD07F0C9165742C8F2397884EA700F67F6

4F4D49D8E886E4791C3F8E29CA77FE81EFC90522ECA5F77128D1D64B89A9A8706D5C84846C9BC  
42094C402ABCFA7CCB147C8D2D99224CA0D6874CB30E3BFC23D77204F47C84E233B6468221669  
02F5BF3070F8390188F3FA418C7EF1BE68B7550E4AC218E5DC9D7596B163958C1BC93F45F5E5F  
61CDFA9E8835A0DFA339D516F310A62337710BE7307B4CB2DE0088AA4E35713BD1DEF2456D1CA  
BEE7D110BB0D753E85BC7637D3631D0E169055C822137BEFE8775BE0CB00DE8CE917AA1A851AD  
CB4151D3D6B8F7DDDD0F57B9EF563D34D16E96CF3BA9AC589474218E5EE251294573FE1E3A0F  
7C06C380062B2F6F6C8B79B3042F1A68676348E81F1BFD90B43438462F7AAB0F9456E5F786FC7  
E812387CC32206085E7E21A300A09793B9B1B87C3F1178F5B6BF6360EE07F23D30293C5D43082  
6496DBBEEC8D52DA3437979904D7F25621D703CAD1E54BD8944ED1CB8027670642B42595AEF82  
EAEE0D3F26A4D1D492F5419324B8B4862C13BF4F4A29A35D5218BB2D5BFFDF85F4F9D3D0B584  
F096922B3500E7A1D26AFB4616D6C144C540280DEEAFB721F01B109EE4F5856AE534B1ED4734F  
880C9EA836EF172A8F2566FAA576A80F2F4D670AC7F8C5945C016A16E3C92795AE445C8536C6C  
12A3DD65C64B0844AA0488C109610FDC88FB21791663ABF41C63B3B586B1A120E55E2DD351913  
70BAF43BDA644AE9D7E47FB0623CB653F579B96EB22732F833BB0F59B217F700B8195E9CA4CD5  
93939D5824EE98E5D13B865B1375FE7986FECF8B1592077D6E6A446F420CC9EF4CD934F75F37  
69F1EE29D0545F748

---

#### E5bQ Code No 10

067E55DA111785828DC1EFC60B788608ACF2928466F425975E29FC11E3EDB16B37D93C1355B0  
AA7D3B0D906C0213105F1BF8A2AA3ECCB1AC1720CB783FAE25B154FC507B725F2594E1C671E20  
D549718AA9308EB43E8A71FE15D7619CD2EF731CB309DF97E0404BB10AC9D64583829501F02E8  
79DEF1095E726F855AFB15EA1723E1DAF883A7D2E0AA3999E80B0489E7589DBDB9667A99A1FEF  
CC7BA74DA490F9D63623C51936A901A74DA1AA2C3242055C62AFD9671B75D1CC3D7D9F38D9F86  
7E7AD87E888A0D85EA1B452B7DEAB98D9D34245F1A60AD639EAE9306C585A00D8D026B0BC2D3  
02E27D621E9D0273B4E782C2A46E7C069C0FF44D98047482B327D71D43278C0EFAA584FFCA4  
92108FD3E84D83E679DE5E5C6AFC7CBD3F503F027B1C689F8228831396F7ABFB4B2344DF7F18  
35A1E7C3A86C459F0F3ECD643FEDCCD5CBAAC4FC9D9652CCF31BBF4D1E2317B05397E17850B51  
461B53AC475FE2BDB137EDB825EF548C78B80F5B08A513F87462C94579968C36262A97058C613  
C4232BB9D4D9D2C939437845245FBDEE1518EF2F6FA53AF66F48346C4F69133F70A24F00E943  
9F7869ECC80FE008DB7D19C4631ADF628BD659FE4C6753B96DA4DAE510215A37203A1EFC26D91  
0317F18C16BCFD993514D3A3AA843463DE914AD15FF3D69ADB9A903015342ABECD807417B3A98  
0201515A8E4A05CDD19B55C055ACFF5F3416617CC012CD9FEB5FCA3210291780B8AF0ED41EE70  
DAF229CBA8B7419931AE4CC02FA1F8FCC912B330BA6F0B771223EEDEC12E7F9C7A00E774D107B  
7F85FAA4C76F8CC578C885578D99C069F96D1A238ABEA068F9CCE949177A6E7585AF5A414BE9F  
F7AE6E2CBA84AF6B329501D556317EF7B3432003B4DF8401A4F4D3CAA38BA9DC73B66EC98693A  
6F8699AA3E1CB5D6C17232DA689F469F1CE489CE930B5AD949127454FA133354C030D5C0E612  
66F49F3EC7FA68F88C71A6510E8FA2F2177A7BE2DF209534D42D135C5B420DB82EA37183B64A6  
C30DEC6C5DD6F1930D2E13DD6F36F3627729E06E898A4456F01B0C16A1E800FAF35516D7A  
A1B513FCADA1FD82372615AC3DF1339BA4D7BC9AC12E5091672B179A3537A05418F98C6C614F  
3C88D77FAB4779F7CCB36E5DBACC93C9F1133A7C5D1079B7155A39CA81283DA09A6F6D0B101B4  
F2F0BE4B1DA059E9739CF2AD5644AB8A18FBECE9037029DEF778F689EF8E0CA6DD61476A9B665  
7F79E8FAB1F7C02ED687D1A7F1E4B2312A13A9D0B33F08852249849D9F61AD40177C049099B41  
53BC1CA4E454E05B7E8DC0C8DE5BC80FE64132F4BBCC35A0EE4B4D0025C5C3507A82051DA0174  
023C956E040AC37CA5473D73B0F909EB11E4010FA349CF5023C590C9014F39C53925E4D7174E5  
715A3935ED37A36250662CE14B9478E92518082C34688D48513746BC848A96D5C797519F73C  
F9D13821181EF17110C1F12DF1D4F9EA234ED3A7887322A9C7E1616C7DFAC8D3089302298D482  
B9E81FADE4F5CEET85EC9F4510903BF6FAEDC54BA621BC500E6D3439684243D64D7E00F1A9947  
FFB41236AECE4DAA7B03273A47EE2C2FD872685FEDA7DC87F0C5F16342888C18C81CA695F72B5  
E3979DDE44D546BA0D3DC928B56479363AFE814C59DFBEOFAE1A323D02ED77A221EBC4F43E4EF  
360DFB50E0E5B60A1A9C DFA3F72AE81F1A55995FDE8D15E38BEECA0B9384A0665515615DE46E1  
1D3D96D199E32B83DB7CAD7F6A6098634D8D207628450EDC8ABBEC233E2339320D1AB80F021A  
B10059C9B6565E73C

---

#### E5bQ Code No 11

3E4B585767C32759C804C1CE4E2B0E4EFE8624004ACC2BAB24CD0C40A72E6E9CBDC0F51DAD8D9  
76B092B0659C1F8E96F2CF6C2F1D7BD0C46639759AC480AAD7BA80785194FCC778EFDCF9B760B  
5C0C3F4258FB4F6FF76BB5C7D81A37A04754110BF2CEFF14B8DEB0B982F03A90642908EBF01F1  
374B39CEC341347ECEDB9EF4A5BD2B4699E6C77ED4341BCAAA32218B92384DA89A8FC918E0AD3  
2DA754F4C780F9AA179E0EF9F5D1776B250E41AF20ABB1F3820A976E3C92B3BB784E5122BDD2  
FE5821C2F1DD5AFC0F7808120D97ECD467A7456F05ECA0D73AB772A54416C80A0491ABE7703E7  
C63B39A071262DD1A1B7CEFB57B33F190C1A21D86A6B73021BA4A805B4D78CE1E1AD613843EA  
175410855F3EC96133C27E10C8C3BCF12E285DF6BFD2AD6A22146B35965DA2675DCFA085B3CC6  
D817AA1A511E29414FB4DB132D9F123FBFFC49BBE3CD0BE0BF8736E75DD36680303A51071467F  
782511CF994A178BFF0F192416370FC5D8AC58568A57F0E3D33F6365A035054D783C833E2C06C  
EC5C2D5A541426486A38C28BCEB8360CBF0269B1A4330FDB5C5C2138FB44741ACD7C1F5FED510  
77BF0C9CE863B5AEA08E338BF651B8223812EBD570D432713153409032C02C3AD92B5BF0DF4BF  
5E006156D05AAC4045EA32EFA8A3CF32D093170C887A64536AF7D346CD90FDF91321D1A63E65  
8DE26C2779AB934427B39776B5495D83B3C893C2E2B9C88D599C39A22DA4E536DC286A54B87C7  
78A548E4BF543ED5A561CAE61DC49016D1E95377A0DF9B3E840F698916A0043C24A2A49826CD  
040AF15699C428FDBDC05FD35AA9B34811D9AD9D84E2ED9FA2A26BC94C27981B4A0D9B4E9495  
919DFBC2A7B3D786945480E7A07511A453C2691656A7892E6A4C6686FE93BD310C2C25FBB9005  
B60C4E4C92C0E4DF6310B4495A0ED2D8347B221B5B6FEE8F5B7BAC922AAD32E4D245B5D752E2D

B8BC5304D52A0E7EEFB0BBCB4A39AAD896FAB9926C6045D9B4BF371C9CE12E3D30C730B4939EC  
6ADB76F8049A0E4A068C55918108C61938BDA830CFACCA00550E1431EC94359DA47F6A05CB82  
F242DCF6AF79A1098CEEFCAD8884BC468974AED85B2A2847E093A45D88FB27FA1E7602653B083  
C70BB9B7A2FC3BBC4D45A89EF09A22628D8B039A6247D46E35BB37E60423812820BA711475E  
C497D8227359C488955C8319572F47D419A1945E5EA628BA9F114EAF8F565FA95110D273411D0  
1A7A6D1C96CD60CA84DDA156805771411AF3A4BD4CE493D9DD95DDDABC03F830B372976AC302B  
7EF0038D93978F63F1F25507DBDD27EA11E2951363F455D24304B324BC59AA73364BF397DACDB  
75173575D730F8F25E3394F797CC2D38FAC26991DC238135EE55FFF9C81CC9C828FB8287AB72F  
33A28D8936D8980C221DBCE786D5141A74893B426C6B58631E96B350E50A7E664BFACC7CD4AEF  
D366EE11E89FC4454F721CC1471A80CED1BD44581E5D2AC177028D0C6C7E559434F9382BD1766  
679685657617DD8554FEFD17A22FE9D30C80F485B46AB07F43755CF5AA13E8270A9B3101AB019  
6246D87394612DCF980FCE24FAF4D10AC50F67FD00B4EB29C29E8957BF830DE3E9CA028BE889C  
F0BF3B836D5542991B0F28229920A393F57F6565E0095821D296B3AD4CC50F66D9B7B70C8D303  
3535AD74BF2A7A5B67B265FF7315174F67F883DEDA2DA30CEA7BAFF05519109D7301DE9F45C0B  
7663FCE41F88ACB224FA0F2FC954533E3EF633D568E9C201D37F3D7DE60DDE22AF138E4C90C86  
CF6D56177AF8A23D0

---

#### E5bQ Code No 12

7D82FBA23D20FAAD30DCD0F0A1748BF5E0B0D80C8A8C0B4313AD2B92C8E9608363707A5C289C7  
71D8772CA9C5248C496C5F0B59F84DE2D2F6EA681E7BFC6AB426679B19E53237FCA8C31EC553  
4695F19640521213084FAFFB6CB9E4200EC253AE7F7E781311AA92DB5420431E689AED416AB4A  
84419E6CE801A6A2CD67AA16A653A29F7F9CC4D26C8ED3A00B5AD49B06AAF282F40233E8A84F9  
44E8B5D8316E68B9854A4B69A4F160DD2562EC4A20C5F45AD65D8656E70FDA9F35585F026F69CA9  
661D90B8605DE4AD01F3383C157304FC0FEF5F8F23CA2BA9013C9C0914CD3948FEB270B3CB  
B37575337CBB75DC8E8A38F6AD986BB8DA4F3763CDCB2534050B81286B5261025E88A6319E2F  
7B655D37C9B2796594B68AADE3AA70B0DF5E2C2E135C4150C8877624341A4F1081A8F77834697  
C994F546B1CA1F7494E6507E3A8BAA3F058E510232E93F408D0A912E196D2886D478872F2E926  
CF032468EAT7CB17C28CF6F520C805D97E714C275D7F49B695CD9F76681A575D7F82B95F59EA3  
A3AD8DF471011D6BAD17C5E4E93F26EB88373143F2DE87865B40A335993F9838ED9BAC0873FF7  
0D3F00F9D23496B0D4435C65A6D39458F269C1A4F541B0C1E32BC9DD3A24B8330CA81BA450ED3  
BE5035A557296021881EA2DE7C7D137020E8EA416A3808497D09AC3906E4CF9873C1F6C44803B  
075EE575792075B8C2EECA9120C46966723DC6A508F4481D27AC0F70BDE28B627D12227FC97A4  
2D564C37AC312DDC1B8D746E4885A0F11E9F701237B4E38E678D2B42F5343F09641887FE3F33D  
E1D40C6C8CD655A7600D75CE72D9319C286836322F3B56C39BA78933FC19F593086BBAD74CBF0  
A38CF4B9116AE0E1719D339EA25D48781A0912BF87FF9C3393210237CCE19B9803EDE13A37B69  
A9DD7AF46A39ED501B47609062ED00A8FB1A4F3DB3EB2B950B020FCB7DB9A67B4CB903A2ABA8  
B6544AF874D615F0EC8769D8AC8A7EE6E50D8EDB152FD8D4FF9A46CC7643A7C5CE0CA4107A462  
812387B7A7879B8A873D03086EC46F276D903781C3E8040CF79D66626D172A8D51C22E97B8FD3  
B17CB84FDB27E2629777B1D94DAD7E73C94C8C9B954BC6C1BD4267223C2C93EBF9C297E049C19  
847FAA419D43364C1B52009A377390F9E11B007185198D2CE499BE3D2D0BEDC1DE1770A886687  
E4BE7EFCFA044034CAD17E2B04115F4CD03437F63D49A9A6F5D30F8826DA3EB010012D0DA0363  
552EB7C578F14F03FE7331B594741B524632683AEE3790309657E71EB398C7E6BD92C8BA073CB  
8398ABA40B59D8DB52F6B140DB2321C8F3285CE1F17185CAE4879B86BB7F42422BA02224A49  
B998D18AB11BA768ED42D0F3ABD270AB08DEF356CAF62B2B2789372F7B6E695BCCB85C1D2681  
1175AD764F8A8E4695C26FE09D1627366511BE86A6851A1D395F0E56742EF6555764268AD3FF  
9EAF9B3B4FC5AC7E4A6F998D9E60527F8F6287F1757727655F4BDD1D6C81D4F47F86B2ECBB827  
1AC41E8439C8E1AD5F9F8F394D0C4DD5D956CBF102E6F8389F9669CE7197BCB7A43A46FC4E7F  
CAB99F407A6C96EFBE2D2714DB68025B917F40534CE2ED6DF5670DA523D0616757A7A0D21B69  
2E3E202BB4C8DB3CA0F95DA502216543F0D0D41DE560BAFC5CEB63CED63EFF5AD6FB32BCF66  
734333A12B246DC3FB58E66E3A7CD48AA1378E1E19AD96BB1515C283AA687581FE888B5D5FAF  
88F5514CAAB8D017FB7B3CDF4AA040228ED8C42B6675D9EB39EBCB7533226B0C9622AC1A3EFB  
6DF3E0AAA65622524

---

#### E5bQ Code No 13

E33BC2492ADC8D8ED6EB66088EA2F93402ABFCF1FD2C4DA925CA4DFBA610FDE285B00BE829F79  
B438628B22B0F9EC5F2AD990DB9E4067EDD7A9BFD07A1873CE41E39F96A4F3C72D90FCC09DE6F  
7196FF96968DEFAABD80523EF8CBD20559C8134740DBD3793CE68DF223E32C26E7E5788E6F324  
7A1EE456967C2524CA4D7EE9441A3B59EDA8084D04297E0F7C717480D590C90C0F769A6C8F7AB  
09D607BEB8899E1D6316926F57FDF5E225B3F1AC45C4991C1F7EE25BD435A45B2A24926C4E6C  
5F53FD00DC5716700A8A806654169C1340E6062D40E81F69BAA41FF061CDE6A0D44D5F9C08F2C  
213A5A0A0342B5BD4E63ADB1ACD89EF259D735D59CFE01B79E2E22DA14573572F4FAE831AB5D2  
59BA3BE4D5535DD556425B2B6F6655AA604A527D0C5C680E5575BC610EB52F7562A41E6689738  
1BC522964BE4CE47EE0575C9B9C47A871A3C4C687308C5699E22377330ED2CA5C24A662502D6B  
655FDC76A8E72C124A38A79A1584BF10623EC9E062F47E5A96F5C95237D59B0C02AC0303DD5C  
56AA5725D9115760C3E1DCB2B6834F30878550080EF49D6C301EC9001F541F09121D0E58D0CBB  
B8E83748E8009C7C1996C02D9D2ECAA629713D86A987BE5D9D46C603F68A447DFD8B155C5495  
19D3065452FD32FF9A298F4CFA85B8C49475291FC65E2B50CBDF1F695A51648E7F30220DFCB8A  
981098729DE1034D7884185C5FA6612FDA6FBDCD4812F38F35BA3A53AC1271B4EF5ACF5D6A3D2  
C026524B2772A64E8DF987117830D2BCD86E6D0C11C4B785A3857266FF84D36133B07F7B17016  
DAA576786E2DF8552E2A893D395A0B95CF7B145729716251EAF5B0F9BE02C768C04C52B2524  
4366D2522FC80A305DEFBFC9EDEED9B5110C8B580D7AC7A4AAE4894D95B634A29D196D85B7265  
71572EB21B652318AB5CCF8BE4A81B1F2AE8A4605006DA8DD19A1CCC76CE460F6701AEE323CDB

04907B7395E5EB710F6CCBD2F4A935ED085B4A0DD5DA0E13C8575D45B76FA9682488F742CF3BE  
1E3701A7C3107352EA22519C0BBC09675DF4582A6012DAD8931586D572F048C7290952FC72799  
006056EF5C5C6AAB7EF5A47142EF1A6FC76504D99A383634FE796B306E0DA5CA3D68D589FA41  
7E6F6BAC02507247A37BE475DD0004E77ADB571F2E39D72FB0627F62862C75D95652BDC0AA232  
0D9911233E6F30C2797961E538C6D54DE9655212F3BB6BA5E319ADF99D5F62E53218187BCCE6F  
6AEFF766301BAFB65A3EA83F4D069E001A33E5B4280AECF458A9784ADD5D84C6A8C271DC1FC3  
1CEF0466D6D6C3A5834F96A134C0933221C4CBD8E1E29C26A260F6BBDFC53A420E27834D8501  
8A23A311A81703C304CF416C1DEC0CD8082EF60138F5B983430509B22378903579816E262B48C  
0F2FFC9F8FDF63C53C9AFEB8A05D862573A73D4AD6E085306D8A538FF17D2740F72D488B0DE5  
EFAE6C7FA336917F9C33C4E9AB30E6050728CEAEE0406198276FAC4E26FEDD93C8F23A702D205  
D2EC8E8F2C8D7FBAD1FBD4CA9BE9EAA11A0C2B059115CB21376212B3BA36FB283FB474A0BE7  
DDB5ED346E58B2BFF5D6CF15EDBD50062395ED5E8189995A14B171B9F84F628E1995AE6E6B4DF  
9420957765880455F7C205FDAA8C9F4FBF49E5489D82980A9D8058178CE9826BEEB37B178751C  
2DD687470BDCD6FB170EA11827099D0429E6ADE8A243A510EBD6100B26728F66F8293AF30F6EA  
3E7EDB10AAE5E91BA71F21D7A4B342D1CC4FD365B5157CF5A783C67AEA038B8B50D71D7F1DECO  
56FEBB038F4D4CD84

---

#### E5bQ Code No 14

31372C958C1ACE7FC11056CE94F76AB1E6BC0F0A8D0CD4D8FD3469D1625CE7F2D815952D009D  
377FF41F58C0F0DE977E6826CB7EB549699BF365DF4BD9E5B2F4B0CAE1C2E68869C67DE525E18  
F70ABFEB47B6D365FDF5C529A1C68628476A01D5173E9EA883B884EE7731B3E4BE08A5AC4817E  
F2ACEE72948AE5295FF1DEE5D96317ED325A35CF72A8A3F4009EDCC222A0426E9C559B102D67A  
6FD3C4A2258C931477046C9557B040B6B2DF4B0706B748F1FC4C1B9B8CDF38C20C3FA999EC347  
B2FD7AAD8B634647D0DF4AB0423CB76DC2E4E06115B627E1072A0C4BEB15843BB16046FC01BC2  
BFADFF673ACA8B938058B820715FC3A03A75019D6150FA3B74D1922E67433CC4D3B405DC0EB8  
08D7990642534A9B1555610FE9F253FBDB4B37AEAC59CB4860FB0BB3FBDDB631E2C42732B66DC0  
150BE1C0A1AE889C4C8B4F2CAEEED25945BE356D994AC59E596E19CEAE72CFE49E004C534558E  
85B238864AFBCAF4E126ED47A48F1FF3F27F65AF1F703A46609F3A87F9209B14C8D8AD45E13C5  
FB579D359C9E0E2FA6AFE0006D5557F96ACF1149C75A7DC581458F4C694BFA0F513E9C51BD33  
B8D627960DF0FDC022F0F47A68EF43D2F35090C1118F4203E03D037F4B9F3D6F598A02912683E  
B26FF4E5F4618AC1308572054A1DB70292AF7B170B94BF7782DA71499CFA8287D916E82BEFC57  
0FC192DABBFDFAA3BCE8AAB130B072D661D4F1468FFBA745600CCDF84DD9CC4E9B70EBA7DF86B  
6565F74537282178B064F9FFD7339E8D6D9F80176046E01CCFE906D835E0F17FC4DDCD15D8CAF  
ECCA563D6516716C415FB316315AE52639595D5A13FC509A6972C4662181A0AE1931BE41ACA2E  
B9FDF54E558613DC704B6FC3C66818CC608158F6D86AAB756E5926469FABE491645A95B2AB203  
8B15526461E2ED664DB5E0A21709B27B84D2B9340139C554A30E81F76B19B7EDF84795C8A2CED  
2F43468A00C221D4BCCC9230ADBCABB4B8BF647618E09F637351A1CD15E9D5A156604BC4190CD  
37999902FB56DB55EE6A2850366CC2DD659BAEB09690E62E01A5288C4676A0E0C5764B179DC69  
CB222DFB3D071AD9AF9BE79E3BB00B3A47C45DB863F028F216BCA4F0B4A089111EC43651E71B0  
C1C921CBC1436B75170EE8082D2389BF32FFA2EA21AFF0D8F8DA347E0B2DC6CE58EC59F38D67  
DF8573A7532D5B5A40E995BF58BBFC35AE3DD3E19441AA79E8E3B57E5CA5B35612984D4BE0F4  
D6992406F082D499520A1AC3505A98DC0734D907182680434FFC2849884CC785944071A2F49AD  
346F83E51D64BDE61017747B81834A1D8C55AC2EABF59B446ACEC048E1B9FDE5DE103E5508C69  
B96092F126DA219800DA01AC7CD45578605846482AD5D5A2D2C7868003E302DF2CCFDFAD542F  
BF8667B0D589481EC3EF3D8CBB15D6B7D3853CB5D42013CF78048667DED7743CDED6AF0E0C89  
C1EBB19BD7B64BC55BDD523822381D99618FB5DE6AD2744C099003B2EBAF231DAF2E21066D6C1  
8FCA8ABC78A2FD75A9EA7483F1017D130E917F9CC4EFA65D2E27BB35580734CC798C8F47EBC9B  
13051E545682B20A03F9CF8B8D1E6FEED2327D96A5D9AA9363D36B78132C38FB3B2BDB2415A742  
C452BC5A5DF0BC8C167A1D8DAC3A60A636E79AA6B12109BBB7380A10C514AF30BF91BEECCFED  
9A4AC0F8C13B543860FC5AC9F4FA711819DFFB4F5D51E9DEDF47B66FDD37B20B839067F3D1F77  
23B9A6AAFE27FA813576D44490FC7D64EB7D35AD828D185C5F854E95D92BD59502C0D8DAFB337  
CB49823E474C824E4

---

#### E5bQ Code No 15

46676F28487E3A66F6C502CDB4171BFDA4AC74950AA641F771BDBFB32FE637520DD326017D95  
57893B96FAC52CCA65099D1F0171F8A9422CA6F5F24A7398525B65592DCEA2AA8F726BC08AA8B  
40E55DDEFFCD8AB1F212DB4264C61A80F59866AC763F15CDD280592CD91B22E824B392C429E9E  
52FD4A07E4D6A8C1326AEEB7E03A3425996AE394EDD74A1AB8D3D3E4AD7529E1EB867870699C1  
B832AA65A8339024670C56988FB9B42D431CCCF0AA949890B83406381AAC09A6E034D7E3ADA9A  
0BB0F62BD936B281181091AF7C053715C04F1960DCE215F7CA4A662CD045E69EC493BA6C694EF  
97591F755F5A22F0EC7979CA2C575B158E6B21E4DA9909DDE3F5E0428FC9ECE064B4EAD13638  
F375EF7FDcdb3A1B53BE77BA7B3CF17DEF01CB07166E2089437191E003968B8A4680C387A709D4  
5D0E0C40BA85F1DC55B1BD75C7513622415336D66FB31ACEDC8078D86B5489E66744767F85E08  
BC88329C58D3EF091526762D0DA1C686A4F9820CC4B65FB5E02EEFBECB6CAD6322E9083854ECA  
A1F9F595F32AA5BA0A83B856FBD150B30E064D658D0EBBF2F01E831F05EE59235017416C9279  
62A537EA506C8BEB014BFAC0CC2807BA62ABCD36085ABD620979457236ECBE3F815D6FDB0B37B  
7741F4CB68E7A4B579885A09E9744553BD3CFAAE1B2135793FBCADD14A674E5D42C9B72A361D1  
A21506570CB8E6D676C6FFE08C0F76246A00754760753F181B31F23ECF61581A77FFF71BC23A2  
84A1CE88FA7E1DED0B06EEBE10131DD5F364889F59AA5FB6474ECD80474182348A41E206773B  
CC41488FFBDCE0D243F122AF78B664007C5F2F732C45B980C14527724FBD6122A78F41AB60F  
0436158D2DF0DFB4DFA0ECD12FDC5B96EFF1490E64905CFF97230CB4BAE3E6BEFF9D00C7DCB6E  
E8586B141CB7B49CDED4D0BD9B0406DF95492C1C4FABC88E283D63B7855FA79B4616E7A58EF8

7E0F7F79DD4AF8B16612BE175ECBDD2DAF30B6DF8C4BF28C249236B6E10181E8A30B3CF0B1787  
2BB92C0C972DE1A833342EC8550721075378AA1FA4483EC77C31E0C87B987B8418E9DC3150229  
41345AE94FD9F0ADF99EA0E060E92776DB4DF7FB93811891BB0CDBB466436AF538F9D70EB47FE  
F93DBDF8191822D50359E58ADFC092186F5582F701938453999998E787405B9C8BB6C9407099E  
73707C3BAEE08904130ED6ED91E7880F069FADDE26A483439ED81A9D999B3FC3362B8211E468F  
25B36B93BBE5942A96B831FFE33B5080F0AEAC25F9508DBA5EB924B01AA916FC99EC1FC7C149C  
7E1F0EB5136C2D15886CD5ECF5F395F0B9B8A85746D0FA18D8A7CD98AE6103D609CF404C6089F  
91A22411C378FD1FDE28BF8ED7D517CAA3ABD675A7276C3655A30626989927A93E3EA4C1A98BB  
70004182B0E1A206380F94C27B2114811E20159B193DDE84BD4D7535168ACFB372C8804A344C  
C931354CE7C56A2DEF1DA86AD2B6AC9A8740405DD2C5807D0613F6104B094024F1CFF271E3B67  
4E4BB84A3CDCAE9528A36161890C52DB62433C1DCFB4B22B46C890ACBFAAC6107E64282FBD94  
14927AA8D1A403CFB693480A8EBDDC22C9AC0E0F519B78A87B8E3CDBB13E6B3F711C9F4732121  
054F261EEBF8960D96B86D3EECEA8DC6A4C3DA6112028CA5D3793D3511BE32591F350F98D9DCB  
C4FE6CAF76CCB6E2AA7F33C3EAE7558263FA35D82B3580462424325B2B28D7773304A76194CC  
EB50A71F8BA827AC9664C5B3A83133920A6811862AD0E703A61FED68C5E46DA3EE4040515FF3F  
AC7D566B5B4569DDC

---

#### E5bQ Code No 16

D2613E9CB156ADAF36198A971E462F0CB406AC07B6C729F0D89B37170790C7D14D671A83B9882  
7D21E5C978BC292027096AD84D5F4537DDCFE7A9B86005DFDC056B8762C08364E118DA242773A  
4B45BE4EBE61C5CC7656C7B40E35CF4E00987E66029153F13B1A86F0781F7A1DB045C62722C2E  
04E70516CD77B453B3505EDFEAAC0FC59CA4A73E330D7D1A053D005A09B7E7F045CE132CE34  
79BBDEBF899ED79C6FF008E5F47CC8905665DE54AB835573728EBDF731B6606D63DE7D2C7932A  
93BF302D0364BA4CD284B6E6796B17D36BA910C6FA2833E4B7931B3C7AC787515A7FFCA747980  
814AE6CEE416A937052DB39F9AA0F0F445D6986A678D6A2865A50A3E781D9B667528977AFD897  
F039DECA2D3EBAC4B9B0E2CBDFFBA914943EAE860B50665BFC8A78F23D380B1CFB9ACF29D22D6  
FEB121EC2CA3BF988090454D5F60E0FA7EF15FA79E4109D02C2FD16A1A932D07F986AC3285423  
3A494BEDD50041DC054AA7E9B00ECD8CB929B1F5874E68A9E6414B99060B051FC50766AAA6739  
0050913BC937F1EB359C61246F4C6BAED9F7AFFACB35907A2C6345022FC7B7EE9F5A4E1357020  
773B6E5AB442F0263BDA87BCAD48F18E4D70444E0E63BB43E4BDF9BBCBF3A55012D2B5C97F46  
A78A4EF307113E43FBB4AC9B59DA1C673BD4DD426438DE9680B019F6FB215BEA45E4A1CE08A8  
FD0453D7ADE1872FBED83919D73D35962A5338FA72CE3660A42A085A691D692BE4D4B04B05E52  
A72C96C0DE8B2C61282ECC81FFCF38B36DCD3D2C85D26A699129CD1E2C32CC05F127872F22D5B  
B16830C8A35D1E6ADEFEC329556031A5FAAAD0F7C42B0EAC9697A824A4443B4F69084F5DEAF6AB  
8EC7298BBA1783EE798E60DB596396B376E80F0A8C6E3CAF1C184BCC2DF5D991BA43549F1153  
AB8144B98DD041D9356656BD73CB2583D0E76DE2BDEDAE587400E208665D16AB91D12F2E54E99  
4656DF11ABFAB1A346716F869C44EF0D34A25C8AC2FF22FA2E93C2F53F4248A1EB4BBA2672C6  
9F3C2526950DFE581F3D41390DEA7F85A9DD9DDD3BF646976AF30495A5DF3389B345A2D83D3A0  
49FCF68FE8A280276B8B74CE9F46DBBB8AB3799C4F9A6ED1F74909D4257ACC5790199852288A6  
46DE04E728A595147DEA7385CF19B5F3D257B5A6B2A8B718EE5573E8B143D63C80E9ABB07A4A2  
28DE973B1CD4BDD8003EBAC41621B0C58A7290750E8AC72A70D1DBF0B48B848BBB5999063689  
934C865E159A7A06352980D55B6957C90D83F774933074F1E0A25D746155B884B5DB60E87C54F  
8DF312852A3A8AEA9A201BD86455F10BFC85C52CF8DFAC6417611EF75C44FF7306666D339BAB  
DE9D9136F19E3528464C1676D15DF8F98BF5C827B0E2C9D08ADADD550B45A7B5D75C38669F4E6  
9057D76AEBC2C60D433253B8036E0A2C8885FB024C836F033944DC97EB15A0D6C4BB496D3487  
36FA2248D39D1BDBDF156A2471289987866E5F7B2131563991036D06C39A52B16431631E50DFF  
A9429DCC2B6B22A14EC249B471AFA0454E257935336D190B61178A25D39DE494EF31ABA10313  
C5E4F33306BD2E73ACEDCDC732D3770C6A3DF47C8DE4A41378E1DC500A9636E133A4A694E1D3  
1193CD6DFC46D04D5F9F79028E96A3FF589A65010BC03D872D075FBEF8CBE0BD3ECAF51B34B46  
847C3CF4017B74D0579C7D1B9B3D7F07C76F740ED84009A8511E7AAA4E879FF26A96109D82945  
3AF0F179E504C5ED498E324570F6D280EC586565D9B899F5C3680F1F4CFC1A6743631390C60B7  
82DFC09BCAFC0549C

---

#### E5bQ Code No 17

EB443CE9D186B88CDFAA0BD64D8832C38F909D07B105322C669700906B564D2FF5563418FDBD8  
F251F431C446DEAADE73402A68174718460872DCCFF53EB0F926C52375F2A52F21922E4FC39E  
5ADE2B66F0F3CF1037DB90781D7982DA4CBE85D4F8B006F5F885BB28F58927B05287B91055AB7  
1368D7BF59DCD9BCE493C9A41E4394B5ACA13D474B447613AB0336C21334AB32102C482592DEE  
4F58DA10BB460F751264C0A1C99213F48BFA497266675DD215FF9ADADF11250D37A99899EBF66  
0F369A6EF3158A2F7F34C9A2AB88F4374D94F199A94CD06BFE5026B9CE5D86142AA7D38976227  
DCE0C617479FD2691339883FFD5277042BEE94B52FC2F0E7355CC5E2A5387E58011DBBEF3ACAD  
589BA0F59FDB93FECF8B4D281A852562C33CA8435137D9695873C4449333757D929041FCEA8A  
092B54CECD5B26191D549B4CD853183735D31C2AB921D7724FAD18A939C1480439FDB7588BCE  
0FA44F9438252080B723A39FFD633BF6EF6CFECE010A25CD2F45C32BC378F0EEE54C1AB258B  
C3A3010644C5478FB2F8E182F4364ED8CB06D1CD3FFCDC824E006354A16638509B2BE51A539CA  
1423280AF03D2F9E7117B728A1B337E85BF2EEFEA36A6B399606AC9C8EA1B1190E8804547CE45  
4145BB70BF06CA72F4375939F97C7F5E65350E35EAE2B28E939F7DB00E1F53FED4BA864EDA166  
45B11F8AB5F56A5024930B2644C0AD3B5439F53F62DEC619D265C0280201327D4CAF95BEB7C9D  
4DA741A5D28AFDFF6E9647DD7C32DC3FAE6C102AEDB45678488D867EAE9AD409D62CB3222C03B  
234C700F007E9B74BABFF40C81CAACCC5A411B0A57838F2223BFF9354AE6185EA61454FBEEF2EB  
B127719965F53234C48B959136E6A9CF864EAD75607D5F4461DAD3E43F0D87A83ABB46C525FA5  
4A946092258DBE86CCFCF5406F049DB53C67F569192D282B3945B3C8F8E42F40862D580DB2DE2

29D4227687E4901109A61582F2E7897B5234B31314E14EF35E92A919614312D95C166C2716AE  
F68403464D5EF1D46EA858E376BC2FBDF7BFEE7735B3633065E41FA992DC3D89659A5F6188F5F  
959681AC8AF7F08365188E9429E40F7A782405AABC129928ABB951BADB25B66DEE641BD42FA0B  
0920207EB4CCB658B41CF9FF15EEC749D3EA86050A470052761700BAFC7D645A090E5D149C16F  
B8B1A7F24F24B0C9DE58EA782A859F4EC1BF2E86B85F8BCBA734CF7A3206D5C307BF6B4D68112  
16E890079B6E8A980872AD9E865BFCB46E8CFF67C0758FCF3E693193F31A97BDCA220208FADFF  
6E1F7294AEA7CDD6F01A19845A1816E2500CEB0DC9A0E8E0645D3A12571B29242C874263FB4E6  
C6F55DF4A035C46FA37DE67444B427D52FA662D1B6BCF91E1B310CFAD91470652D72E955E5AD4  
CB2FE397E0AD9BF5E5874D7A1FF38A6ED5763020EB20C2D29E618DA414958C88620D403562FB  
BA7BB206FBE5DF23836692970FE8AA02E42BA387E42684D234CB2EF9369D8860CC2129153E29E  
3C27660AB6DBD9875A7D8B15DF0915A3ED7D1F8D4072E161441DB969664AD325D505A166DDE4A  
01674CE6E9509FFC6EC801AA9AEAD1A03B4F15A80C315871D8074783A72A509F16EE18B75C2A1  
C8BBA2E7470D99916B75BF60BF0DCE946D9FAE5BBAA0F29A619C140F67859DBADA0B83EE8EDEB  
A8ABCAD485E1F1F7E1187370221C5E64955E6B0175292D2683344EDCA3F7818EE1D59B0F14E0A  
0D03FA2EC1D8AACFC986C5540304A92057E18CE6B1F3DE37A4B3A8C34778D6073A198BE62882C8  
4DEBD29D7387DF3D0

---

#### E5bQ Code No 18

3FD0B15E949ACD46F1FF5A6AF28CC0C85B149CE83F9D6F575BA8C612D3C219C37A4A880541239  
366839FC927A4B11BC6401ED48941F86BD00FAE5232BB44092786C63A3B676DE8BCA175B457BE  
D1C099F83A6FAE755777A4E63F2AC0E369BCF0B428A5251C4B04FA7B3B94E88BC4B6B91797B0A  
D88814C72F10B1130F10DB4DAA00CE3ADCB0C5FBB1B3FCEAD129C4E75B3684A9D7B93D520C88D  
0261AA6DEE1FF5E67354DF2DC426B7E5106F613CF46D819398A856C9935CB14111522A63CAA36  
430F69B37BCCEFF5A118E51DCFE6D20C246580D02213F3C3DC75D4D2609CFE141D0E7210283B  
FC55C87B3CA52FB44D3F105C96B1A3D2C8EA3B87F71A199AA19481D4F8E31A859E8A9D22DEC27  
4EECB2874131E7A8CACC337343A969FE4A96EBB32007BAC4E80C6896AAD0D371E4C85B4CAA4B2  
FDB76716969C1275C6D8CB462E9E96DED97DE86122E9436130C171ED611BE4EE7B93043DC7262  
FAABD369F5F77ED35060F8F0A3A20917CC88F05E0A283053F680A606154F0EA7ECE38940D5E78  
E9EC944D2385F44B00D3DD3195FE122F5173F32C49F125930B0C9AC644B7415D3745802F80880  
64AE7804F8ADD060AB6205CD16CDADD6F69713860B378BFF0B7CD3565F82CED1F61D3C3386D  
83F35B951DDA4DAC06897B92F83EC9D96A533B81854D609F71FDB2B743A25EC25C4B1BA135A9  
C3972DEFDD1F72ABC4D41196D48947584C7FA57B1D017E531F58934365B9C2C269452FFD3B995  
97239695A1AB154BAE6C152DF283DFD961999392FA406777CB7824DE08F9ED5737FFC4ACF66FA  
A27E864B6F2D7BF5F3AA16748CE56274EF0D4612436EF0B8688DC6A6B77EB520CCD991EBFFDEC  
26438D1E4344F781AE0C27CE6DC466250D99C87961ACC102D9518F67C2E90B6B9B9640AD43C64  
570E24242DA73F060E8C4600BFE9FD27182732CA3AA8364F7872961C527946E06A392E1881BBC  
9D7875C1770ECADB8ACF1F90A6E3C94B26CA1CCF6509440301C60FE132B4DDD35ECE30ACAD66  
1F85B633C283DC777CB9AFDBBBF2D95CE29BC5DF684C3CC9FF47E2B55D640B65E502D4C548738  
A142D4B0831C631DD46749E617877415FAD96286A2332B677CC355D47843C00B788B820231CCB  
789421155892B702CCABA429148AAF206BCCE6DD59488C23E30EDAC1AA2D5C046B7DF71AD9335  
C840D6418C548029D33515A3B1D9609298F80DE4ED2F2FC534CE95CC90D2143190C35DBEE0E6D  
83279581748B7D3BAF9575A6E62951FB90A866FBA956C306C8E34B4904682DBC7711A1B01568B  
C79B55A18A7426F0988466EE147DDB723F3C225E39ADFA3E020D862EF334A26FE139B1D51C69D  
56F6C0D8F3A122B718BD49599403BC508BB03B5F424C6723401C4727EBBF0D06227AFA06A0567  
26C3555998969067278DB9A9978450137728693F5304713E444E40CAEB1640F0EF5357B3E9  
D82900B929C8294EB2A880DC03C7E71A8CE761D64FD7C337053B2C6CDF42A4C49F8BF1360192  
D539DB104BFEC4FA55DF6606E8A727F89549E286C189C0B7E003A6CBF7785940079DA124EC878  
E06D60A233F5507D8AE1B87C7CC5AD2CBAD5B8074F5A02DABFFF4FD6719D5FD5312E4724BF8F  
72F726D8B85DE43C71F4BBC009F2AF01086468C60A5BD48EDE5FB5A1C1307B19826D3B9D9126D  
0AFB69E04EBC828CF2BB33DCEEC107A016E1BEEE9898A2E4A6F82E35641151730D1F74CBFBF29  
03FB6F8AABA099C38831106DD169E0DC567744D054743F4FA1FCEE05ECE00B46A453E4D3E8E39  
992266266A7338ED4

---

#### E5bQ Code No 19

FCB7CFFD8ECD161BFEA5F40252E37463CEB8B0BC69606B5297306CAEA2D362DF5D3D9DB584155  
93CB15FDBBA7763EF6B72FD34C983F0962341EB998F7304FAE9973E54AFA321EA23531D48069  
E9F594754CBB0CAE12B28AE611B646CD1DF5FD9C24064CEE1A2B69FA82845D01CA0BDFCB0F663  
0445BD7ADAE0AC8E89BD0FD927B78B26A97AEBAEE00F43EE232210635AD90A318AC2006DCA0A6  
8B24E4A51FD4343DBAB51B1409E8E1D985D4032BB5AAA110C036ADC11B655D94F6F9B789CA92F  
0D9AA174E6FFB40E3538654F6E60A7BCA32338A136BF1D6F7FFE784F53691FF4623954A043D07  
1D893BC25FB52FC86C82DBBC55C9DBFEA045D004E5F3AD9FB1BF1CEB35FE0721473E7082CE73  
CECE4B3B3866B0D12FAF7E4A33D43CA7B0058A833F8BB7704C1DF303829E417B3889D61B66586  
396E23D4F9273DD7D388877FDD431E07BCA7364D051A3417A9D6FE3FC88F4F8394C4C7AABCD2C  
7FEF4C3F428434541A7CD845ADCE722D3155AE58924B5B02CB64502BA7DD67F059E1D8891DA6  
045AD994DAF798954059CB46878CCCC52525F66B37A7CBF4790136C0747306D54E83050C45AE  
5A903A6726B82930448ED4C0E2B4819416E2C01E04F9D4905856D6F38FFC0BB58FE0090793E12  
AB8C5D769D17B928FF258E9D64C3004FC8F6D4FB49D8A7DCDB779554B88C0C51FB28A15F09FA  
2B50489FFD73270DBF273BD941C22018FFBB175021B21F9B43A0F09364758B4CF90546AF1C20BB  
CA34064F674D46169F2665A0A28DD7499201E8336D3417A8264DC9DA7114C8366B4DADA126207  
2D9DBB3698CCED710582D4C26C00C0A868D3B4AC61C5F1FADA4E35368AF34796A85EF56B5945B  
8414EC3154A788CD3AC3A1E85FA10ECF1562283E7B1C514B3332972192AD74B423DC8D9010AD2  
C812FD6730C9B3ECB849C8468D98E06F093F2306858B8FE7B9459E9D1C151145B36ADED231B6

FB4BE02F6A39B2362C0E9EA250A7A61752EDE8D91428996FFEA4D5B24E3359304A76A838F5459  
C60F61D56E5F8D7673BE38BF4775FFED272EAF58DA1367EB30AD696238680AB47B446C4E14F07  
7FOA188A91CC059BB7A6547C53317C3F7B59A0F61173FB8A1C517194BFE0E38E66EFC33514181  
D142BB1B99D5D651FAF51085433D5FCA310665B4535AD827A3313A99B8F2BEB5B1C0F2EF935CD  
9BB7194B8E8CDCA268FDFCA204ACEF4FB55B1FF51A17E28BC22F80E8BB7A49CECF3AC71D1DFA1  
78A4FB497D03C777A7F24172B33558100336D7846E24FD65B38CC9B46344339DC55E76CA11061  
F1FC33C8E48DBB917E44175A1516372C3E665AE9647FB5A6A643E0893ECF1606D4824CCC6128  
33F5453ED49B82534AE739A8E5B07F20BB503632BD97FC7FBFC01E60C8DD5876867469FCFAE0D  
0B8F4A70EE4A063EF074E46AC1167A0F694D5614BCD5035BEABBAC09532D84743C703BF01E46  
AF02A0A2FAF212C049DC295824F2C3C967C1094830BD8D52C8AB435C161154C98E55B943DC258  
97C16FAC9011FF9427A4F605758B746C739159466EA410007B8602DAAE6ADB099A0FA09A75AB  
CADAB692C3746549D5525590CA0BD408482CCC7FE2DBA8451B1C189D769D48BA6F78DE7017C6B  
AC99BC102ABFF75EA0E6D992BB5D7D2CFC0959081810D8A19346DD6D0361D0E8C5880A6D93B33  
9709A3A57413E2E911B7DAC253DBFA850B9CB14C758B954A94A35601991AD0882CC9D0D5E4500  
10D3C9D782209DE09E03F167FD2D3A7999F6A0F9EDA2D960DD706F95A2C873825C0F972B5B9D5  
9A1A300235BCF4BC0

---

#### E5bQ Code No 20

B83815123603B9E0F1EFD6323908E879487E0BD6380DC9B000307BE0E1C458FBDBA99BE430EC7  
1AB789F07322DA6E83554419F27D6D9642FDBB139741B05210A3D1E5F62199C4FD09FBC31784E  
79AB305543C7786CF96B631825A3826FBA918579C4EBA81EF8378F1C299A17DC7B007F289F279  
C0B2653E9B2FCA21B4E1E089263B2C6C4D1925374DF289F66AD492C3F973A833A941A22DB23C  
9AEDCCB6B4D2B494A5F8871E03759137FC08B2A3B594B1CE25C6CC7D200369C303383EF010B35  
D9E121FB231863B262F3B418FF4AE7ADDFF040A9D03EFD0962C071F9C5E2BD2A15B66450A2  
3D05E76B1DC1BF9E8EB0123553B9920224E7D9722A771D0708207733529F7B65F4F1975C7  
067235AE74C3EBBE551162F1EC737E05FAED13A9AC8127E5C477435BF033F95978A9A2AD3A98  
E8D93BF180B1FB109864213DFCAC68DC9A4BCAF433751452A2E7706A7FA75A8966778871044E  
1B0B016D5D07BDD707115BBF8B596D321064415268D07CAC56F85CEE97D906752E18DCF1E057B  
3EB7889217EBD34FB0E96A9B84B358FAA654360DCDE800693D17DD12E1AE1F44A74999346A60F  
8FD52996DB2F0079973F09BFFC9D75F7A45AD0282E2AE969CD711C563C5C5257D6F5975E23050  
4C308EDF8A1C094737AFA6FAA8542EC4009BB788633312D8F5F1D1524FC0B909226241AFC8F05  
42FF20BC321A0C075AB473B7C3BCE7E96105ECA0EAF0648F22F479449636F720E90B7BA442AAE  
5C2B9ACE8B22D3A5BB1D41A59656066229663C2D2925DCFE55ED0E8C561C44B9B6E20F96E048  
7E8579041AEF138CC7D4BD28F75BFD6FED2A9BF9B3D9937EB70C5EAEB363B3CCC823DC131E1D3  
9B22939D4967376CB2BFBE454AA43DD6F9526A5C76A822BF3ABEC03A50484F487567CAC163AC  
594485B49BCC3C553756C515944662C39B60A45E40D83F7DB02627AA4299B3CEE7574C28E8A0  
841FBE944259BCBADE3B5AF8B4B8493334F0E1B1276BA88F7069F7E94A2619F02B4EF1989D332  
C29E43D35346915E809C310669D0AB066A29CFFB6ABAFC46AFB42B9C01D27D13AF0E9473EF25  
7EF51A4A07331015624E7BD6004D55C49CDCA19A3F36266E68D1AB2E780E755FEFE738A972BF6  
664A123AC49739AB0539C59AABDB220B866261700E7CDC14395B1017BC07777AE97F11568C6D6  
40CB0E0B7EC2DAFFA83477227D9F47C066FA889D4A711EBFAF5805D4D554963F36169F61D482  
3BE93A7B15F0BC47EE9BC60EFEA91C1C5C4193E56D4488BF4716D82FC2BEDC3E88927DCA86  
0F1EF9F1FF9F10145E308888C0A3218A31F2E108D3E7BCE5A083BCCBE41E0AB1BEBBC8D0F62BD  
598AB41A1878CB492CA88DFB3367C4B56B5DDFAFA05081C5E020DFA5AB4ADE5B23B5649DDD23  
670C33F6A4D5865673F47CC34DF446DCACCAB896D67A69087AA7456BCF8AB2B1E275429E9BFA  
732F80103685B544B836F0327A1B56928CD97108A27A28B3E5D183B2A832DB045AA7254D811D  
10DE0CAC1C3515ADC4F5261794791B533EF51037671578894AAF5B8247E056860147F32C214D1  
A219F0F4D1F93AC3EA7BDA10DEA49AF12D0E512852E959C36F934610080FC604E8A9A8F98C11A  
3E427DB7C2E3F887AF53F9624649F4B8AD27CDC81A0153B8F3C3CB4F6E333728379CD686E0A48  
736DAF27055024CED3544507C82DFB19208E9EAB93A32BDDC98D141E66B2EE5EA1895285BF27B  
1C78E609B6CD1A39AEA60F72F0580FD6ACEC63CC2E3A26A38C583E0FC766CA3FD5DE377D3DF3F  
543E2DFC9AC399304

---

#### E5bQ Code No 21

48224A8F4769215AC1C60CCD0D9E8C066F853A8CC4D8523A20119B120D5BC81F0D912D49601A3  
A401CC6FA63574A49B56E7257F0C7B2F4506720A1003EA5EC06FA9C645690F05F859CBDB59928  
F80AEA94678FF9E3BF2C6924ED21EC2413C4BFAA853380F2D25144CABC10E122664B2678F206D  
E41A6DBEE4EF7A040B24833C5C30C6F892135BCEACB2D2F5F7DA30311FA19432C131AE40991D2  
EB77515B76F8FCC3F54379A1F040D6CDC597C2CE6C9580D96C47C09BBA89CA423E4A4D2B3F4BB  
3D9DE70DFC1D997C3ACFF77C60E413A502BBC8E6502E30ED755E187FCF45CFC05961702953E19  
91072FBBCEB1F35F3E28AE1AD6798A26F48847A9CEE64025C18D436E691D64E71563E8F03AE38  
B1448C51CC7165F891BB83B9F1548AB092EB78B97FE6EA13BB569BC706E38F486B346E5E2F528  
9819DEAB1F4DB223A0B667A46F417C292FA52F80300F7315D3321993977E930C0C1A1C4A038B0  
CF97CAF67DD9DC45A0F1419C3795CC4A692C1E44F4B014B36139C97AAA3FF5C8407E698425  
6516E7A51CA3FFF CAD008BA7FE05026D1C3160F70BF6104F9B9C2B6F5C38C68B83D7C74695923  
D3C5F8F71CF7C05A9E0587C728E9714FD8C11FFB7738B52BA12B3E1A760A05AD934B5AF81AC74  
DA28D045BACD90C394F844756237CEC12B4809D12B944734F94DB0CF6C171A5686C1EE0E3CADF  
64907CD884EA65FD4DB785F46EF4DBD6242789B42155548FA696BF18B7737FBBBDB28B98C79DD  
F1E7C4379221F339E8ECC8552EB1F704DF1604C81619A4366F71753F8EF143B47161955A3E241  
3FE8A7C73024E401FCB54B64DE24782CB067F034F5695E0E5133AE7AF977D555A38DB3716A752  
C2BB292EC06048C76D64DD5ACEEFA5170C1AEB043CB317F47A75C8627A163079C8501B4E1D926  
0286C351299CE34041C056ADFF93EE07F8567E882AD3A9C8D2E7B990DBAF24ADD0E98ECD4708E

5AA8F3CE1BF650FBD70E50B7D9B055E446B2A377830996902ABB~~EF~~4EE72711DF1AECD618BB43  
B0CC8D4D3CA087F0C924EF25CA14650CEB514EF04E3BAAD9E7F1B7A6D0B821874C121D6EFB050  
C0BCDEB5995B341810B9CF3FA482578068E5E835AF569290825DBE50A8B1A8F62E33757F0FFAB  
3C6F9C6B4E7ECFD93C98A529972A72A0F48559C16137F6E1DE08CE862BF76563586BB9DA6ED4F  
89DD0DD5549CE50C8C79792F4C68937100FF8DCE52BF335077EFF91A9674678496E90AE1DF2FD  
EBD5470E3A8A5B62A5034364FA37F42B19233DBA4F6EF1C95E4921E7E8AA8454FDC185071587B  
14135A1BAD13BF189636840535D75ED1EB7E7014C5044009E9CCA5A469675A24DC821591F8DCC  
40B78458AD792305AF2948CA3B262ACB75F78B119277D84CDDE94F790DAE6154461AD592E3F4B  
E67B36CA3928C824F02704C9A02122D7ECA027EEFD8F0DFB75BB7CEF11FD2240CC698B9661694  
6DF9F513CF422FB5F811DA1EC68288CACCBBA85CE410D220B4F95B1D844EF7A83A28F31249C41  
07CD76B77AF9012392BDD43D584C8DB4E10F6B997456B12ABFF5B85FB3188E973FA8ACA99A532  
CDD93CF0D3F7B9B5E806FCECAE45671A25FA49794CEE3126F35F1F2B0AD058948FDF4DCFBE08E  
AB3F4C05F1153F482033E762ECB7B4CAF82B487B421BCA7637DB621212CC13320B28755560ED1  
1747F7FC0D205E599172686ACFB51BD21ED437012810217A6BA6548CBAB1526A438ABC0C66C1C  
BC422D821A4BB02F21F7063BDBAAA93E7343674204536942A0AED09ED4F41E7A458F176A8BF39  
9EE07DFAD47F0F6A0

---

#### E5bQ Code No 22

0FEE25E2B7368DBF42023A84F771CC8BBBE9F4401605A100E3DC1BF165591FC7B19399B80EA19  
642D41629131B8BF913716AB4DAF40602FCC7501DC4D9F1F08CB1D27A78A688318380BC1826D3  
8B61756FECA71D8FF5827DA53F5EA772C79E2794D7DC062CA34FB~~E~~1221BECFDADA461373DB6A  
E81438171B2BE9378600EAA562E189A3CCFD0C8E9B1A4682EA2CD96217EFFE7B66E7E291A5E3F  
A2B~~B~~E8E97B1EE5E98B42DB9A3C8AC14A511233A715225EAFB0A337BBBDB392E51787FC5CBE15E  
878B147D489F524DE451E4B~~BC~~81BADEA4EEA74A31CF32871DE17FA41628533210849706ACDC  
500A39A7B33DF16FAD8049979139C1A13D34BA9C5FC38403042F67AAC781B434E8F3293A6C71  
D0C165F2C168FDB2A4C5AB45576A8AE2FD09D2DF593B4D3709082153B99BAB2210E94416A88A  
FEEC18E0704B2D82D089039EBBC2F~~BD~~D7D837ECC8A5C731D951E7C5183261AB947851F8250F8A  
13522567EDEBD580AFE9DE97B9EADA25B12A6E8B7F49ED399CC4EE82EA2DC01FC7F5DD39A4B1  
73CB0B97B01C872F1B1FEF6569FD5658C8E7DC2360FAC741F863262BFD7EAF1D39313161D3136  
4A5E53CF8C803AE763B3B63F6C50FD52E03DC5E4CAA1E8D33CC9780787214D79632D24D8A04D1  
660CBE1E9FC06194FD917FF3DF6F02871825A4B78B2D2C62D5545366FF7E6C656F0E4EF2A4832  
8FE4A97D1E14A1EDDEE72102BE7516A10003A5DE6776B57A0BB22EC2F235F16613B14409AF~~CA~~  
D4CB2DD16C4099DD70612A6F12FD17ACC89E147A5E0CC5EEBFDE24CE84A126D31F4ED7C66151A  
DB74E83ED6A6A4D6D3CE05F~~E~~92D45C63F3F36ACDF36211E0F9F2F997F28A0FC9BEC96E16BE287  
60E3CC366EFF2FE4F772D66901FAAFA022696012C801B8AA0F48217B051711E2D91A9380360BA  
93E6F40F1E9069772E63B37B44859ED791542AF04B51827003402DED69BDCADB886FBFB161773  
596F248A0F46166DC04FD3E7431BE49C8DD3940908BC8D716EB6524B188A8E133E0F6D19492  
0016B3E8146A773C494427FA9D5390B143985F312004641D7300215E072D28D16F8FC97E14741  
536FDA9EC945B0D028A59C2F209CB0618240A3D68D230A03ECE99665D91D63E96C2B48CCED923  
2B1FCFA291A28F101AF25874A7C3214F22CAE43DE61B9D1E1F8451CFBAFF3DE7C864222E3BAE  
64BA5DEAC8E54A188E0BDBE485F576F506D2188AB1C839E8DDABC~~B~~707AA9C6036EC11E88C273C  
9AE2E6B8564B1387C18C61C8396E9A56E684875B7B526BF60BE71C38A727054713347D5CA464D  
E81F9A5B8DFB8878B1E4EBC23BC88061643FF5052572CE5025093614449EB322ABEC46F2D9485  
17649F7B92155FFD4928A8C094C22DDE253FD02413DE44A19C63DAAC25C20F78D50E8AAE76DD  
A4DEBB7ABE2F6150D245D219D9AF2E64090ABD4546BFA781570F75C2D1C6E10EEC57630BFF0EE  
6E554DA907288EDD0D014E8C79A8E647364BE0BE42842C327B97B20CBD63B3F13F3AF26929C2D  
AA2876D3913064856D2C382EEC42626F0672298ECDD2E3E26EDB3BAA3F03D95DE26E22B1CD7A  
6D4ECB20D19A1311536329B6B5DBE8753C6D877B8BBAD5EFC386C083CC45AE43CC09E65596130  
79911AB5404464BC3024D5004646708F145BD5A714D8DEAD1EB3A91258BB5C79D99FF9917FFA7  
669F5B72E11AB4CA8C63CA2D22C2C7B54929B0A43908148FA5AB17E~~F~~7047ADC92FB~~F~~78C6D66E  
A4FB~~FC~~A62EEB82A2863E428595AC4D7CA56B5DB79F210A18D79DBAF1A988191D2424624FA89E4  
8A91AAD26D2A4998C

---

#### E5bQ Code No 23

38D33B3C841911BACCABF31696C273DA36C219EE91A8F634B3EBC1A4AF8F09ED9AED1BBAE8EDC  
31CEC9E949D083073CB13F1D1F7ED660BB22EB967920A69736E5D31CB21BB504456A6863B625C  
518ECD~~A~~1435C12C5D7B2164EA34421B47CF476F9753E912CB401F8F6183F6A69ABF5D5CE15216  
7419F092B77B9CDCB0E42C118C875D7D3605024058424C8ACF77BEC2D0AE951CE39BD13DCE61  
069BE7950FDC0E3062BCE~~F~~8FF828662E29F7D34AF1D2BCB356459CA5F76E23EEB7646C1D125A9  
5FCF55B22E306F110B01E5376CCB5EBD6A770AB7FBDF770844AE1AEA269AE3640ACB862F0DD15  
781992A13394EE22318A4309E1D7B87D8CBCBA24F1D61F365935CCC82FEE82C7FBE8B20B80A  
504EA01516D4AA7975923A6F177BF63C137B36910722124FC8AE28B9C6D00A2A2EC8929B38806  
22455A94E01DCF8EBA376304D9AE1DBC4A5EE91D80F455016CF0B83D31CB75AF547CA4391C736  
6DC769C2B684AF3EB3520130FB48958EEA93CBAB12FA8E891EFA7375504C7302B04EE82277506  
6BEE720176DBCCC3B5DCE8A1F2670B4345EEA4C40BFCC7A715A495EC755ADBE861C9DF7F55D2  
070C4C4C0503278AE04990A8734FDC630F373F7FEDBD929D252555A3572B66FFA254555573E3C  
370A7302D41A91245C4C7CCC4B5081F6D8435EF5F7FB56E51B2AB58FD0579FC4C66AE0C8B9D77  
9C1554EA375D725C03983F2B4A16A41910358F0D5A8F205DC1179D62ABD7A8738DE8F4ED81976  
07623ADADC2F5157506E6F83C76DFC1ABED3D4C6A9FDA817D92086FD6D1B03D4F4EFA997CB5  
B3572757FDAC41459BA087805525C2DD0803A18F887670BB898028F9B1657696AF9CEB7E7498  
FC622059FB4C0BDFD377E2B2D0D11F37A998DFB482667BB9167A950E096AE1C15442DBA4C33A2  
51D4762CE0DAB214789282079421B2EBE01F8EC29D5EF3268D8147D9DE7AAA6A117F8E9E0845

26C3394AB0E79E11DF79E83B472874BEC646853643EB0E140A4C81FB8B582E04E20209FAFE157  
AA745B28B3018BEE10D5DB657196FB4215F677B1A787AFAF0D43B206E5F79D92B6A064EF73815  
0DD4F2FEC7C942E5ECFF7830CFB8D67C8B289095BCC384CECEB2927099DD02D1358B20BA5DDB2  
0919F2BB8D82DBD308160B221E977F13928F1EEA454EE387C4C3BD69D6CAB26AF98F6820C3A51  
667ACB15DD6B9FF0A1A18898AC0E917007BE36CF6C2C4D6807110C9ECE784F0B955D782FB9034  
33C3BBFAB9B1EC4B1493892E44AF2D32E240DA7D7F61F19C216918CD6EE85DF8F08D626D19D31  
FFF4A33B7CF61A060A34C8B720FB3355D3433BB5D612F68A25BCC03B44338F7905074640ED7C8  
D65799B90A693C71E1E67B1A2643EF1D36A280563AF37CD924BA3B16DA2C264172BD25049883F  
6EE7A06815AA41244D9707ACCF0921F0B2EB0AD901006D66D5CC02302A1732FD004B5332A9A91  
9F71814A4E32E892B952985BC23D364ADF6FD793F3E78F0680D206548F087BE008FD55BCF0AE  
D3AE3C4C1158EA765FA9D9CBD3E38316B85B439F4EF223FE87B9A70D09C607589B00A70D1157  
4DFC0757761EE2FB8A09775F2080036D442D1DE1A463231998E1FC11B53C65BC071EE261CE62F  
1A919691AA7D87EDE03634F229793DEB5D2ADC167C51EF8447EC4004A38DC49ED0BB6F86D9764  
20F949FFBE908BE303E3DE826C3BA297D47E0096C88E6000FB26697D69BAFD0DE4726C5B744B5  
655C14FA21328C17A6CEBF911C381E5231AB5FA614387A9DC1BFD7A34E48EB09F8CF115816D80  
8613DB91AB0D8B7B4

---

#### E5bQ Code No 24

C135B97C53366AF456E70332D981E740CFC412A17F0037635EE03C7E33924D30FD3946E0CD639  
2960568E64A950C0F7E2A17A850A5EBADD6593927559B7E2F9AD23D290AFF8C8B41F1AAA026B  
0FB9C12B7433B1200109003E732D23E00495F4D2CDEF36B8C9B3EA186E67EC58D7D3AA1E295C1  
300D40D4216C46713949ADFA210932E701168018451999C00A521117BEE87993C2AB4008D145F  
A3B32D65C35C6EF8BDEBA87A4580AF3FE899EC8435464D25AE9209ACA14DBE3AA78B1D042F6AD  
749F4B36E60873421B85FBD08D21FBF689557F2F68B1C32071DFB62139D8FB59B929EEAE7AD46  
B1C646461BA9D9A29F57154955D1118A0E03ECD7F2C7178FF43045A450B03793F7686ACDDF5A  
6FD2D9BA02D6D8DBBE5BA78A937DBA95798419BBF88567DA242F5184128223E47D5CE8C2BFA7  
94299BDC057940AC16F43A6AA451BA06AB6AD587BFA1FB3CB3F35BC222580570FCD4756DCBF6  
2DE781F5D6A37D51745C1EEF4BC7D40FBF73BD254B364B1AAED78A9C563B1D51D36F7CB70A61D  
48D11E7D8E3DCD23B7F22A8D3A76B8EF01DF43D0ADFE46EFA695BB1F649EE783BE180493DF05F  
B78B4BE57121455C30301EA4C0AA76F9A48C0FD5979F269408E56E60190B58173FCA32F549284  
8DC219A3BCEF81B0CEF356A2C6AA71BE3AE5CA0BE534380C0A1398CB89528DC5BD0AE60267877  
F8FE9D8F91A2E3B0102C31C491F1D95B078C0B564E163856240775D1A936263D0F6E706788E81  
D760577078943482021D7877536F480FA92A69300F992477BF1FB5702A2ECDA84EDCF444BD2E3  
03E6760C09BC5677F90A764410C9B240D455629B535F187089CA5FB6FAB7C00A6B83F9D0FAC34  
728E1AB368511A7D949A956EB786E2B00C89C7817A876FA75272026BFBB908AD4497C8548A73  
75E0D61E6DCA6265F9C72EC43B9433144B9A8A8F73A2DC5807A5687AFA8601D384349538A7992  
0E7A6C0C421B8DD9F02BF83CF91215CB2AB27A2C49095F47B870F30BCDA5675EC717AAFT1301  
47FC062FAF83868C6B39F9459625ACDCB81DFB161D40ADD3CA4FED01B1295B0710CC35DD4990  
9856422CBF400FED086B71E54CF882F32DE69590F3FBF3F220EA567086D56DA3CDBBFEA7EEC10  
B6B7FE02B53D6B935D64CC0ED7CA1387767B522D06EEB39ABDDE8BC08B3EAB7D3777595DBB  
2BFE0B6BED5D4D60E7CFDC399646BA010B69FF211D7B39378AE25504FD1B189B218F4D8F5A3  
58BB0B65746C362F4AAC38816029A8FB4E8792ACCOA0BBF4C4C41FCC3ADAFODDCEF973D76C6  
8A8CB95A159956ED1B8DA0BEB9850F025101AA521A99B1953C29CA073A3ADFC98C3DAF757E19  
8E428440670D8D4393C0D215E7872E9380637D45717CF349BC4DBE6B97BFA87C55B1D3124AEBF  
3FB9663D262FB93B3F84CA412CCC88EABBE4589ECA72A76D2C314D0B2959C043AC6C41DD3E8  
D0EC8C016B4338781BDB60A509A992A3073842F62BC4492934053B70216E7B74936A87821F261  
C16690B6DCDFCB0581C00D4048E60FD52E9187DFB7867DBDECA23E407D032E9AAE409F2F5299  
2C12810AA7DD9D4F5DBD66B89415861F8D892AA09B00DBD6C79C04741401EF8CAA6DB0979430  
615B6E1B06788D26EFF874041EB3E47940B8DE8C11B97A5C0C29B8DB70A8F77F5937F6DCE3F07  
CF7855957CD1AC4A8F82C7C37DC4DC76F4AF5DB651083C207B1C394678BBF3B4547A047BC317  
B65FFDB1E30848183DF1699FFC67CE960FA4892C96A1F678BA389A7D75215B69B4728043C2202  
83378C184B3934418

---

#### E5bQ Code No 25

71DE13302770E3EBE33872AF8677F9D48BA4C57647353AEE28349EA576576330D3A5C0CEB92A9  
FBE09CB8F56F87F53765BB1CF0F04E3DC01FD450FB9832C3DA6ACFA0AFA72B1806F6B4B6D5EC9  
EAECDAE0847C919D49491EC69AA8F453D7699CF944AA787038782BC3A78628611A1EFC22BCE77  
11795CA62959CF9E89C12E64EC57485EDFB683010B8C510797614AEC2AC8F28D70358A94B0209  
A9706487E6684D6AEDCCF7744D291A4D08DF9B8D49ABE9CCD8209D080F075DA64F36BC847C53  
CCAE65ADA23DDBB51A9A701F225954612BFA5D7BE8933A9C0888E158DCBBB660C954BBF780470  
A2C7BE86C0E398BB260591A0757CD592DB7F2DD9BBF535BA90F82BF8505B4F40CCAB0E75B82F7  
8D10A68D75BF49A343713EC025A32ED56EEFFED53ACCC92B1531BF9F0B34028B49B9B5B6D6272  
74401DEABB44E3C226BEC94729DF2DDFE7E96595217B6E54ACD596262AF96201DBF99BCA8E96  
799064404467B499EEF821E958C1EED0FC87F00B7508097970C27FAA1803E9CDE0B727FEAA758  
38093153BF87B8F915FFB0B5ADC3598E426545AF8581400C26584F9B9D32128C22E5C94181561  
C3BE6770B662EFD617D3E58A9239D19A1E7233867F5843E428893BC662F87258AA8155B5FAECF  
AF71D295A06A4EC969A178B5A675E0AA6A2A5325B823A8D6CCF5CB96B818FD48ED04EE92941F0  
42E7EAC89C5C30EEC06BAF16C7E4127D97510FABC1F5052BD3E6E3555F1EE48BEF8BD2BB0F36E  
FC827DC06CBF18BD3B1EA0A87809079E1200087ADCE4558A8FCCA3CBE14B8E7CB99CAEA5D5D  
0797DD050D22F0467D6F7203ED3236EC0780542D28D01382D761FB8E3FBF1A8EBCB38AF112778  
7D2B35BB834124116BC2AAEFC8C5F24833D3ED8B119B314681058CB197A11B8220D13D6A8267  
E4BEF19EBF3689EEAD02FF457543CAB0F8B973B0AA280BEBAB79397BF58196B778B3B389622C4

A60149F9F03773714D5DA8FCE40BF1A0A207B2139741937DAAA0958DAE6B4BEFA8C77285F0B0D  
60F73222A1558FAE2F358377AE744A98A8F382FBC80290D3FDE39F832D4C211C26BB33B78E538  
AEC6E309FF040C130DEA5C1B67E5292372B23368A00C3CF822320AFB3D1D84A278CE717AC3621  
97A88D7CFFBCB8A86794F64532895EA1DD5864EE2BED85F1A25552F000D4DE6DE2CF7E9E06450  
3C027C480B6AFB98C819AEF8745D9EFC762B2F15177A1D5059737F34E23D6AAC9A4A63138E004  
D3CED605622AB0B4C8CACED26FA5D96ECD32027C9C3255DD3FE64FB9D60AA01AC7D3A03E78C6  
5C5344E3449668AB45CAEC2EBC9210191AB5B1CF0CE584302401F398CDC38339D453512A0423  
F03F07C6602759BC71894BD375B3E20CE8C4D0EA065753526F7785E56CCB01F87284F7C1A1CD9  
B65C60C7387AF6BFC83311F541FDD16E8FB02792DC32C61BB6C30A237952C9C3DE803FD53B6E33  
6CE67EDC603A80225ABEF84A46A07176B5ECFF2501739F19C4840E447EDD969825A4FEA6EDD58  
BE9FF25E5A54C53B47C115099C95C9768EB4443B6106FD134C283086D6C250BB185BDBDF0344A  
30F3A5BA65294CC9D17143A22B01F84C928903FE06F21193FD336411F70D069217BC262C643E0  
9B75BF287C9BA8916CB7A4BC0101F913015924A50291DC0125A9BCF8669A167575732C792C719  
8DE3C8FB1E26648296862544F18B59B1C0C1C2376628D5E6587E0FC51AA50567C1785F17C19C6  
1E4FB7BA8DFE514E624D0044F3D5AFDDF38E93C6FDFF9C4D3C531D4C8AA7F93917464B1EB15B3  
B90386D486ECA8098

---

#### E5bQ Code No 26

7E8CFB74E2DD4318FF211564D342AEA2EAF031332F27616E5FB202E50B86580C1CE5B559AE739  
2EA24D52D446A28B63B8A0E910618B70E9E3F1CE264A10B180E27DAA8BA5DDD80B630816D971E  
7827971FA7A4B6F55496A908602CDB20DFDFB5CB74BDB251E91E2E00BB1B2D6C130AEEDC46E73  
CA2C15D0E2F37B9A4B4DFF057C3CB4DD0767F1160B833008ABC8CE46B879FC6DD47EFD5E6636B  
0BC78CA7C80C883F0E4475AFA5E9290956A44FEA050CBE08231C9E75EDC9FDE44A3D50DDD618B  
B97B43978179546FF522BEB0D9561E431B91B6E7F215FC2762D98CFA3E2CB6778717ACCD4A1C9  
E2A2A5C9526AE4272BCD140C25093EA43FB99937DD21EB4068F6E53B06B105061709804F5D385  
279D4375522F1707637E42B4E748F73C90DBEB11986BAD53F0D1527FBFD61E6DAF12ABFC0B962  
CE4E24EEA180141A62FF062186E27130B7EF1AFE18F3D52BD360A4A872EA197952DAD78C1A593  
18349552DE767DB1FD532769F1DEA34CF68D6E7B9B71D5C8F8C241BAC6E619AC5C8C41CAF0804  
209E7CF1A553C3799A3A57621194925F15F46FF94FD9E308DF3F3692C948E341C4F65BCC8E68  
4342071D1342630ABE91911AC4DBDDFOA012A9E413FA22D3F51EEACCCADE6EA1444539071783E  
CE4E492E14A2F2B7FCEDDDEEC90F5EB6D1F5F4671A6C038D75508833B608A7CFDB3973EC7AB00  
7624F197828D87F6E51239D000AFFEDBD570E0DD1AD3E9D76AD08C751A15DF02D6E4A78124344  
C770A7090EDBFCF069012321FB146DFA1B069798B2EF74B7A206511BA29B05979094387EAFFE5  
6B804A1DD0181D177BA26E4837C2864DDA836BB917536242B19BB9F2E9C59D40C25563DE3B842  
67BD7F58229461029A3F39C6811643954CCDC47F72295B045E3A8B6E0EF367287BEB38F4A7F6  
BD5B6A90FDD1353D0415F4F51A8B40989F75E49E21E066DDD85097E350B9D01F7FB7FB0AE119  
AABAEE7F0F5EDC196E92C1D7EEEE62E8CC85CCD466DF2D865A6BD7F6BA0A109FDA161CC61FC98  
91E26A28B4C39032AED9ECE21D5071BCADC7592AE3B207580C5C39C94A8F3205140F46BBF3A3A  
9613678BB05714D13F687FE59A277F4A982968556789C5D777E01699B970C6C9E0F7E18E99026  
453F090977A38E7CB8936FA930122BE704D61DD322772FF39E9242360144716C0F8D76E46E18  
9311BC21751F3E32AAF16E5F1FA14CA5E7D7B0F9D211EE06375BFFB361F6D8D2D9D93BF154B50  
EE5C2CDC7455E4EA73E2AE03AA086852B6373FC8EDA53854BBCD27CA7DEE6723F7792F4327ED5  
D9C942642F92F98943F7F53294613210A39B149BE7A8835087B15A03D3866E1846BD403FC5038  
B86F95664226A6BEB11FB4C6FB660A234297ACC3FDB0D6530359C03888BF8122C843195770449  
39E5A6AD4FCDFE16E96E531ABB021DBB9058C1EF1D85A21F729E2C274AC8A3E95084CA1CF4B8E  
92DDEF2F7BE1FC35B18798BB4B320FCD65CF8A3E32C0ABAEB84ABEB71EE54C989052D1A640E9D  
04714255791788FA74C7D791E0F645DE40679E89E0C40E00D17842AFFBFA2803C1BA63C773421  
5F0D796082D7AE03E86A5109AE218CD3405CB6E8A0FD85281C84F85648C7E110D4CBD4D7B5EDF  
A5B47C2BE9F1D760487B47F51B67B6A7528FF31E9741D1E8B8B47B85DCCED466FFE1458CBF45D  
7E189A88304AE7FB10CCBAC49905AA83452027161A728B8BAFE3B8FC276D04A957519564ADC18  
1B36D93F31227C6ED08177E37724450499D07A53A61484357CC9876353510F62707AD967C890C  
45B2F697C36BB76A8

---

#### E5bQ Code No 27

B536C31B1447B59AC3D787D47D1B9A2402D7DD4C36CC8ED1530625544D93EF0B31F3516759E66  
3FF7CDF38D275B437D7E59B22223930BAAE4CDC9D43680E9B18190CF794EC4B202458D10673D  
F57FDF3B52953AD67CB496E7BC09BDBE766A06170CE220A4B43FE828FDCF0BD59093E199E0E0E  
E354528863001C537503FBADD84C8C2AA72F4251249C7063074B895D8B96516F6495405A6C7E1  
FAFB8A302F50D29920C87FD91A240C90496DB12653B38B6EC194960DD172DA007308DEF07D4C8  
6054EE06E68C118447A4BE5816754206B5D04815B4742CB1E1EDBFE436C064523756F8C1A2D21  
BB02CDBFE223F607481C85CEAA3B1E3FAD53CC7969F19D4A53FC7C89F31467BBA88ED29909231  
A29469777230E72B6A11B3EC0A1675C635EC298E2613FD4532350FA5BC9E13C6036C42911306A  
35D24249DAF09E88772B28DE291EBC6149617D220385956796B2C4EB4B4CBBB1B2958B10EFD2C  
FB8D8A6363C1BCCF4EC5287928F948F1F4BA3FC8A0429EBF34294E8CC56BB9A703EEB1C02E45F  
8E757C4391671F6AAA567EE5D7AC58D3F8C9C4C788D2AF0958F4D1FBFF1305B98254E43BC88DE  
BCAF CAB36CAC4FA92F20BBA296DC940D8D49F88E7303696DDE672EB73670168D733A16BA0ABCD  
2252791742050DA5B023E97F6BA5F3EC988FDE476CDD14A48CFF8134486F6721FECB549F4F  
4991D6A56445B06E81BBC1D68840CDF38B6EB2CADF760F08130BFFE6C695C3EBB47800B7E1EA4  
90E64F52C3192EB45C65959B40AC06CBE80ECD0C5EF333ABAFF3E63DF46021E35D1FE93341A  
A0974E298869EB27736020EBA9F79B4CF49C4D4AE38526D5A100A7A7AD708D53CC40C6D520A5  
6E98F94F84185564FB17EC3E22E4DB6D4D873090E47B72D12539A4EE87A7C39A50579B64A2027  
CBD2F147E4FC89277A9034088A60129790A4AC0764D28F91D8718F52C7B1817D5962D58CA130D

76519968B1189CD14986FDB592C05B14953AACCDA46E0F7824095C1FCFD8F4BE25EC9F2B771D8  
13B2315F040922CF4D97349F8E5A2E5DFD100A7010E3AB6B5065B6357F9DB71CB255AD202B3EB  
364501E51CB5550ED59F893D5DC66DACA85D8BA60FF733B200026110A1070264C3A4201761808  
E7A9F998CECF1AE00ED4935E7D1BD7DD4155AC6B87BDF01A94B19444EEB20AB318377050C513E  
98A611F2238955C9BAB3231D8C7A0EA2D20B206963B8F689B08D4B21269FCDC8E2AF83FE6AF0A  
F200B86FD3CE1D6FD870C03422E09961349761E8AF6C18013CAE65773A2A4E6262E497FE2D9C2  
04A6D0151075638040AB48DFAE0801D032A61AC98C4C9B7DB80BF9068C3241EF2CCD352CB09CD  
AF391C05D6441CC32D91DC9ED7A93677684B150DD1EB0499BE2014CF2CDA7D264E2F5C7D537C3  
DF97E32D92B52224C1B3ED952C58F1E2531965E64C642417DC7D6AB91B3E6BA2E95DA804314E1  
0D29E03026F1AEF4ABDFC7D1FD14B9CACB79B3805A1CE5A7D83FD1E33C7FD9337E1D5BE548DB9  
BB37813D83832BD1B7F5D612C38B18C196913DADA7C1B6FFE6A1169A0197657E4E2EDB02301A  
834B362C927AEE79FB4AB178E2639CA8DFDB1C7D8F710CFE7EC94286E81227A3F8B6DCB743227  
3F9421EAA6D6A833D4DBB32B19DCC3F505FE9B9494B2CB18474BFC7F2A59504B515D63B50A7E  
259F2F1570B4961DAC9CB30E122A8CF4D3303FA04F610657850111ECEEC6B7DFD14E75C4FC65F  
4C331DE1B7FBC6FB314E5DFFD974861202784CD4D9054C71434D1DBA42C3154743562B029FE0  
3D6906A4C26B34CA

---

#### E5bQ Code No 28

B8E68CC3EA746245BDCEEF9B1F97B14A0C8DF0844B23A53379B6317F61ACD608E92C7A0111902  
BF515689A85149B20349AD7B6EDA5B539CF8C27D12FD6C7F30111D9251A5682E2463A52A82DF0  
C82CB45CEA6585F3960ED56BEC8415F3056D340987AE2F019B370338C3A3F48DAB129EDAF018D  
16F6F22E003942B2A6747577B7549F05C369B76F2C88E13D20CB5BA1601D05AA5140E8D95DAA  
C8C419CDB7FDACF3ED0D6FC9EA5D7ADF811FDA3A08E52315E46124212FDA677623C8C3E999270  
EB086DFB0200D2256AA2D63E2A649BA2FEB0CABDAC780BBAD5E0B1323FE2205E4D64C09044960  
8C2719157F4A56EB5C6A90FDCFD054FAD62CC2DCC559ABDAF2D93CCDF0EA623A8570F984A2F34  
57DE06F24D4C178B47947B57B698E5DD62B4D45FCF22DC5A41B9DB4AD28F4184B9E99D64EC9F0  
962F5E8662C67208EFA08C1EAF6DF12418A1E39B3A6E829BE19122DCFDB49407C054690BCB2FB  
8189E4C005B7DA59A15CFE6744FE53B1E204FA28B5E515CAF94958CA43F03BC10E6B8138E95CA  
97AF0715C15F4108D9FC70A0F20B57C4E3F5F3C486D279D6A54D643402D691CB471B3318864D  
46F57C11B86DBD3E5316482A6125C8FDD52706D1093917106DE1299DE28FF4C4EAFC848E623B  
A828A3E030BF0C1883805190D8213DB19FCAC2E0F50A54F3522819B4CA4275FAE720EC6454129  
192DEA014BCEFBA33F487731AFF9CDCA59AB8B84B2FDB302E1D6F49F7ECF828E2C974FBE023FF  
BDAD926068644DF44DD50A1C4F341EA7D20F9C8223678CCAC94F756D33CAA620FB14CB9AF5E20  
A2CB70646F8047AE5D4116C6B8D1BE67DF616F9585563A3485B06D8EAB51841919DEB3792C594  
9E9A6CA65B34F13751E1EA60122A4A869C28E2C133AB88FFF40ADE0DA21040D580EF84D6BF683  
D5CD53D6D676ECF5E2907639E94E023554E9065B9CCCCD0A451FEDA50F799879BBE559C324F7E  
8EE2E7A8829DFE94B57A38A2402BFEDC6C559CA7EFA7686E0232E9D68EAB024C37909916567  
D1139FF9B1EF81972B2F478076300B57CE5CBFA72752915F5AA97BE0E3D58CE1ECAB7638D71CE  
FA25E822FA65A8E21F704DD24FF68225F21B2C253C06366652DC73278C95849C6810948AA2DE2  
21CBC803A3A42FE5C58E223EB2069B460AE43325FABA14DBE2442E2E3C7F75D1107ED802B7BA  
96CDA8D302EA07F8A5BC8E74A8F4DC88E67DCD197DC47DCA3B1FDD55D5E0FD7D90E2450F77EE8  
9505F8D3934B8F2F737E06B1586F1133B7BC5A99D578FAFA915C2B50C6D90F4209732A5960BA5  
8584AA09B4A2ABB01AD43D99A4B7698FDC72FA23AAA7A5DF52DAD57400650E5CBD003E29297B5  
076CA5764A1CAB66B8EB2F3738E1FD8F6147CD8785AD75C57068A4D483C1FB6355988D8FB821B  
6C1160658016E128D0E2B1810FB1C72C46AD7227DEF52422FC8952B9343381A2564552F598D  
02748C435A201668B91F2D0F55518CE19CA52C94DC0C813030E7BCFC6EEBBC4B185D6B8127703  
849A6C7BCB0D20A04983F2B54F3CDE7D3EDB8CB14961318462A3F8EBB5B1791580FEE399AB43A  
74743979B825F76A578E2A0D43223725B983E66D4E9C93ED3AC2FAAF0CFDCDD06CA84777144CD  
8D9181DFF96ABDC966A232A39D80157C94EA009E2694E8DAF4820C6FED6BA9D33F14EF6A35432  
CAB30F241C1EB10614C9765C33B9DB923E3C00610FC24EBD65B98A3C35F0D77BA3FC3255AA045  
8740F21C8A2CC6CA17C51F728C79B21D4C2F1BBAE25289480F4AD7BB843C454FC4268B87CA790  
C39C82DECE43BBC9C

---

#### E5bQ Code No 29

1E7272D1251A8B5484E3ABC21A85B0316C8B3A5A1B25EB8FEFEC5E867F6DED4807D1C476C5B15  
06D50D9D3149425713A11E798F5415D11A7C48746D806C59EABB56240CF0C997CC9554B3FE3F2  
0F785095DABC5A5B509B23BCAF52BE692D76D92362C524148E884239B085DE22B756C01DF9C51  
4035E6F5295189B2EC033A3C65E203C1DC7ED072A6400FFE8E626A707A397B7DC8D27BF24DA0F  
D9DC2C3879F0EF90B0B8477F3B2C315F8AB8FBB195F7605FE749FE5DBB9183964D8CEE8B1A885  
707A0EA17533B84A17DED1594BCFEE87D8D1BFAB10A802F818F9EF30360D57F4D1F233653C8C  
78D8031F9D1B05596018608B3DA825F4A55F9753E037735F22A8F4ED26CDDCF8A77E82B1DB19A  
207606341EE965BAA0D8ADA95390C71ACE1366FBE47B84714C9E53DE020108C424B1A961A4656  
582A5BC95AB14EE6B7648C01A70283DC287FFE282045787B252B4FCC2B174803BE7B57B62991E  
69222C5525BF6436BF092BB93DA680FFBE1BAF7ECB41CD86EEA5BA76AF45D24447825BA5E4CC  
A2F03758F06910384212BB48775F44CA9F0291F2DFA4CE5DACB1B9E9A493723F1E1499EAF3B12  
48A893C2193C9AEBFECA9A8BB3A2C0D096BC181FB64E4091CBF9F36514024C05C13032B8FC7CD  
FB09B3178BD29F6EFFDCCAA74803B82C5B56755A681FD5A28DBECFFF965579077DCF0284CF9F  
D8D0F94AC4416B3BC8CD0A7C3C77F0ED555D956DAF8A6C1816A4C599718E8061AFFADE0D5BA7  
ED4313FFA27B8C4CADE6773D715F23E43530EFF6B4F3751A1DFD22703D608EBF74F872D0BB7F8  
4C74FF7095B19EF2555A03AF262D74F4A33B645A9A716BE4A9CB5FCBC6C62845166EEFA521D1  
8AA98AEDCC711501E0587EB75E78D6A5C82B60E50F4D961791D7C23A595D3B949E94CD8EE844A  
71FA12E9B58E23AA9F681398D4C43298ECD06EECB3B71A5CDB52DF5A3C9649DB486256EBDD63

1CE07DC56A0826DF7082E77165181F555A5C03F0F8815F79A8AE16FBAC166D13D8268F6EF844C  
E5E6D2542F0C436BBC85AE8E47723DF6FB90A36F5D7FA161CE15584CA32C3F1C8C4573C5DB5F0  
F5F362A063E94D99983D93E92646E2694F8A37F1C42664232A42706C7F3BA9CF7F5691B1FD38B  
0D03364C55C69A1C6EB9367EF1C77E9F35C5FA898BD74E7A0ED3F8E68F85D724C93DD876D9EA0  
74E0DADCF57834F6210897D530049BEE77504F13DDA44D5617CFE96E8DC4746DA10A8DEE30779  
91D96F81393E29ACC32FDEE595F8BC18A251A6A343CA5A20D3D8BE51D6D6F7540DC4D2F516151  
925183B7A05F58729A622AB84A4553CFB12F99D4E1CF615B2F14E627BDD4B15B7EA2956FE853  
6DE3510574FC70D4BA8901A43AF830BA7400CFD614AD99A81B42B4C5D1A1BDC0C538A07D4B24  
31F971DF0D8F38B28B504C40694B001FC4302C35FDB95B09F589090BA32E5D883A6051911684B  
5613E5AE0360F71130D1853641C710DDC0C9DC48D034826B4F115A2B511CAA1AD085FEDD0E739  
CB7306A1405E276A1473297B6CE33B0EFFBA37483489D87D94ADE0F71EE2869CA699F9D17871D  
AE5DD21265EF1F6CA340A4EEFDFF1D44B04EAF59B45509CAA51869367F99D61C5EFCBB74503B4  
14D3712D79D490E65059FC78011EF17C73A1147B1F22C62ADF4978420B8AC0D6A977525612CC7  
A6062050D6B3448A28E93B11245520E9138F9E28337EAB428032082619C82C63A79D1504651ED  
6F4982E5BDB36078337D9BAA383D2A89E080EF319FC9C53B8BD814B0577A5F7CF4B2E17B9B804  
045C8889693F09588

---

#### E5bQ Code No 30

B75B69BFAF2260C0D84908BB648C5426C5833985061551799593D3830E45449119E8BC4DBC8D6  
8EA696079D306921D78F9DF7CE52A4ECEC6D5807B42BA30ED16F56472522708F3F333FCC8CBB3  
194535A84F84989191C34A80EBF43A1B677233E2C2EF63C7E98AC09E2CBE40559B34C0127DF2A  
D7F46005C4C958ED3B051FEF0D64B6DF3C5D210B53A1A0C7A378E3AEA3D244A47F8911D710C9  
43AECCC2D3431AB672D878672045797CBD92AB2CB1E2D8DCFD6667B230AAB0E007B8B7F58225  
E809E91A648173FAB869EBA522DC8C27848D3E7D15E8006A1691AD3C846959BF14A66BA8B4  
39B21FC76B6FEE3DC15504DEA6F91996356C9365186A1A40B387C96FB7B15439850CF2A130E  
0C9822D1A33D8D16AA56511FE1C85E23DD47E11B061B432A2C60DA7BC5C6C0885F7317C76DA27  
B1123C79EC220ECE197F89E46135CD677C3E4D6F32B3C4570D5C0F03CE18A8DFCE62E926B6A47  
833D15AEBE1BD891718F8E2B854EF5AFAE7D01B0113B96A99F59C2D17ECB18A4075AF0E9132A  
F66F1DCE3EE877B12644C22EB4CFFD25ABE8D43033BF3C7F26A84ACC6F31802446C8538155986  
A9B233DE081D7DBB0989B463521D1ABB4CB4EBC5FC8CF9F519E253FAA5FE2BA47FCC006862B9C  
7E6472DCCE6B90D318A08FF14A86DDABC760E418D731CAC44BF82C92D2FB8B595209FC1DE600  
D49C9D8015955ACC08433F1D1CE4242B65D13DDE2547D6541B10EA8F58690978512AD967CD1B6  
584ABD9F44385D252C12D2DC6C3D2429AADBE8869B1B17051A16673171A6FC02B75E9DCD0FA7B  
4E1113F84B165FF0C771C75F3C72E98550AB0C75807DE98ADC8CADB475D387884FD64DA73FDE  
A46073E381129E6B35571A09E83D4970DF85AAF0CEEA9AE0C17B3DA2942213DCCE15E243C8  
4ACE9B85A5DB20AB1B897519751EF3BCA451E1AAFA314D64FDB665CF6F3B7DC6CAEC944DB1DE  
75B8D2AA8BDC934A7650F355CD109F2A9AEC264F3DE2EA03A3448224A66894F2987D84FF8F3DD  
37E5B8BF30B6182D98A640FFDDEFD034D1D8F43FE6811E92FB52A2753C5C52C58D74648C5A53E  
9C5BC898703E6AA4FAC21D0D5A8014B64A70F9A9F86500BC84B678B139F745025289A21DC1E0B  
EE6B349B8D7A98A89FD78DD2F30FAE4C45893B392DC8569924E04C102325A7980DDA8C6A53A14  
950239BB739855363BD3686206BD6456C5DE09D77745054B303B5C03C86DF7888FF2E00921986  
BA47648CE6F5C6E8C0E6E95551DE6875E18959B918CC3B33ECC4BE43833835777A39584C97B8  
C159CDDDE9F88E3E4B5ED46FD68EC8EF6F4E0B7301D542E7E3B59E5EF5825D822C97CE3B30CA4  
4DE46B5DD3D5BD65CD085FF9B9707B13C2C7CE088ABE5E037EEBCF6384CE11A1243ACA15F443  
EA201C43FFC6DD55A4AF601C799A61D81CF00F3CC73723DD818DB17738E18ED1283C13FD4CA6F  
92B680D1A73B1BCB534DA1A059998AED115058EB87D60DA12CF15F0082A2F35277D012D1B2120  
194E7C94BA141D900B36F35D03BF5FB80FD3CD5F377F9B0DC91DFB23C87925703A9F9551AB78  
6C498A9BD0A4806F6B13D74331A1E45DB36E330945DCF97242E90FCBFFFEDCD8D50542FE7F9E9  
606A795287746BBC655BF5396CC03256B85699407ED48A03A0CC3B1F46E10D9019BA22B02D3CA  
E2A766394009A27COFAFB48BDEF936014F035F7E81DB4C6CBAAC9F596058D987E08CA8DBB3AB  
72B8A9AD6943060613C711F1FA7BCF3BB05FFA47095A7D505E54D0D361A08916FF2454195A1E7  
ADCFE1FF5AD6C6F84

---

#### E5bQ Code No 31

533F653DDE61A6E71AAA977EFF7A55BAEE911662E03DEFEEC8BD919CF1ED7A4794A83E1DE7FAD  
820DB9D9A9DDEEF8E72A63E2C3279143D9779B3277B35CCD804707DD408CC932B6E29F9AEAD59  
D7612856E0FBF51DEFD264E3ECBA052DE09D55B5BCC81B566EF68A4C198259CA131A62848D631  
413D2379911302A3DAAA49DC1CE86DB465F50F5186241C749053546766C757A278DE9AAADCF  
2AC87373D767CE9F4F6C58147D8C7077A70323D4CC8991F88B7737D894612BFDE4219723CC91F  
91B67140DDA7908725098D878F273EACEEEA4D8B91E575547AE3FD038A13CD453CE6970928FA7  
C7CBBF575EA520307A866C44F9BF74BFDD174BE5AA2C91F1F07A83E05C7C4474C1A5D87C9A6B7  
4AB385086BDB089466A5945D4C03C2C118FACDB0D1860C506A3F1A33A302922A6CF9F1B52822A  
669FFF5B61F9E6376CD14C78552F8DF262262DE5DC87ADB212308BB8538E8953916B76D2B9BB2  
523839BF1B9E2E3A13E4EE516E2D6E487723308D06454C28B05CC693F31415BAC3511048525A5  
5F252F720DC86F83119113D3DBA5CF61DBB35BC3829A001A989DAF8E3AB9675142F38FC71AD47  
A366347F3A137ACFCDA8B3DAAA67B3E9B47C76A3D85754FF14BE38C8622EADA513349A483F788  
8C1387E50464DD333317DA61678777D65CD9DBD2417F588EA20B94EC826680CB6B03C4466BFD4  
DB7B83EB095C664BAB158647DE5AF4E34E9E01C8B6D475881ABDDE73997037D4B6D8E6209C5E  
35D18DCD7D617EED87220487F342CDC71296E7A014CE7C8A6DC58451355D417CA1B2E516FF94B  
5E1929F5931FAB6B36B240A8905139E414D311D6160ED8EE30F3B4A106C0E3EC5C3501FF2CB18  
6CAFA8FCBF2B1E1337FCE30821697B6612E5C09A37BEC83F953287ADCA66F09C92CFE7072EAA8  
26EF5A6FF8D3B81EAF97169A59E7991A0EBF2D8064B9E06F04AB68AC257BB8664BC950ACD5AF0

5B0AC802D1E1D76F52FF39CE6E6E2338A2458370B95131B9E70AC975B029D072C6A5854D38A9D  
2EDF4AE65909FC569C4B43442B160F645436952923A7589002169859FCE431562DD5C5AED80C3  
685B53F2D910B3D1AC44FAAE81467145CAC12C90CA2936CB6E87DDCC8C27B0A8B403A4E68B59E  
424760CD707E9D64077D31A3E274B26B329C8BFC1B020CABE4F2D1C3F1D10A3F3CDD49B394C3F  
B6B93701D75F115EAA2835951F689B372C9A4FDA0A36861BE8EC3149E5D9ABDA6FF009C1437F2  
F34A4C80459C34BAA373EF2C45A86C89E37E490347110F69A51314E5E1EBE98A3EEB4EF098BCD  
0B77988C55478ACC408A506E390050B2147334B5836DD6B30F3A82E2E83EC39E6F0B12EE53031  
F6867C1C14F53E3D53F35777A27BD25697B196E0B93F0CBCBB976FC387F5A312A3A8854DF6822  
8F40B07761E48E179D8A6269194A74FBF5438E7D94F93E12BA1B80773F23950D9630247A20607  
3D5D03C34E8F5891DC3DB058E5637D67E82A7219A29E0F8EB736CA75F53CA566A4471504E78DA  
8A2F4C8B3619A9341AAD66754D2D55644E5E9A932433D64490B72400C6A6C753C036C48D9721D  
B697A6BC23D3F6F67C9C05EEA50A89B2E4ADA472B134AD3BB78278FF578A7D1ADE55A439CC314  
BD347FCAE41F886653B8F1965E18EABC5C25104433A51677D53AC398B0505317ECB059DC39BE  
B4A221471B508E309326100B4D9EA303B9404AB33AFE5722ED9728AAC5616E1737CBF7080FA0B  
66EFA42F9BA01DA14E6D312859F2B465A64BC1E76EA8FAA0306CDC0C29EF13D9AFDD9BC5873B9  
FE28A2AD938AB2C2C

---

#### E5bQ Code No 32

812B4195D6E1D927AA8F28BB9CCF2FB10405C9689EC40EAE93B600EB88F05A713A19C5B853989  
A1E3C84334302CD2AF7D33593D9862769E8DA2AD07DE85CCB1504E5C4C6A53B81563A2E89903B  
28EFCC2A260D2A18151C3CDFAFDE9A83149588F37024D67BB1C52670C18C6F4A3E67E944A62C0  
2F868F7B59C3D1D3966BF97A03F08E9E5641F9FD2654A0B0770748ED2D89498C4EA6F4ACCODE6  
F137C4456E98762DC12A9CBE9CC46D5053B64E91650A74D6731AD0C97B93921D54FC6B9D38E50  
5E06018038FD0F7B6C3AB555C9BEAD41FA1FF8657491762E1DA48CDE486FDC1DA420D744C376  
FB356BCB953E00EE1B14CBA4E39CC8737C6F32ADF53A066A8D9DEE2E130E4407642FAAE0417C0  
CBEDDEA904EC03DC4A1689B4AD3FB877426D77D5877CCA4E7A19BCB8557F2FBCB536D52B76505  
99B3A34BB09821EFACF24542DB575986669E517E1354F4A04E72E7E271C2C305C691336C741D1  
CE1CAF4745041EEB8A604D068CA2A42B97261B5EB81C048FE5B0CA2F9289366D600EB4EBFDFBA  
1AFF091D51ACD973786B04D02DE66229E78C1EE1E78ECBBFA89D2BECFCE54614CA68DB7EEAE8F  
F01599B364EA63CCED34E32B23970B0E451A8B23BF5D9074ED47B2E7C7F9E63594CB70478ABD  
8E1AC688DAA7F7F8C49AE10091CB5EA9D99A869F2AB21E3E6F7B72D372B2CADF0D9AAFE8049F3  
9DFADA726A264F63C51A87BF1EFA2B05AC28339346CCBC81147454391DF6DC6FFFEOC1646E27E  
8F5BD60F3B84CCBD5837721160FAA6129E528496CE181681FB70E690AB67D84A36D1DB8A059B7  
C637F742DE45F2C4DAF3499D9A1E54EC0804639454C87C8C0EECEE734FDD47B834D8DB1F10489  
04DEDAAE71B571F52152AAB0FF4AD8A2DCEF41E2B6B5ECBEC32F0AA73F79E039949991E5DA837  
799AE4263C2C26768B9A646D0E3DD50CFBD9B92D16700FB0558220300568D99660917898797  
8F5792275FB05D86A48D006F0EDD1FC9F2EEF19781E05EF2CDFF2E266EB84782D4BC34590253  
054683F05A7C1F2654E835BE154B64D5333B93B906E0DE8820AD154385A3E770332A026BB1BF  
4E2483CEA464F29AA82D9BD32B9EEB9DD47BF476338A47F34B060871DCADDafe1BBA9ACF87792  
D0BA7BC0D394CFE8A871F9A5EEF9471F4DC751708A1E1A48181E988CE8B8E746C482B8A4982F  
59C82E3CE1DA45F4264B614DA599376C2E451705E88B43CB16507A2A75AFCC0A341FDE0COA41  
1122CDF740A0A947ED016CFF3DA2815C87750969D869249CC1E017F4E952448FB7809CBE47035  
8619865A2044730BDA7B1049132CEC2BCA2B74D75A3998847F910846AB186D53B5136D6CD2458  
EBDA6B0F6EE58F1477D013F50511E630156491AC2911FFF72349A99642857EATBB9BBA2A9079  
3EA3DFB7ADE08C191EFC60143FB6041A08A886898CA82015D2FE1CBB661897D208A0430CC5564  
1CC996BE7F3D6B671BF23E38FB63D799A8582715272D57942EF81E6D5C61D999805D29B0445E2  
8EB628A16EC2A144603A2453604052FCAE95A4C98D996DF79A10862B86341B507C02268E79A80  
28F00686E8585A70D68A8ABBAC43A24042457BDD5B8A752F8635409B91B6E880A103468EC26F  
DD32B514B419C6DAC5F29F6F40D9D1FF2B3FEF73971B2AFF38F2F5A80BBB543FF5FB2B852773C  
3226AB4E642D8E16498C5BBD10CB02BA51B6BB2A461E7B57A3DBBBA7589BE27E68A6833565191  
4EF449057ECB16B45BD270292AD49ECABA0F9F2067753FCC01216E9AA55F177EDB2926EEE7D  
E13FC5B019425C014

---

#### E5bQ Code No 33

2C4DE12CBDB7F53E4926BBD2EAFCC67EA4F95146407343F4CA19ECAA81C5503E5711D96F21DAD  
8D898E60D5C581F63EA7761FB345CC75511CCADC758C4B52DEB658F205D28D9BB6A76CE2187B3  
385D843F47D5FAB744ED368FCAB9F4AC5609D786CE6D12842FAD027DB37BDBA39AA8EB0052154  
B57F8970162D7912C186F287D96C93DA8B262DA07C712EE1FDEEEB9F1428293F7257A407B2395  
7A2130F7C1C603102833E3BFBD5F7C1ADB786508AC1C77A3906A186A0D69AC403F4D0C903E752  
0A7E60021345DEDCE847074727C8F5C7CB63DE1AA4AD0B5A5CE88B585FB5719409A13CE94D19  
61027849CD235B3B13B26ECE180F2AE3BE63A050EE37A580DF114122DB08488A915BD5BB9BF09  
DA2CB096CA28972DDCE5E21A4699BEA967D98A49E41FA0CCF1854F4D6FEEA8DBD773B5568FA0  
D250813E280B4F5B84C734EE10481B9E5B2DB3169223F19CD38FA990F211BB0F2B44576734778  
399E10F10A342FFB01FA9D5E1A1F80C66CDE9630A6CA718C1C7750DDE2AE1C41DC976AB3BD997  
8FBBEA65B1473374A01E80D8C619A01F3E503BDF09DB1A4CE513F62AAADB43E065D4D9935128  
4AF4AD8FFED53662D0EBACA6A284E5FBB413AC0D09D5C70EF493191C584C0C9E42A8D8AC822FC  
0B0B26FE54FE3B3D572ACCF978CD29C78AF9A70BBFCF2F8C5C8DB51CFCD2D4DFA764EF9A5193B  
C6CF5BDBF6CB0EE950CD484D5F59E04F9110370A22E6E45A1C042EAE5FD0F102F87821AF507D4  
15F06D3F91FEEEE09511AB22AA3B4862C76CF1AF16E22DD0A57F64C862436D1031D237D62DA347  
8ED551D620573DAA33E270B0DE4751FE097F03929E162C8A4050782920459790F9835E2A3F4  
46C9632A2AA1E8ED2AB7BA584C48392C926DC7663CBC93C3C309D00D74CFBD6C352079132B1A0  
B7982372D8E516AF5432A2F81BD97E03A761F1A2C03C9564BB40979F71041BFFBCCF8D3CC6BE7

128BC4E44B6B74EE6F8D4A184196CD7F6E2AEE80E6FDD43A233C808F5F695DA6AA6B499FE55AE  
82E392E86F89D12B178B680B3DFDB5A478BB981E276B439A63E7166B5FDF7E3CE7D2CE6296797  
74D118BCC73E85A9C242E6AF2CF98A36A15ED71BE2CD5A81C0935C1EF36CE67CEE9B9AB464DF3  
A5568F3FC99E2DB9FBC3C5D71E8FB5673CC92203DF913F26C09B48FD209E5161D28A098432B78  
C7665994E7DBF7FA305551580CA7767EE023FDD7EC2FAC65E94E0A852FCE2C4EEA0160B8F4A15  
9E8403F245EF9130D1EF343B3DBD8933F58D39B7C5DA3EB73B00D34E8442922C6B84E29179BEB  
ADFC6EF1E8D1530364140E1CC6F29573196528C80F6FE620A7DD0FA5A8754457D3F6277F76C73  
9ADC5E505EA369C7164D9AD19BB99B37125835EDA0A74689C5BF9365B9F5F1AF984D11C783DCE  
83FCDF1EA42332D483929CDC8ED17D69D0085C51292669F62857FBA3BCE0615FB06168C073607  
B93FC59F6FCAD00A88844064605447BB2DC5E3899097CA81AFA9C1FB8A2ACABEA237B94C58123  
0000E95C7D892ECBF0A2D3D61D0DC17293B2A83F9B4B05F28FD3E6973EF2F287168A10E69BF6D  
50A8566869C7906F17326A88D1629C2B7F069CE2C6CE10C601B380BBEE066022228FB84556CB  
34EA5BAB3B0D3CEB1CBE967455B04F03E1AC0A214ECB060E14682A84D3C943021366633D7AF0B  
D663BF7D82661953ADBAEA04841C4EE8CD95EF29C43A47B1BD33DE7A44AC193313E79D4E2C414  
3C3DED323FF4754C948D0DD14F75A3408AA227190FC21E3BBD8EE630650FBBC27CD298D925A4  
732257B2832FB4948

---

#### E5bQ Code No 34

759E2CD07F623C0952E2CFAA733D9651B4D835D66AB0F25594BA0E8E210F9EE20994E1D1CAA64  
B5167DADD1442FA8C83A4286530D52F2782938D0631396035C1982E5FE67B5A13F1DA34AA2CF7  
8997B562791BBD8368FB5111E0AC9AF0B11FFA6FAB33AE6547F3083B138ED810FB977561876  
7511351E0F3917CD864D5FF1F58D33088F8EDD6378265F42B2C645FB31F4C58E7E355C4B4D992  
F58FB8DEA14B2F39D69F0E4BE882706044C0B2FA8AC4D143A7B5520D89E8B851EC915B5C4A433  
BE032A5386A447DC39D69E9A8238E9659405C6DB308273BFC2791AAFE9FB5E7B32321076E3E  
C70A2EE9F02ACB4B2B144FC625C0E936F4F466140506835DB7412B2C1829E760EA120B27F4AF27  
3A8B232963E6C757B3EF039B08E8F3E7C5929DDA32DF9A6EEE0F615467D390C46680CA4FB4C7A  
1CF0FE06DB55675F6182A37D2B83139200073AD07C3680C85BEB7C494952B4FF7B6C855D8C59A  
56DD7C2888A5E5321FBFC4D8A8C37B3923AB5458DFFE0F27400CEE41C9AC3B9C3767DDD07B46F  
963B6A2B8B7AB378EEDE6611B3DCFB1F70EF207D1D81023D45765F39597FB8D0DAFB8BDA1C387  
ECC2EBF1262CC7AED32BB9F96A8AAF5A2DF751C383A486F3FA629E0E2107875F7050FDA5B0E79  
401047F05BACD37992876C0A64D44E0CDFCCF07DDE9BDBC9349FEE9C8B54489FDAB5D4A69ED3C  
9FBE2E4B2389DF0371E46D330B84FBBA7181F2470B1AC1C4C1D60CDC05584308DC7AD76F5DE8F  
DFF0A4E80335A3F672C29542BE6B31E28C4B35826694F43867E186A7F550D4C001BE786FD3206  
A13AF1D2FB0274DCF848C487E3598FCD26E3061C37DFBEEBF3EF29A40BC9F7FEA2CF01B299E51  
1A640248881600CD04D37F0DAFC0B2F473567FCBBA952591129FD0999A512AC95819F12D05D43  
06C13EAAAD30309577762D22F461B0AC5C6EBB80F0577E8A1C651241B55765D5E588D2B88FD6  
61298C8D0B0E6FA1FD0436844C5E48D33E5F05B6023B60D445E85E75A7679365FC8103D93EF86  
614DC39AC50434D3301B36AF1DF2C9D0BA5041F7D95F565EC1407213BA3F93D81730D28470D26  
907CC3AC7D30BCADD886117768B845500E638BF4B2CCD6268A773FD06AC11BB6FEDE15ED2BBA7  
465DA43A83ADCAB61D20CFF0D24B3E795D66F9FD59BA1562EE2944CA89E6F710C6FF9E58E8CE  
A42326C8FF4CBA582A812AD8836291A95C743606BBB8E625F832D4B9846590BC5BA7FC00CA0BF  
515098FBC513F15D74CFB8E794FFFDA3A36F35DD7BAAA4D557A2B27959D54326C3A2FE68977AD  
66D2B80089EEC8B8D0DCB26253BE3028761F96D4B4B041620592A4FE11D007F2DDE67FD840FAA  
4D32B4A06A607298089C2DC9BEC00DF1D513D94BE286A9FF1E997F9900C39E8FDD462A4EBAB39  
D05E61C079C1F7815B4D2985BF0855148398A8916840087D9A5E8B4C61AFA78AC1B26D99F4DD  
F43F672703DD471255BEAD3566995BF0F73553284D94F515902AB03BEC0D88C2744D3E8226F4D  
92F27666671F6428517796C5ECF0565BDA6119E2E4552C06EC615E8708D821BAEF1F372C3E457  
553673F930220B6155D5D65B7875979B10CE16CAA10287E88A7BEDD89D2FCEBA87B7FD2C5268F  
B376987637B69F6DE3D7391C767F2628FB499969204978C9E5F6947F230201790707384D0821D  
325D48E873734159B82CF59805F0217D7EB1D40DC10E9C60968349F1B513BF7974248E571EF53  
6CFA32300721F1CEDBDE15137DF780BE77607170E55945067A0B1F1F30DDA7ACA3A06BE60A63D  
7C67F1B551B830E10

---

#### E5bQ Code No 35

7E643457BE98ED5901D3530503D42D96D9EE39DFFD02D12F0BBE04F68E1C5E8B77E1247BA84E8  
BF60C260F4DD306136F61439666BB07A7051046B44F7AF36D23429B1C3F54F782962F71419E71  
897F7A41255E13C296091770303A19C48201F28379161E2F0073369034A2EB0664BDE67567BA7  
E4D3BA2C2FA28527D303EB2183870802163C28C61A9BE0C5E01011E079A4572E5C34A3498D0FD  
04D7558023B18A085FF74E9CEE9EE5E259924C67A507E16AD3164DB057274DEF697E1D1CE51E7  
90FC85AF4BF5B9525E0AA29FE86FCB44390365607998623CE35E8C9151D26AAD60E94E079DDA8  
C81AF7CE1B97C97C7AA774F56EB725DDFBC26599A50DDC3F474BF8043870C6058263F7FB79F4B  
130CE511A96A2A6A18C71FB439D126E0E7004E5DB95204756F88613F082D4C1E817E28858DDCB  
3648AC0192A84A0430E8C384603D08EBC47CC67E041AB7B774566176779377FCEE06FAACA8954  
624CDA4C73E0D85F640699D8765AAAE55470F114FEC7A601DF55DD053A5769EF190B5EA9FD0C6  
6E3DE2C4B852ED66BBC9A3B4550382C4037CFCFD016860A1E2409AE75C06D6556627A6FAAEF40  
96BAA4EF8BBA62404A7E0748ED0EA6F38F0ACEACE612F53ADD502B1DDB6F71C35D7E2C6B06BB  
0EB3D9C546ADFD66B47498DC20435E97C944636F4B0E25585B2C8712FBC610FEA0DD17E0F8C14  
4A468DB9B71D49850FBF61225180B95E99950FFEF2162DE93DE4A11230DAB5ADE80CAEFA00A  
1F0D3403513AAC273A5B070572731C394FAA28A37F6D2ED499D8986B89E63F17A5A1C6351512  
9D588DFCC2FE2D6398510636C1A7F1FAF0D73CED3F4E117002417003ECF249D9C3AA9D47D1F  
C2199142D7F7501A57898C5C03F3EECDFCAA4AD93F8C83CBF904080480544CAF82D7D530FB7B4  
F019F94BBFD600E19485455C0204C74E2BE7A3F734FA5DAB605FA9A6F17C195445CE4468F4A8B

C48D6297FE6D5EB930B2831ECEBBE58B8E388B104F9EB81BE2D6DD87C7DCE9B8C9E865668FFC4  
2C0F50418703010FA08B8706057D4E060EC2069ECC456D28794F4C561BFA5A932D496D1C2A6B4  
FE4B4B448C033E0D86A653BE48EDC2334CDECC309B8D43BB32CA35A11717E291ED206C4DBB8FB  
FB09E539BFA4D966F80671B15098C5D36D3302BFA6CCB265BF1E1D3F9EB07E73529D24257440  
CC7B0A07C3189084934F068351A82CD08883926347BA0049BD18F7812A02B4E4567071C3E8862  
EFDF0FA1294A321CD0C6E90612F75340E5F1642BB3F11D0C35BA7789C02A03D73673FB4486DF5  
39B80E263FE9660EE962DABE1DB7505D194BB44E211BAF2D8FD1ACCC5A246BC4524F37CAFCC98  
4CB197DD377FA46EABB86ACC063F36E386D582A8BCD28CA790EE2FDABD07FA7B1C4CFE491B819  
302F2D8269BA6806F1D8060936DE375939480844AEF32400923E7D833FB8FFA4B8E9512CA687D  
00E1659C768445C24F19733F9BC0673033777D430CF6AFE1039D5FD9D968F39BA042D99C4D31D  
9B38FD494168F23849C1C3D6612C7CB97371D0495723AA190CC10F237DA87DF70772AC1C6C7C2  
C70AF94A3D47B296AB4B3DDFA887FF664676E1B79F3483A731AC0CB65AA271B9B7A7F5165FB0F  
2C3F276A0FC9E5AFDED12D5BF7A51F4FD85FD7A997AEDCD0384FD9F3A550548DC1CFF796171FE  
AA5AC8C2CCE35DCCFB0D994E035652C8789B8352FEC79AEFBABBD11A7762FD01748AF96F4A83  
E5716971E119C3014D747FBD91352956FDB055C7E5B6483EFAF0BD69494327478D8ED9FCA239E  
A825A3FFAD118AD6C

---

#### E5bQ Code No 36

B43640BBC9C72AD37CCBBFAB07D9A72216905C960FABBDC71DC692B3E98A32B27C7FD7350C12A  
537B30427EC4C344FD54E6223EB77A11D6784A7AEF66E24CC4726C5F11BC163D4C44AB496DAB  
C3BDC325F745B35D27F570DF8EC62B141CC4EAD5A50AAA749088E8C7F0F78B2E32E59807600BC  
01BF7322E6A3C81127490704617B67EB84A5D802DCD74DD8A30F6DE89AF245276178C04147075  
FB682515B9CB2CDE9086AFE2A54B9165413357373FE1EFOEEE00D5AF1D795C394902C4E255697  
BF14E7B04C1EFC1312CCD0222BC924598DBB55462750EFD69F4EA5B3ED9D6B08993E58AE16798  
E1C008FA8DF3B65B81962E09BB2CAFFDDA229753A9D38E97FFD5554CE3B2D61DB9EAEC495553  
10AFD99CD87C936DE30E06337B8B2A302B786DEEF1C4C5703FB879711E4556032D6C6C0D9528D  
714290C910C601AD65D210C5B815E4C1A2B710EB8EEC49AA3F0F311B56D13D7C660106A7AACB  
A72F6F36780A4C806F7860393601A1742309EC34C86917FA7AE1BF4704B07046C7D77C0D78796  
D5C35D378D15175F23B9CE6D5432958D82701A678BCBE19C90334CC8A4E89199094A56A502118  
AAF9C070254E6A9D0CB2EB85C0D1955FB3D2C09A663F88B11DDE4DA7360C3730B8DAD5C27C70B  
A8ACC1266C9E499018D4E860E4A40A8B430F2D7165385D365D3086BF443D63953F269CC81CAD0  
E0A7C5A49C856B24C0A278840CA9ED5E4F7667B61E42CBD157C9905DE937D6BBF841F36A69332  
CD4BAD90BC2E5992D4BEA4732D4076B24B9437BAB310767734F9449577732A3DC3E81185487B5  
7D42AE400E5F551AD00E10A15ADA16C2634501CEA05BCB63ECD956081609485F2AB31E1F8CE02  
2BF8AD3861ADC7A032DF769A1DE3C86B775C3764A9554CEF675A7AFB72918DA2A4CBA8BCF94BD  
CA97819FCBD2B89D0F4A96051058852271C5EFBD62ADA7EDE920F9F333578D1AC6D49716CE28  
936FED5D9D8D5B92E30CDA5669EE098732591633983DE7BF41797C739A7E8F4D0FA30A60105D3  
2FF913ECCF3F3E4A82EE93CDA04D4E826C045ABF89CDF67CC0BF70D32CC08656C2D8FD2E23AE4  
0FC2BBFC6BF258F006C1597AC3143BB9637B1B7B0B0ABC513D7F96F13783F44C0112C0F2C35C0  
9A46D27AE47F0ECB22EBA5DA5C4FCBB0923E461EE0A524DF59E83A791FE7C9E114235ADF9F  
1718158388051571C82A77883DF35956A7F3BC550E8D06BB7F158A82A708C0382B54CE19D14  
794CB7CAFCC6F67FE61C3F6C1961E622246F5EB285667E32A940784042C7E8A3E3D661BA42CFC  
0CB2414B37F5B17CAB201C1A7F894F07CB02A9EA757342F76FD55DADD334E8BBA9C9AB962D1  
F46FB47EF3B1AEEFD33961E887692B6E8C209DB819D4DAD1721A061F4A5C1EE753B518CB5B56B  
C79BC426A6B82CF2C891A999566AC9B3B55D7694112E8DC14673ABF7A6D5DFC5DF1FFB3C1A44  
A181D6A087D4EEBOA821C250D0EA92D760A9ECD4FCE4B6501735D33B60F462FB971CEE90C706B  
6106A022F00FFF3ED9E48450790EC73469089792760D4D7C84A218E11A557E30D036B8AC2AEA3  
BAA021D0E559084E4DB29EAE90A27EB3FB266BDDC99B3A9918A02C7F7573C1638902DDDCAF7C7  
2A33AA9F7BB6BE755240314D1459F3069746B824EEFE49B2019298FD5241C75EC5E4A78893D7D  
2B9FF9CA8D0D23D25159277C240FDBFE93D90005E40B2B19A28662F81FE38A04481704213800  
3609639C347DC84127EB07966451DA55ECB8EC6AE03F23ECB42F02E19FA2CA20DDB145850D2DE  
8F0F8F4334CFD2968

---

#### E5bQ Code No 37

05671B4FD9D018B1D63A7BEEEB9A93AFE4053484D26C376C757B1DDF83B3CAE766368B02886DA4  
BF41DAD163D5610310233A45694AFDB4C7607F8F20FB2D4791F20E73206A8AE3DF636B3F0BC8F  
F71DF1A8508CF7E369F3949D58EE11E187B6898FD239C01BEDF4EFA0915CFE0B118849407D794  
B8EA35D01AB0003E755900BA5B1A1207705AC2083E861E6A9F7D9D9E688A3429120B95CE62698  
733522093BC64EA57CA48F05161C0FCB369B57F16C449D3F094C0351F8717FEE5A576454D302  
3DA435C8C553F4F786C505A16B9DABFF43DE50091F27D338C78AA5ACE5F219F0A9E0451DOC527  
4FCC435C5CFEDC6641D1CCFA50F2841832895FE01A95868661A8808AB763FE2F8781FB92EBF1E  
946FA7ACEEA032B8D5AA70933A05B361E275DA3C0F29440A456B2999B11450D519B0E3BCC5E6  
09F20F04CD1C65F35A98B69715A2599EACEAFF382FBD6E7F92D3E3BA84563551259A186915B9E  
DF350EBBD785245BE26ADC2556204827028FCC37304848C04BD24709492F5DB034BCBB7E56CE  
CODEA45AE9A4252D0510C1AC90F31B3B438D092C0444710467B631853766ACBE05BC40776A149  
F6FCFBBBA920F7EBA4318D0BE53CED07E33C4105AC204909FDED308608670A735FE5A6B6E8E44  
35A18A031D4EA332912C16AB7000E353ADB0A2659F09846A552B93D6DAC1A906DA744518305C2  
280B37691BA418FAA976F301D49E091B54581FD89072FE7E670048AA5654A98AC42714E55D53  
23CDF0417F51ED4560AF43C7B8C5047BEFA37685D0E8B928490121344AF91A907BD17932698CE  
B7BA24EC0B559E151E4EE696900384DFF1479B348CE1328292189DB333AA9D6A62A44250ADED  
AAE4C7FA208A6E2C53C6378BE29D294043A97AC937B68E13F0F093F543D3BB039107B4748366E  
C97ECA5DF116B706309C98E54F88411C7E13653FFB21429559DFD1A45A85189D11FC52A594C2D

B73864BDA9326170363DAE363A5BF7EE1E91E87C6E5F5246EA4E6833D9BF6A943082C3CC61306  
85E7DA91A3B401E0ADB307FDA70B37988E2928B07E5FC572440B6972B430C13053F57F2483CE7  
060076FF2847DAB897C247F64D00422867A78C29A17F1AD28D2E4EA5FA14596714FF3CC855EEA  
97E2FA33B46E0E34A38BE1222F03964F1EF6CDFFAF7A18F752894857FOCA43CF34C21C2E6913  
5F5FC960BDBB8AD3481209D9FFC08CBF3C2807CF6BEE56B4B91D3B1980BEC5F52D6C56B4FD36E  
BCB3AA02054B1BC1EDE9A3DC61E72F1D79874F0808FFA7A8F2FE1F183B77F4CEE38C9AACD2995  
EE6F3613326410DA4BB99F7B33B77EC19F65C0072C33A38EE623FDE3C9A5D2D4E7C539779A151  
C1D84B109EC2519EB625EC61D2ABBB54C3C9F7629287DD1B2FEADD16983FB9492D4A33226BE5  
5804A4C7277299CD3003CFE8F2E7FA946F749DFCCE465C7B2BD251DC4B0779D543CB6873B6DD  
03F82B09BE43D8F114E2E71F10DED5AEF9EB1C266C5A9B7F21CE1DE0FC6A86FB7057FA75FEB09  
8E041C95B2D1912849BDE26BAACCBFC105BDB8E6BCA0B8F0B88255AC0DB9854BFD8526E51656D  
E55E7968C4FBCBC1FC32D8BCE5B8F1B132F1B24FE049C2B3C18A8A7C13759F725AD2957D2E73  
ED0BE3B34B0B8A14F173380BBB9CEC925086B2734982FB234F3940E42A82FD196AA218C1D4889  
15144D8653B5EABFB18AD35223E35CA403A17E8FA0C1028CD0486727447280E2CF9046EB60607  
A6AF84C7ACCO3A7321AA3F3787423B24235A2191E0F13665A3DCF1F5C0E964B7FCBEBA511246A  
E50B9DC1EF7254C30

---

#### E5bQ Code No 38

8C6FE0D3BF7763C15CA86E3AC55695028D02B6C3411F6DB117FD982A5B7F97D0C1C05067DA46B  
E7FE39687CE4DCB4D15D89D3665A24932CDD7DB871481674DA85C2982F5C896E7F68345DFBC22  
CB465F43503EC3D7B5E0A4F17169D7D94D3A6B27911DC34DCCD3AA7B3CE2D8C9A05D75BFCFE4  
BE5CCA3DD71E7FD059FA910B71A2400039A7EF536FEC7E93D4C386E7ACF1C8876A27A2B14DD49  
A0C6CE150BFF180283B6C3CB228DA9AFCDE6A9C17FDC03FD7D5D28D8FAADBB2C49CDF63D2691  
09EB0A7DE261123FB15D6108939B231070F60E174D30169D2155DC779661C570B5092781AB64B  
122C14CAB4A511A493DAE03D2A8ACB069F1FFAOE83C03837E62C8923159E6140E237885BCC667  
5F906CBBEA9A5B5A7B6AAFCB7D03C503032673BCE6016096E0C1A2028D99D61FC40EFOAAA3ED0  
911506214B0BC37F6EFED7BFC05AFA6C3412FE72DB52F82DBB0698B9AB4E5219D072CF803D520  
58F478324C523D765E70A277959F94692227F3123B9DC1BEEDF124518C2362D35229ED62CB10E  
32CA78B19AB39B6B45D8E6B8AC9167157A715093645DB3B545484FE7BC8FD96CE19DBF8DE9F9F  
7B8F49EBF257472116CC6E453D417E0DBCDD11D2FF7ABA5851DE6CBF879B3F61DAFC00EC007F9  
BC702A557B200FD0D0F3FC5C86D824B2BF5692117CFAEC14A34EE434AD48B1711ED9664BF1C5D  
A02595FFEB35A1963D41365C713AE701AE26B0E544B19A7D6495A9D21502C43EE1E7A981F2EBB  
1CEBFBF6D282BBD30B545385F58797A0ADA4435940780881518EA6E2FE6B5DF96ECB4244D183D  
53E038B09FE6398EE7CB4D04FE340C370074190316EE51E109740EB87187EE128F6BD1B8B263D  
0DF31A95B2FB51CBC9CF34D75F7013297069EBF439E4E5F7E8DDAC4FE0D6E4B7BEF0DE04F6759  
908BDD0B787523648AE1046B27D06DD342474FE342EF6ECE8B156CDD8E72BCF8EDF8D4C9D1E8F  
84B282CFECB2BC08EA0F86EB84D460B4F2C82B3DC5603A76C46C6D09F213B62F8C97A150328A  
DAEE4565ACAB5CF0FF721DA5F86181BE382E860647E1ADAEOA020907DB64E3AAC65E916B098D7  
8524C9B9EB2F202234E984C44C8361553AB85ADF025B5DD735D175B7A9D202844AAB1990DB99F  
93D92675FB221E99E3F1F202CF72DA0D0E8D525850628E03FCFEF6C8C5DC04E935FF0DBFEEF1C  
33A75340E07AC5F4374195790B1E8E044971051F714988BE444407D944FCEB9E60E0C406E810  
4290F185B0D65B3F9C0F1F8C682DA4325FF0D9181049F2BB7F2235FA92673D6550FA1C222390  
F4286116F6BA9603F8BCBCEEA18BF472920079F0D2AD480A36D1951E9F1D25A9D9F33D3821C2F  
D73433CB6EF1509E358531E14DE20448FBB68DA0AF81C95CAE30E4B65A95B5542533072FBF071  
80CCC1E2783EF541CDB23C0B6AE07ABED0E4816A8FC50911B41B56A8C29A20C26BF5B00816452  
4DF90D50B4D5EE3308FC42CF99558EEF1FD32EE9FAF0F1D1CD0CB40876BAA24C70B8F74D7E4B3  
A963857DBC6373C3681767C87E8EED8BF91402D157619B7A22D1ADE73002210F19303781021ED  
BB8678DA736FCA5253174E271BF93F55C314A44B63F19475DA09C4F5A5577663660FE55C54DE0  
4DAA4291C9545554F8C59299560BB9FA3EFC8FCF2FDDC328526AD3C0F9E583BA70F5C39CDBD23  
F39E4B7D190CB07D74CFBC8263BF952EA8666F98110375FD8B44344BE1D1ACE3E64D7BC42ABA0  
97A8411E6BA288489141957BF304B23B9685500CBF0728F1E7BC2622F8DC693A8A6A188A57838  
050974098D951053C

---

#### E5bQ Code No 39

978D4E016D006EBBED30E25C1E0C5843FFD41A9B72D83E97C511FFF9C43E6EE09C7D3EFD6EF5E  
1A76184EDDAD3115D2C7679B2E02F01F6B1E96E2386BA2FE579879C428C3ABBE9D8C91C0C71DE  
099396744BFAB7AF2C21F4DE6148B34967F9D51327B23E207C07F47BED4B1532717944D203C29  
BADD646321834B49B9B20F8C5897B20C2F383202ED43A4842F76BEDD254B072FD093E9ADEEC14  
9E08892127E97F9CA9A3AD97C59B8446A880D6766C2FF2C1D596E4AF1ABB47E5F70E7F36539AFF  
10FF64A2A5AABF499DBCC1DA9733D3D374A17FB40218EDF9048930C69A033D3C4AA95F7B43E62  
72A138E501FE02F900DBB21F5BEA5219BAFC0B929D1757D33DBAAE6341A78651801931C18C36  
CA71F5BB2B0BE5F4F481D49AEF2047DF7CBBFA95052C9139CAD30E45B631F7C1263C8ACA26870  
AC1C965173ADE2775331146A8ACD3C28DF23D8AFB30292CEE290A63D9B3535DD0170218A4469F  
F12A2848235360CCF2F1CA7AC67091178EB993701A8AF41E5CDC5E1857D493C98E144188CCE36  
C19450B57FF60CF87E13EEB4F7BBEED3946421C7EC39666CCE0B4017ECA70B5659B39979DF346  
F91E8322EC121EA7A41095BA7234BC65C5E96F79A30104C74ADC4B626C6B88021C238174087B8  
6C1EEA1ADFFF81CCEF4E9D4205D20772524A2188F7DD8C4F509CE8DA71EE773237F39C2895A23  
78DC6433E8F5B4C9F54F7CFDE18C8C02FD1F6A66519A35E28016EE448178B437D32FFD3044FB5  
13B913B2172F1B20174D344EA0B2C0D6CCF0B71C286A530126083AA283BA66C5A18B37D3C6DAD  
86A2E95ABECF1CF0B31656F11EA5C97A29883C9DCB3C739353FCBCB2558518D282FE6D18BEFEA  
9F38576A912376A3D4108319A5F43C5A78DFC2C609F32FD639BBA98CFC4BE1BAB7E4CCFA0C75D  
4BDE947DB3DF9753B7FFDA58084C685DEB8EDD82F1503F43A0F8C25A232588A8DA22810307FED

26056AEFC2D6795D09870D3365EFD81974E19D6F1BC0033382D85175F218B35CD607410092F52  
AF3B635F8FEFD32A10CAD30A036ECB9C08456D9A5D676B15605364A539F3E3BD881D86512D0BE  
C541D2F679A65CB0392101681CF68A63DE7EEE31648F832DCDDFB74FF3848C2910997AA3E8ED  
3954C38DDCB2403DC3FE8E760D9903E4F0B9479CF2C5EA7B191E1B2C353E180FD35413F53340C  
89A96A44FABE322C73005A1FA423D2EB197089B83BADEB70DDE9FA1354B964C7236B4270DC315  
233400972AC792178FA4190CC132E9AE55FA4768FE302E0AF7220BEA4C82CD04ECC17A8675CCC  
ECBF2CB4EC6EED8377795B391DDC3FA3C59153B0C3D196369D7A29EC2EBBB911E75991C568726  
57C853A6CBD1DC429CC74571B00082245D617C2C323A86B73A735BCF2B3A9ADCBF76B9916680  
E1F35A59CCF6493F58FE9950059AC4A26B3B26282D8AA24A0DBE150DCC8A7A455DC82D76F8EA2  
793A160FAA04592B2D85D4095E1E62495DF2C19F21D61D2D743ADB2833B199C549D7827755499  
92915FB4DE07978E3A08E441FD938008033295CE4840AA95282B36C02C786F16F51D935108355  
D791EFC2AE55270355DA526CC1098FF41E179BDF5C72E5B5BCF38689732DF1AD18E90C737D2DA  
573C087268811047093805B01FD8082741E2A63B4C6F7B38644000FD1070A470D54663C5398B2  
AA7BD0735BEB0CAEDDD8B7320C771F06CFAAF8B69ACB189EF86D9AD344E9EA4BE14933BDE687D  
9B13E29894CB2720B28EFC50F9E12173F8072ECB4E99960A17776459ECBD324AF8BB76C9B8FAD  
F41C2C0398030FCF4

---

#### E5bQ Code No 40

5319BF9795D7FBB2BB137F880EE3295AC2E4582E7330721444D4CEF185D010FE362980CF49AC6  
8918AC66E8DC9DDEC857FA69DE0989E1C1BAA7FC525D07D84E07329FDA7A0FEF713E9EB32791  
39A286FFD12AEF399105192599C5DD57B18CD6EAE028CF605B2DD8C774954D7213A0109C34B23  
027720514B6F96E83E4A2798318AEE1B3C42296421572AD2678494110DDE0F02AE847BEAD08E  
A15D271CF8A6F21DBA4D586F9E2A6729684CD27462AC84C3A8B018DFFB46ACED0316A27B3EC71  
4933A131158746A09BCBAF89F41247460990CD87F4DF22776497306C64434F69462CEC23597FE  
9FE0B270D631F0BE33C6F11CCDBA3C45B1F71BB159ABE23F15F6C3E1ACFAB35B42A839A7ABC9C  
B05341B206CBDE37BA1EA7272BE207F46707139838687B69BDA476E44971F1E893804E04FC8E  
BED3F8B86294CF330A34066BF1AD3AE20173DEE10F94C8A11B8E6706DBDBC86376A400F1DC2C4  
E5B33043C643887FF010443444F6159D87C6EE703C505E55FA810BB9EE3C65381768A1A4B9AD2  
08A4896AD730990EA950381F6D93F53EB814ACC92CD92DF78663D43BB4F089EBA44BCB3052  
2237EBE9EC5869E8EFC22326B62BAB02D863A79760AFADF69BC66F1CBB164E7763FBFB2519F8D  
99D0E759BCA234E4599FEC0985D9A053D9D733CBBDEA4952C08A33E9180331F5570337122840  
22AB57598788C8CE922ED788C4AFE1D3BA0218EDC4CE5ACD412A6CB1A078CFD47538A3FF0BAF  
195B42E1A51369D061BF4C3FAEC1B38343D5D9C4ADBA22C906DE1D1C419868BE94F2DD34BC5AD  
40F14C288F2850264DF35ED3D9096EC88E9065C5E031541BC72C32FB151840E687B697745EAEF  
D00020567F7BB2A3CB18EC6B5DC4E247CBC5E93CE93795BB296D0A50F835CE840A0672A486C95  
DEFE9CC3DC1C2866986828B46107708BDF0795ABD57DC40CDD1C63CC66F9B0C58959160520DD  
6B345CBEF24D9796E10259206B932F7B42B8EBD890C9FFEE5F7E149606B2D6760D7C94F0772BD  
7C9A32785A420FF8B11854022E2D5082C6FA1ACDDCC173CF98A5E91DF8D82F0BBE27D9341F1AE  
32FABF650FD8002B0EB123ED813216D464E3FBB0355015FB86CC9C5695A8B4DEDD117CC6215FE  
72DB4C1D4445C5408E6D004B2A95F5222D1428931A556C3DFF7CC46BD0870ED8D8396703DA8D  
16637585425E0151523E3122E7C4ED986DE71D41EB795927C0E7503BCB36887E6925DFFE37C9A  
37CE314E76CF8902E63AE5C652D7BB7785D6B64474FF02D28535360CD1CA75596FBF3ED736F2A  
A7286950DADF5417A03509A53E883C21E1ADB5AE2BB44B2AAA8164976FA5C258BF0EBD5F2B067  
68ABAB6994AC24273DFACF41B6B8314AF2F7E07E6CAB02AB230B854016BCCAD1666E4A403641A  
8C1BCF818733B1E08BDBAAB18C165DF851BD18D03C4C0E61FC48DCBDD1E6B5AAA263FC5B7BEF  
D4A4F5CD5693F3C223B4963FFF2BAE559588ECAF1F42A10ED87A229BCED177C0B4DBC197A8213  
1008D351A580DA5001615421B12E1113D7CAB59C0D38349663D898ED7F6F2913CE4275C3C4BAB  
98678D7757FE1017159993891836AE3DB266F685FD9E726374407C2B86F4B2AD6C8E9DDD5FFA8  
58CB9A416605A45EA8A0F5F7794925A54B42C60BD043AB0C5F18247400414CB83401FAD574425  
F8D1A5D5D85B5D768915209F2762F2FAF53C4A1640899C0BF97D952B52ED5DB34D3F9CFC9BD54  
25071F6B564B913790600E6AB98C7C100F4C460FCAE4583944CADC1CA5B7D85D876C88AF10059  
8722CCD82A016DE1C

---

#### E5bQ Code No 41

5164996BE5360659B3E767D910E441BF5E28011571EFE8423A22BC7B7C959A9E532A3F025D09  
0778B2664222DDAC9889FA15C5FA0150C8030322B9DAF467B854D0FA7DEE36BC529E596C35D06  
7B84AB92D6B20FF2AF5FB08F2276D7F013A796783C2B7354B92E364EAD733771BF18AA545E135  
8D262918609D3000E1E523161BE3A1FA10B4C7F532C5F97F7D5B406A6DD8C5DCFE82355646D4  
CEA439DDC3E61CE0043A8C4EE5B2229821DD52CA33A20FF386A8FC37D32EE44D94E17279536DB  
0285FC64B43EAE566A52D369D867090A9A9D507D78B67D1A10AA5AD5C6C2F1BBE87A5C9208241  
DEE1C156FC9EECFA6D01F8C108D60D08036197015D0C96CBA8DDAA2DED0BC52A9A04B74B91235  
81825B96781CA3F1CFDE320823AFA3201A90A50FB65DD53DF6CD53D6442D6D0630E920D4EFFA6  
64AF6CF38674A177275685C4A81A1CD7A600E847F84308D76D94D05489ED157707732848896AB  
CA720CC13362880413B6536A8BB9E43D29E3FB4B1F97715285A68CA9090B5060E53E4C2CE4AA3  
C0845F4D69F2BB00D26541F58AE97532DBBB1DEF75814421128F41139713422EF3FD13E03D75  
AAA33B67A518F4B0DBC76BDCACFB562BE4D4598523EDF76B409833381BAFAC5259448B15B37  
F4C031FA60A64ACB67220EB7DB531CDA8BD7B82D4C3BF9C8CB9D2E0A7441C64A329A7EF5E2FA3  
21C67E5DE16D82DD36AC6098A7FA12D769117DFEC7D0B673C97F2D8147B7B9F710AFC887BB953  
C486E4A446E7C3B54B6437EA5E246D7E79C0CBB9F767FE31BF66D9E95A1D9527F05A84CA63B5  
9A09BAA537E97BEAFBC5648C8C3B7FC7F526BCF287D49DA8BE2E1AA2C9518B9D2E67CF6143579  
064B33715D11225FD754F48031DB337373D1035664FC26FF055E98288FAAF92C8623F8B0C29  
66387514B649F4EE8BD8550EC31E9F11415185413354EB92DE3775E8F81C6C3B11ECDEF5F46F

3C295214DAD2187A584817BDE578D78A0D1BF64D50484EB8C691D83F38E7FBEB0FB38638DBD91  
A4E82545BCDF4740EC9B2A467F6E6EE67F8E448EB7DAEA82EC60C0DFCD981729FDE9B8DA99473  
2ECD442874991E5047E974C11B7162C792DC7745C28F93A195143F5C4E2B2255AF0E070CD9D54  
B28BE0ADB8A1CA23F2C0996AF3B5DC54FC581F0D8DFADB3EEADA4F25E25C1E54E25E079F121C21  
32710F1D844F95404DC9DF30548BB942B409216E2203F7B723F37351D86A49B2EE870CFDDE826  
146271B7C532E9ECE3C7E985B22AD3DFAC4E7813CC8BDF3133AE30081A1364E4203D3BF3617B4  
A4639AEEF78C4351A50E5643AC44B3C51ECB9EF1B1073A6EAEBD7ACAF57DEC2781868F535CF0  
BE6318933659FD643D8EA8D0189AE66A0D8EC34E84E04331A8481367FAE12F1CC684949F48CA  
B82097A50E238008433AED289C5B948D7B1A42B8074913EB531DF7196C40B499034D15C81396B  
41A5E5C2AE85F775DB18E090BE56FCCE74C733933749C07CF695013FC804A1FFC06D4DDFFDD  
235B6EE9E0C9D0BA161E83DFD786EE54E424B8272D1E167F53F9043E2E3B5934600C0F063BA77  
17FF53ACB74149DC1211FF1AEDE82F261ABF6B1C58259416F3DB7DED56F11D1C148BF43F828DD  
D892805B080C3C68BC6316EB1C0F533B9ED6C81C48DF418FCE514DB7C58783B5F4C27AE0C3BD3  
1E069A22CE0A95AE1C49099C839C64575D897A6AE55691B71B406B7C6EFB460CDAE1126304B5A  
3D1BB438A9C2B7508A28DD58C42EE2A6B290E88FA5A8B0D77F270EBAB52B0CCEC8C0110D69F83  
14BBBFB31CD5FB50

---

#### E5bQ Code No 42

6E4292DC48E550CFD81C779B5DA6D2641C2F34C9E17F5D2D3B2DAC11035B1EC0F02898869DDFA  
E322AE3AD6917A37610C5187ABCD89B839308182E7FAB6AE980157993F5371787BDCCCF18D6D6  
DC9376FD44C330153556B3D39F9BED9920670745327918B0A10309F40E7668C590EFC0242B002  
D4D33E4EE9FEA4625B98BF9873BB8D352CE0ED298B0BD2CC251F097F722A283833ECA53921476  
FD2EDFAF8666C198D808A4935B3DB5C2CD84918B97AB5E1200A052D495B0B5BB5AACBA031757  
5D8C6390BB21F3463893C931870DBF2C2C9AFECB410815C65EA33AA0A996D3217DD1B2DD82671  
5DC57E103FF6166ECE2A3BF309552E755E7E41F7FE28D1CE1022913FBED9EC9C45092131F540  
85B987D03750B35C8FA42128C3DEEF620AEB3A881CC8FAB17F1B319BFEFDCCD3F65A0CA9E79A9  
0857F6D3DBB5EE50580519645CC41E6CD359EA97E2E4D6DD90CDEC944DAF3B1C461172BC1ADD5  
3451574686FFC8FA6250EF3A82736F120F946D5B07212441087AA64BA01B99CB5648CA33040A6  
DAC30848AD2C3DD96160626018D5FF81D6DEA41819C6FFC6C1DA8CEC6FC9C35FD109D571B800B  
BC4F43BC552BF5B05867B65C4582444A139BAE9BB825F9B0EA9AA1540B0DE16CE5BEE092C80A3  
2C0854DF3FEA26479A93FD5443549CF03447A4B80F1A951ECD3B5DBF726B91150D53787ACFD2C  
6FC75804EBFBB41F2AB2C5482E7149968F294F315BDADCCD25BD8469CD679D401040C5BF3B6E9  
E3E17D4C4855215E6ACEB2498A663F348569718E1CA6CC6981A595D5A81A7D169BB0B928B2735  
C4D1BB17807D7A7954E0F217427CCF89251D039D1A2195F6583F76F0AD31A4096DC5036AC56EA  
A6EA9253DF4EFD1FDEE25E12DC4C661B1D472D890010FA64ED067AA64B9DD14A36D1F8A5BF983  
80B273EFFCF0AE2C4E9D3ADE8342569BEA96945682969CE3853B26845DBF403A3831E3D2159C8  
0D2E97CD1DB0AA41E8A3BDF1913E5E95B8C487D00FBE502C82F10FE800D2F666796724E39E1C3  
44EACC8DDE3803D03E1BE070E04B7C1F4795D585EF7A015481A94DB61155BE940819A5471FEAE  
67859F5C255E42F2A2BC6F0AEB3E427ADA9C69BD2B0A441246E85777C76E6C9D5EC5C6D710348  
F1173C78DB689195D3B48518FB8055BB4D09C9340A4A1873304F1476B542D89B8D3220AB5E29  
839A26F12D898316470A96D271BF9AD0E42E77632351C92C1BE7666D39B6BA0B8D970C81FF3FA  
AA6E4630A9F463125BF6C71EF61F7B28AD51F3DC63F370A69101125C9A319D58596A6C8A48180  
77F49D2BA213EA67B60FAE83770EF2DCA7991A1891AAFE767BC1BBFE388E9A0017A34757209F4  
7DFC254BBCFA0C9DF4CD7E76FF3771F0A45A04323EB64D03F33E78FAE8A77B1B03CEBE908  
B3707162BD8C5DDDA3536B1E226637E34B50B1958AC784321F99B4C781F6F940FA3F7916531CA  
26D4C2EF4022B2158F6F05252C923506EE630C94244FFA7F1614C11F63AE39C1E78B8E9A1C52  
6A98536C5453D1F66C6ACF1E63C9B8E4629221FBAABF71E1043024106445FD7E0C1FB82C20B8  
47069C706A64ACE26624D38F2AAB85AC3D5C90320AB63375492541BEBE36786C34E7A199F97EF  
7C6BD4E7C0700239ED0DDDD008A9C423984E60B2800D09B9E9ED4999890136F322429BDF2F74  
16D39AC24705AC29A6507EDB8E62B7098DCEE4B8B3435A918B9D6F81E1187B712D0084E7F29D6  
1675BA62840ACABFA1CAF7E8D005CE998B9330508ECEF8A1372D670D177C6DE1DF236E41FD37B  
76D899EABF6CD00B0

---

#### E5bQ Code No 43

DC86A357A9D6AE4E3BF7D5910585996FF179F01F218A8BEA0CE0B798C277106D1AACCB428A26  
7C36282AB20692EFOC130313CEB5EFF80954EE294400687AFC89B72E20B413320314B09A47E9C  
6D8F985DC3B8B8DCDCD4A67B90D989852E4E8F073D0AE845F3A6F86534BA2172CAFBD9CFD65A  
2EC3FFA376EDE069E3B15B7799C8192BB720BA4720B88CF71E4C820D90DB020BBA968510D0C3  
1409B070420DB16E6BA0BB5D67EA3FC3F4D5F46F59599C11166AF0A52E35E9EE7EB3FED65FA5B  
624D2333F3CB13FEA3431207E7A9CD9E6B0BA8AAEDBF2B398D7E4A3AB7DBCC8BAACF5D7A44A79  
C2B2D1D2E2790D10C84A1BE37D4E9E66B749A270F1C78989B0E019C858AB22FA6994A05E3A08  
B602F54B2E5C17F76629B0B775E093110A1B3FDFEECB68191B36AB5B2A33BB733310E74E1EBA4  
160DA73A1B9125710AC3C127DF10A47DE23282AB25E28F2F4580B949D5FA060D1C15E45C073CF  
4550A0026A0CF5FBB40CB25EB723DB6887DE2404921662BC705ED718EA6490ACE13C42AF92A84  
12FB9843762C0B8F93E05015FC672CF1E28ADC21EB112357F7B8730ADE449135D0C27F9CC593  
AB4331C8411FD1E0139C5E5D73571617A171039677624E3C217DA037A17F85F4895134F182F15  
9616E183EEAAF92ECDB8A50CEBF966F83FDE95ED77F8B7E8F575B39413E1FC81B936F85FF4756  
3152ECE2CB030F27C6E4823E3304001807F86C7E034EF76DB7E56E1417D67A716E17411E1FAC  
556AF7104808185236262053DA7F79E761CB2EA91FD4ED0295B8EF18112BD02D02058E960C70E  
FFDCE0BEA96614F36C0B664BE8DFB6F72CF9143412224AEB6885808AD2BCA178456CDA74FC169  
117951DBACD567B3A7C928D6F2CFE85A1BF6107F110089BD46C92D9F9DB263E468E05619F34  
779A32F9C19593B9765FF01FDB2B6ADF4C12E61C867C5D43AF7CF5E35F3DE7A603AF94FE779C8

F56DEC5ADC365AAC7072E226971B8DFD3E7199302C4F29D96DE4FD1C5536BCF67D38136CB4F6D  
B7200A17ACD8F97A8DEEC6B2807464042EDDF6B2C52A9C709411CEACBECD980C93313D0AE88F1  
23AF3FC456B9F9E31077DAB6B371A49437AE46A28E596D449D36F8F0E999854DF6562C01FE5DD  
FF830439B1744963A64F3FA4F6B0936C8B64F15549FAC43682D60A6EFBDC56540E1A99359BAF0  
3F1B32DDC3AD66AB93E23AD8FF432C62BCB74E7077D629CE7B203D0DC73F1FCC4A5F40FA3D810  
C6F237D99193D3A4C8B6EFB0ED1A9EEE9A1F4888224037B467BD3E74ED7152BD568AB0FA9DA69  
7E07C4C1BD2A11FC12B3094DF1AB60644FEC4B5C6DD59BBC29B557896749107D0F4FE9532D15F  
310BC31F24E536075E2B5E83398A11D1601DB530D87B74A118011CF2E319A86CD9E91896625AE  
0912E583A72C41CC82B45BE96148DF02F48ADA4F82345E78DD20D0159A5666F10658D6A8AF2E7  
2F38936A2DE379503660B8C050D763046B068B730434E1429DA842D8F777D56854949D0B5DAAC  
F3B1CC6018371B2EB2F75B316809FAAED5FDE42F360B7FE1AF3397DB7CE28918912085C9177F0  
368C8DC563CAC0425F5BA0EDE0E64B15F5B5DADE1B1435AA1475EB955733920F2951C5A5F91E  
A72657EF19EB88FD3911DF4F2B4E6C586199761B0BAE0B24461E00FFCEF3494037ED568697D6  
14CD95EC8EFC264C5DB140E810609BFC85131AF1D89429228A1E2F0F7A17C8AE41903A5A891B  
1AB23859B083A6AFF4C9F66C31634F38515214180F41BEE63D11AF8F7937C4B4E5F02F99D5DB9  
D0B42483E7C3BFEAC

---

#### E5bQ Code No 44

8C46BE4E4DBD26FBF3C80BD9C9BF8BBF97FF93DE3C10CF04CA36180007A3DCA41AB460CE2A  
0604107B5442819D5159AAC554BB2EBF6807D877F0AC3FC0C63EDE4A3DD19205710F0A5A7B1D  
4071B3406868E7887A2CF58C5FD38B5D72C534CFD40B5D307C7BD5C626ABD6A07B52C7DE8418  
9446205689744A56327DA0F4F70010A30D6CB22014FFDDD3780F5BBE6872775285CA133E8FF15  
66C8526B66F0C6CE2D4A8D3A0183513A69B412AF28ED9D7AFA34F1FF5682B4387FD796BF783D  
6FC813CB34D2426304F67704624FEAA4CBEFFAF09D4E5A8A4E0E7ADABAB633503193A2A61DE0B  
F49786D8A29032B5632036AF6267E9A5D8712D0F64088C0F5F05EE6C226D6A17C6EBE74A1D841  
2FC4677FE2C37F50CB86C79CD5FB402B3195C4AB474F4F2C3F5407D42ADC4197D752ADE718A8  
8332A7EB0677407AC90983DF6BAC7F92D95CF0D0B5E1120316145F916E3AA920CCA27FD9A32AA  
DDBFEF0B89D9472F09DF98E961132BE9B2EA7BB77FFAD472097A25EB7D9B0682E954F24C7EC85  
0AA24C30B08FABA50048E6B66AFBE1C0D4A7CD07CE3A08AAD56715D9C2A5B5851236AE1A495F  
8E598EDC3F4CEE03AC2C3AFB9122CB8C114E09A9E7CF326DC58BD4AAEDD68E7BEFF06AAFAC5A  
46AEFE31F3C0B8CF3791B6244DA44F783BF83DF96F29BAC2FD07C15F7C845575F1984D375E52  
D3D560AD4EC430ACF108810665205FD7CBA911E95A686B49242E2B4C5BFC6307A00E158484010  
3CB1F8A22943E4782CCC4B0DB04AFF8CE6FAD12FB844E365EE59C6302889081CED8D7528FCF3  
A1223BA65544483562971826E7017A59D0B7E5171CDADF4F02FDB3B5C2E1E455A44FA8ADD4791  
BACDE5466F8BCBD584D09E00419FB4EFB0E01C8EC5C93D065F3DCA4DE1D1A50CBFCE4D7ACE056  
7FD39AABBFD35FCDCE209EE087B2FB6C474546B5EFE04C1ABF4049789DF1F2AC8DBC98497D  
87202AABC1287CDC247926ECE3F874DD219CE98D4CA01EBDE53EABD1B19062959DA6CA380E4D  
DCB7B7B0E1FE8168AA4F0CFFF761A3D989961933AF629DDA1F6CC20D27B6A181F615CF9C742  
B26234C1CF5E73664BE0E373380BFDC39894D85602E6EDD450BE5DB48E8C49A97D5796F046398  
E434D5CB5A29C25BCE7BBE8ECA805279570C229F7723CD41B9FA497645CF69BC102423153E2D3  
7410DF8B077BA65E45250D15E4CAED4EB21AA4F424849CB3B2D1756CC1766141CC8EB5D37BD68  
A0B207BDFE38705E16628B380DAD8109F85530435E2BFD30CCACF09EE506EA31C81291A01D52B  
1A1BCAE835681E8FE2465BE8003A5AA8065B1148776D4DD9A6145B97BEB8243DB4CD771DD3B2C  
A51558DF7389D2704280A78F8D5BAF6F8053D75151358EA46936A0F1F5F1F63B2D3996A81979  
8313DCD2C2C88F3E40B74D23C3396487A8DFF856B74230A81EDCC41FAED8C8FA8FE5DB1BC9243  
5D8AD4FB7B82D5E7089F6B1D204D7D4974AC5C6DEB932782145F3824DAAF24DFB4F29F0A5AEB7  
43A22557FB014C1EAB0FB3E0F9C1E9F91B86E6EE1D83152C0820F2CD7243522FB85CD0EC1CE  
4AFF8D35669D3E07B75DDE2344CEB07F29FB98E70A56BA7A70A2FBA7C9717592E7B971DE67ACA  
1D37668471D74FFB60F30A027E93F40D5B08CD65265AFD53F371FF7B22007441E1B10BE2A286  
A0B71DA6C7A3375383266C2AF05543C0C13686DB9515D43004236BF04A117FEF8B310082F6DA9  
C9CDF0AFB959A1D8193A48CD3ABF8D15DB1E981DFDC9CABFBC6168A8387486F1E14F9119C6B6C  
82E996694ACE70AD4

---

#### E5bQ Code No 45

DF0B035CF6B45E44E8326F7FB58EBA2CBCB8C319E312F7898048794B18C591AFE9BF56845A8B4  
AFB1A3A72C1D13680C786CED126F0806EB9ED73256ABED5A881665FB95A2B53D97AF512DBAE7  
9121E071F4C79761C1EB98BA53DA1CEF51BFABCDE43F223BC12ABB3E301B4A2C71247813A181  
888FDE9ADFCB7F30D0F5A88CCBB374734593C0DBFABE04182D64DC13C2CCC7AE5C49FCCBA350  
C889AC9920911658AE7EBE24096F831FD9F546A32EFE18E0FCB39AFBC7A0B20566CBBE4CC58A6  
FD224685800234693FFCEEB697EA88197468A826C95512DADCAE58DB45B4F3C6CE862C73F5CF1  
51A044471CE862A3A1C46B71252FE40E740FC4627C9803B6996F99DB2AC44B4A84041DB5D1510  
D14A00A3F9B53F1C8E54A7DFEC5DE283D1DA9837B2C4B117AE165BA63EBA2F201D84274C0F315  
8105F6583D440B0D05E28CE96821DF99863E00DA6624A8EDA61F7CD223FB9A260E3A03BA2F826  
3082442395F67616DCD8BA7BB294A0642CF1FA307F91BB8CD5A0C2159F513F99FBFF776C0A578  
27F91D5AD076E0144B7D4A109A01C6303A35536D61DC9E4B655F437E3DB7F94B26A7087EB21A  
B334F565624C1079EB1EB4741C5E0D8168327FC3AD3800DD8E2B93262DA4EEAD217F6E2409F72  
18B0AC2636655E104E4AC5B791245391596124E9532C9ED54155C0C9DAE8F79B28BE00229F3C4  
763BF9F8F075B728F8A123FBFA4F3A61B860367EC6D797F8546D6ECB449F638B84E42C67D5D11  
12AEDE51DD95A0EF3C575D8523586A19186B8E9CD40A3EA40684E60B1CEF69343875D6DA640B  
A068CF49C31661E01994373E80498FB1075ECDFCF4A7C8279B40C227192043BDF84071A36159E  
B51CADDFF2AB9229984F186B1D697E58D963532F2CAE870C8E80CB1A985DD277DFC086AB82D9AA  
266CFAB2784CF1A1B3AF69E09BDA9F0E493EF7B9038AF621C41C8F083CA6012BC74F02F92169C

D7F779F13279D0EF7840A9D2FB2D0254744325030C571BEEB83500733F04F88626B7E0DD91CAB  
ECC354438980770DDDA7B76E480A50EFADA5780CB2D88B4B5167754C464CAF45BAC5B2E33221  
837AF9777AC4F183E6B85314B6ADB066405B7F6881148D6F2A6368DDE833F8AD5983BFCDF219F  
D1E8455BEB80DAD449AD0A1C8DE947636C7A9A9049666C8470B1730FFA57330536C75B9BB13E0  
F6B081AB45B2860BC2464FA8A30EC40F27871C492EF5E1654BF66692B8D6F17407506675E8EA8  
318F09EF95DC687329D8283D5219AEFE922545502BB4AC45A43AC9D8CEA133F92E97136CEE97F  
30C773261933CC455F3F8F1FA45FA6AC803754625455E3BE824C5640337B06B06F258E687D775  
6654FC6226A1B2FAACB4CE6A92372BD41DC5F6DD0E3C11506629FDE1A730EC637253208EAF7E  
2DA5E56CAA14C13720C22277E1A3F12C46907215BF707B5C72EA4B6E4EA74C9AFFDE92C1CF5C  
8B7C77DF3C876D18338D38DB7BAE231D51F4D21ABBD09A4670ABF92E0EA885EDBAF58BCE7BECC  
DC258FC2D43C9D1788FD4123402C075AD5668E8618D20AB729D43400BA877A9820F5BCFB5B497  
482F9792B897C35E8B9D1A616AA5F11D730F0B50E5B48FC20FB2F82E6F1E57E725D96C95CBD  
8B277E3224C42274A01A312B738477BDD172DC577FE8823BF3C17162910557D4738D8151AFE3  
1940E3382C27E7A1EBDB3A9207287DF6C5793DOC747B13BDBB205BE0422B723782C59B73355D6  
B30FCDA9AD1E2002205D7BDB747F3AF27F0745A4B0454CEDE995AE60F7AF99CFD8CFE91B6D4FC  
9E7CD5482618760B0

---

#### E5bQ Code No 46

E9A5B2A753003C06D6D576D66B52988839CDC8A608EDC4DDFFEB0BC1E1801BCF8C8CBE9494E2E  
2512229A5E6EC547F4962B217D02F859477B54F660E217B5C89BB1975B6E67E0649592E05B4D1  
110C9DFA34ECD8772A515896DED72BEB9DA4A1AA2FCDC080875DC179E40A78ECB2538F258E9F9  
A5B9A6F4D9D77E9D6FOEDBE75440BC6FD03576A3AB2A323EC980999BA4129E95631AEED2451E9  
283971659E6562A45579B22A5CC67CDB4AC6CB8747672631B3E8C41590E085A312BCA3BA2CD96  
79C4E21FFD66F97A0F11A77A2E5885F6D42D6276B6DE10CB29CC5EB4DD8A7110F0F09702EF1  
2205CE35803375DBB421D167D65F508CBF3E1AFC6F5FA8D330143F8E45682AAB866E750AB68AD  
4793CF8767EB4DE37C9166D2FA419F0FD3EA0B9F5549F657E591921AC38FBE05D9A2E2EE2BF5F  
D7520C1D8389AD34C7ABED6C8182D2801E7435A44ED80ED3A64DC1E9C66F105350FAC87C36505  
E7211B873659D7E2817ADC8E74DFCF62B3508A0F1BAB6F0F16549033CE1D85CAF8731406F959  
6271860E6986DC917C4796D57590560233F05C75FED71034783A3C319377372B2DF2D27DB6551  
23B30A8F6DF9B329CB8AA2A9F06CA13E10E1C9DCC9FA9725DA1E47F0917085A1F6710DDB04B38  
0CD6354D980A3C64265F5C2C3A1CC3E6A3DCD95F62D4DA6CCD48F83500F74A0275469DC0D921B  
648F74B7F612552350049FDF94141F6C49375F17FD512AA0982B5DA6E9F9C332EFB2007E36788  
2439BD6F416FAF26BEBAB6F1F6FDF0E7DC7B2DCC70FCEE25CBF3C22FEDA4B0B0A272F049379AF  
F4002293232A98F69E83121269AF71D06DBA5671169DF46B7BE8D5AF09920BA89998A10C30A8E  
101AFBA9C84D0B5C73AA622D996E030FD6E21D8984723C38CC43F23D1F242176B3E6C2797A77A  
99B15373AC0127DCF67ACBB87EC231912E1D6DAF08B93934CEABA17BB7B0F599681177C4C870B  
27E5604026D15C0DC1DC38B2CC733558F744AA0E981A0F8C8E569716B7C99040D0F317A05B70  
CDEDB32601E360CFBA5078B133C4B1BEBC4C405A66A425355EBBF93B5E53D97603B100FB3B84B  
D5D5404953C8D14AC969E3CE880898ACB097FF0849CBDA28DFDEC014F9F2969297472B3C64E12  
A8B8D039D25D9BDAEBC99C89C2177DE8B2A28C1A76E89A975099AAB1B41170AE54352F990B7  
EC7C305F64315D35E4CE58D8F0C71BDBC0AF217EAE5B3C330B42603B4F544E224860576563705  
3406623DBB03D7FBFF39C55A022632873D314722897F65D841BECFF55BE5D08E242FB928DCFD1  
FD1D6B599BB28AD48AFE2805E9CA6DC8D230D76F920E7EC31A9E7899A328CF51ADBC640A81  
9E8CEDE8CD359E94B4FDB0EA6963525576BC78BFBF24CFOAD8D2109F9F62EEB0B97CFECDF7947C  
F23B750BDCF1F705398B75A4FA80CE403A6894145F7AD4B875CF1B7EBFDFF5603310A8A689220  
74586DE38824BE987A1B7A7E61EA41AF880F0786D00E3C87C181C8494033EDD108FA97A72C10  
DF99BB20D7D214CE6E87428FF896CF30740E7B968C40B59D4759CEFOF265DC0CDEE77395B2584  
DAFBDB202E9B7D4E88BF1B7846AC11AD416A9F4C109A73BCE420C8D56C78A7D3BC3140749E2EC  
85AC4E1C3C202A0F2249038540F8451677B396A0A2A493BD30530E81E7129229A3F1E8CCC556F  
701F8E4C114D5E036A65E83C5198CCA79E8D2D1B4619B94C7F65B790DFF724F4961EB21BFE5D2  
147B39148677EC43D12B0A03D8F1D6C8959458B51202A19A35F2F99D700A88D7ED3A27162E2C9  
452E5E25310CCE0B8

---

#### E5bQ Code No 47

B0E553DEDACE943FC243EAEA373E685435F5CBFD771B220AC01CF6EDD6C094E0D1C86A6A024F4  
AE412550039E1E89D749CE52BC6343A03A93BD0F96EC0FA963C84E1E7D097DA8B7A7E42C5FBA  
CCC675FCC0225694948C72F7D71A62DF676D3B8DB0175319F439DAB5D65E84EFF62416B1A1F6D  
35078DBBEF2CB046F3903FE7B30BA88AE983585380E146132F61F09E327123A94495B81917E9D  
E29484E9A2452FE9429549517175E292767A2E78A2ECA42B9FD03F0D9481A2F2DDA62D3ABBD6F  
4E5B44ADD9DE7DA244553FEE82F7717410D99A54EFFC1D1B186FD66D8449E08D4109BCE024A6  
85797CA4CE98ADC2CCE2EB207919EFC5F8615914D41B6538BC82E1837A2ACAD54E1BDC0D31627  
0359E6102D8B4CEBB91DDE907150A9A6A00A72953B3C4FDC3AB2B7ED005A034E7B5FE10072A4  
D79C1994947A5E2098E043FBA08D2D54011F73040FF023687E28989737C87C6D997FE78C9E3BF  
7DF6810A57C3362FE9B741A5C12FDB5EF8E4E7CB805C384025B0DC3B667EA69807B83377AFE  
7DEAC5F9DAAD6382C00F556B50F94C9C3F9862AF9C687CA48C762A71D9E5F95AFFA8CC2ED97  
4E06A65B7AD4D9EC48B6D79B9D4267432915D64FCC2141CC7155720D1951A300BF9CACD89E5DC  
8853B8055C7602D182CD676492CD185363A52B726CFA90351E8504F7D53E7D19B132E55918719  
958D62FE4BE6E3945EEA1FEDE18B3818CDF0C9C13E6E39807D890A268579DC47286999E7EE60  
56AAE24F800652F3A6904B508946A36474E08136FB57AA9401C29F1123E3849CB4156E6322F4A  
3A71404DB57F7338393E313D898B42B244EB4FB465A4D6AB1554BBB61DFCD4EF5235D720D1083  
305074A5F8087C464758ED9BDB33CDC4C624320D4B883B762CBDB5D92080E3E8F5997AAD2CB  
54421591DC4A24778CDBDF6CD39D43ED7C052C3D571A5880B3E1F0EE5629F558F9AFD94B230BE

3EC7586DE128849F5FEEE7A83ED21F9C8DCEC8BD07A2875EC0B3C94C62ECE93CAB2E3947CA74D  
9944CF424F5072A26CD57E1F065DD256FF4BF6262BB40BD5F92846929003A31902ECBA57BAECB  
00EBB01EB901374CEB789094831A4F082D288019E40800E67FA1F8E7A7DA9277D2D0B807AFE92  
6D0A78A5BCBCCCCF63AD49212762782EDB02FAFB1F40AF5D43C4028207ED86EEB0DB39D45F08  
188B6C79E3A21ADF5109E331017739A61E102A089236C42A8BC221EB2194018697EE4B5ADE114  
DC36C001D5D21CC2678BB35FBD1B1249D0FB2B46BEDCA7E77F8B12DA2141C8DE43AE6E0D2B7B  
E4160DE9AE81177CBAC44D1FBA1FE14A19597EDE5D5A5ACF750A7E8DB72764958BA28DA59CFD  
2BDDB89FAB20D1D0E27C95526E1B3B9171616B0C73D0C853A9A7804ADD3049190598099A45C3  
AC32695F0E6E355CD4565783DF2845609828BB785FA38F727506CCE74920A43EB37C0BB5695C  
9BF02F14B8AFDC0B591A06DCEB08C446C9492028BD91A2E793B8185FC14A4816BA3B9E476C1F3  
ED607B783D4E8DE875BCB7972A2815D80EDB08D38F3D10C1EA38AC52458DFC22BA2226763AD39  
54E8698831D54F8DAE8D78D2428F3AE407A6C42EB4BD87DBD3D10A0B95E9DF0F8BE9A9B26E06  
7A1CBABE1F2694B6E3E16FEEF64D53CC599AE6A1D640A2CE921B67C18209DDBB2A8D74C10DD35  
B518D0FF7F01354D8C08A5D3FE18204BABE389BF2BA391AFD134C53A5212DCD30640163BF1215  
5855848A1994AD1F9B017C4456AFD816DA9A797B7C68107E9829E9277E338CCD29CDFF526FE3F  
2FDD8BEBC40CD6C1C

---

#### E5bQ Code No 48

07DBAC0D07BE0E218F5C403D29D1CF92F57C3C878B36FAFB77FC90EFD7C7D55BD0F6F9143A3FB  
411962F0C116EEB29065283075BB555CCE1086B8BF5D9F632976D6C764F21E4F7097E04290848  
CF54DD98EDB896405AFAD2329DF1852647BCDE28A8B5155462CF6D85266B9A457370007223AA  
335E790EA2796DDEA6AD2EBDB79D48970824484CF4AF8920FF7C955BE43276A2033D3CBD82108  
D5D2799186347CA33D9C2EE605FD7E04D456ACF1A2511428FABF170EB3DFE9DFFEA5AA25A26768  
39B6B71378D5A16069DF73628705F9004958EA93C8BD5E595D6B69D3045A8DD864D29241D2969  
C2CEF06F2999CE68BE86734C96CD8C8F030AF8FF81D671354A179336FFA0400AAE9B659E2435F  
E17B10286365678A33704A2414D08C9D07AF9BCE755E4057893C771AA76477607F5D73023841F  
39AFB26A57A8D6AC821AA4FD013C838E95441BBCA3026BBEEFD561E166D7DF9F441ADA96C4BC  
0FD7EA1E4AB9FB97CF364F83E925430BEC3DFE327112CD8EA8863E657EACD4910FE726720D3F6  
7E35D8C9605B19FD4D0A2443F92052A54704E15E971B51C50E4BE49D1D9B0DC1BEEFC3DF1B86  
5E757FF0B583E23848D5FE49245A94E5426AA4CBDD42979FA806FE21B54425937BD6C49FBAFD8  
6292182F1BA565D3006AFB5F0CBA34316AAA45D586885A105C89E2284E1F4487BA8E08F673A  
64F49711E14C9A6CA1A431FA812F3CAB663030307A41CD97AD73AFF004719E35F3300D1C4D94A  
0637C65A3885485C3EB6D3CBA1DEEE931114C39CF2D094EFB0D9B3AA78260062DAFBBD41D30EF  
695816966BD0F416CED7E1951A61945C2DBBA6F7E1B277669A33E40DB63C07E33F49AC660D68A  
6E35C5142AF355D6CF23302D1288F2EA8BBFFA1C0946D9F9391695D752A0E10883D010E93C19F  
D3A2F7F11B114489057E18AB1BD1382FC2A3E5FA49989DEFBB888C4ECDCC84506A5CCADA0964FF  
8D804A9B5D04ACE81F2102A7DE0E6F85335E5788990374C1790982861E04836580A0BE12DE3B1  
E62105103BBC05FDAB5F0307EAF3D65B75FF39584EFDF97C95C050EA0646C48F6ED5B1C949A21  
45295C054B23BD55185D5B36710117D4E7432630AA19AAE7BEB3E694A8AEA0995CCB45A11249A  
9ED0326705D81ED456A5656E75D9997EDF60B16AA9A2D6E96067D0D3F291C3B8B25E5C53B828  
639089152ACD3DE1C3F177BED52DB5A1F9B89162F2026626DF62F45D9CE2D085E77616BD198  
7CBE3FBEA54786B8C15D7C2E5C65599C47C33E7A0BD5098799C8C3B3A0B56D3F5ECC69C0B490  
E3662201CC9E1097FEED0817891C3DB24E882335D5F3FB647ABADBF8F250CA06591FD10D4F665  
91EF9145541447B49D5B6E6334E7EE0FB414AEC813C57C34D71B8FC70E3F2DA7B3DD964F526D  
662A6AFC32E3444A6D51AC4AC6AF073A94F877007C10C7E4B8039CDC6CDC1C2BF12A6CA9121D  
14B6681E84675E6512B353E638491C6E256346E36B0428116DA5530691276954F0BB164090143  
C8DFBE1B88348602E163BDE9D3C95583054A7FAA921D266F5BC309E627CFC2C5A38BF8AA18771  
03B8D2768E267ACA5CD148FD49F1F29F5733ED4E0DD152DE3C0062D36F71651EBF72F5F6D6BFC  
B44486FD7B93A42FB3C29221A807E136A36DA79D87622F3FF90A7EACD1F3601EAA1F9CC3AD79  
74A876E067E21F7E38FE09738E4E4ACFFF03F465BDBF99A95AC32653BF6328752B89C07A09B  
1E912E6B51898AEB2E6C39EDD54AF6EEB77D68948ED1FOCE45D557D30ACF77CA25C3AAFB90276  
1CE559AD5D9F3BD50

---

#### E5bQ Code No 49

4778E4E7E70695F1546A20995B638803A31D9030B5C9292607668EA2C86D02453F513FD4B3C8C  
EEDBBF7FDA68E8D2B0755C2BC5A8BC6B2D978957E71A3FA1A186ED8048147C86A8811CB613BF3  
BDCFC49449137FCDCB65640CE18285D642EB2C2B3C233578DCEC221624C67CEBCD0F927F3DF0  
62B7B92A69583F187EEEAD690D8C79FC60188F4AAD5D5C6DAAA10D0ED9232CA695DD215C25009  
22969562BB35AAFF60F81BB6B187F64E9D0939C6E4AC6C0C8BEC5D71BAB85EAB62C634F80AF40  
A9BD6C134E8353E05BAA97D0547A31F64082EDE4254EE0F856B7ABFE8E1601DD965AE61853E65  
B0BAE45B0DC9859356874599C4903E65AE0737B8365ABAD24B7439449B382CE53AF82F654F941  
5427C168BC0C30A16B28E289EED8870436FAE32C57A8781967171690CAF0C305FF7848A59DA8A  
8D499292EC903AFAC56CB98848B20B5FB6B2A052999BD8783C65DA04EC8A7B5845EF773D37237  
858BEA4373B5A77F5D2C1F9AAFF6A7A9B31AFD405079D993D24B8754D3974D2438599871BE8FB  
259CF1D20ED12116D9568EE0805E5B4150ADE95D4806617FF8319B1018EA256867F1FAA7CAC15  
9DFD0C6B2F2F9B133E11D0CAA1B92547F9CB5DBAE9B3C50FF3D2A21D66DF72A632562F4C58F0  
2384254A26305D11CAABA33630FE92B511E0ABA1F426A21DC33B8608FD224DAF096EC08F979  
1F63569711A102BDFE7337DF5247BA1E78D013C103B422825F87FA144EE19A6AC4BF27F6A2A80  
COADB4BAC2FFBA91874B3F4B9C587DB3223E9CC6FF4815733C31C325E8E9B4A42B64A24274C5  
C9C06571D0C146DD7B6BB9DAFC8F796E02A403A4C8E4ACB835B4CAF5FECAF70D59F420F5D81E  
5674AF08F205202D759F3D1DD45F355EE679F3426CF7682BC23F055F297D57C138EF3EA4A7D1E  
C78E19D5FEAC9061A9749657AD6360B6FBB0B17DA96BBE3CE83A65790F82CEE9B76F1E30863

FC6972FCEDB23FA8378F19A23BC858CB880A163BDE11827D5521F5C6D1E18C855CD0A7AC4EA42  
 BFCB1A29C027A1410C9185A2784B3E2E24BBC527B37AB0879B70F2D8C3BDC63C0D1BC43FD6D6  
 A37DC32FDD3C3291390D4F17C2876D0877CC7568F5B1159C39FF678D65026B4793996B79EF8  
 0A3128C719C93F33665226409D3826A4B4BAB99973E8145004B5CB736198E05C249B19F7EB1C4  
 3215E4D4E1E96AD1A1DA6B3EBB505E3FF61E98EA79176EAF281663B96B68A83CA0058A79548B1  
 E3B273DA6F965289369DF21B3D45CA48624CBF472842EFE8EC06F69DECC427328BA713E88C51A  
 F2D32BAFAC785346976CFCB268015FB58317C832A5DC130665BD30BDB31C0C74E4DC77E252D28  
 12EDF4A9DCCAE0759FC945A7C4FDB1978A2BD256B1158D3C79E7DC835718C38087E842EED5073  
 6904A3053CAE27C10784A32E781942A541EFD9CA641364D839728A656B27D532766836A5C2D1A  
 968D5C97E8770B661337B280B9E8C6AF012BC76C2D4322DA5273D4D38725387B1633EACBA72F  
 75B6E6B4E7D552B774656FFDF7615D037A8ACF8F2DD845DA21C8E372F8C5BC3C42CBA3A189006  
 926AD11C6539C0911AF56B13386B6F729519A5195D6AAC61CF35252956EE15736673C4E19F3EC  
 7A2D2E5743AAED65D65ED6ACFEFCB8E5B53320B7804A6187703E53E21059FAED278C26FF96EB4  
 F44B1EE2B03AA37C8C0F67C822A62C7C2C8F4F35D51BA0814A70F092A513C358C9EF6E946683F  
 AA70CC88360F6A8AEE76E212627C4F110FCFE6D24A7B118658F2A366678ADE49C0ED529677368  
 E3CEC7A65040F03A4

---

#### E5bQ Code No 50

37AF4FFE6FC0F844F8BE37B431A60B3FD62FFD1E73B410D218F58B791E84A90E0AACB7F595698  
 7001AF46748C6C573D3D9857FB1D18F916DF21863CAFFF853ABE3AE024DAF4B5443C97F24A4F  
 FA884D085C118ECFDD2C66A0DA98903C7CCA662790CEF0908F67CCA1EDFEE31D71D47889AD299  
 B1FE272EE0B04D8B21CE6C00F05961D69DB9F01FEDEF4F6065B86A59D92E697C8E3EF1B112C8  
 44EF77C3EDD0648E02268DE35A4951F3BE26D9E2D7CE455D92292E48987830170CDF2096D5B3C  
 136A0EDD548E73AAD4A6A79523600504CF34AFB9EB85F03E793364048999AF55BF3A6B347C530  
 018F546678784860106535D2C73B44C4BAD39AE74426E8CA0AE666E7FA8C51AF6B6DCEFC4F558  
 4FC0D29960BB9298353052570364A1936E9E0118D7D6C0BA3E50AF8B3ED56CB535F454135ED900  
 EF59114E10AD6E53B908F73B5ADFDDAB01C95CBFA739B7F8A199714C26ADCCBFA46B96D4D4C7  
 9050408B65357241AD7BF55349F085B8C040F65287DD442CAD5A2A970959ED5B00AAC659BA6AF  
 7CE5C26EBE51E4A471CAE001D74B13C71DF072E978F9647D75123092FA856604BE736B6D03DF1  
 C8656746E0906FE462375759EDF12793C475446B8CE6E2EFF44B164C2E7477AA22F50C348A2BD  
 DB65E6B1F021B5216897ADE7FBC70A0767E5149234E84FD7AF5FB9F22074129C8E4E15F935F45  
 1E36AA17F50B1BB698C302ECCFEF8B4CC229ED8937CD4BC5F8876938CBA810BCAB0751EE66DA  
 1AA2857B54534EFA4D03D5E1F681D15A179BEEB40630868A2070D0C659E7EA3FD26308F5CD6D7  
 5B97803C017E18D4673F6B453ED694B32083260C43C40E81AD8CA230426AFB9020D8942A2A23  
 D4022ED50979CF8537680D96B6CC165F9ADBE540CAB59E2126FD5CE6852B8613C346BEDD11A4  
 6CCD6A04134FA298692C7CCB34457B8D0EA863C37383C4E990AD3918DC532FAF8B15D8F610A85  
 B03C2CC4650FB1BB8C05C1C0A0AD75D2F80358D2376BD4AECDA2172A3250D59884A5728A74876  
 F736B4D24CCD5EF1F833A6A4C6F2FF8648D073823DED852109B67BC9BD487E2BA991D958B2FFE  
 34B403F355B7F935CF8A63037C8C6100459863F58419847B389D92DDA586AC3A3539148E81C81  
 0FDB6ACTEE0E731DDBCCB9A3DC646C8EC2FD37C77D365B5E257BA519D07C4D87342117CEE068  
 7D686090FD1F002274149E3EA39A2A91B022710A6CBCFBAT0E3F74F3F8BA317A5642E8846110  
 FF20F2E0DFFE5818C24432BB94A2C4AFF87A7C72BA3E206B300ED5E5AA7624DD7BF84A52E4B7  
 B56B2353F2052883EBD1E9CB7AA55EA24EF402881E13381C0C76B35719D3D8EFED5C8B823F77A  
 1A203E3DFB83E51BBF0EE41CD5B975DAC38AF8FCC0527BE182842F11D3ED5676897D756EB3F  
 E2C34A51F6FB9136AC65698326D6881BB5A6250302934393CD906B2F03BD8865CF5B9DCF7  
 8DFCDEC0711B6712ADFD6A2A71FAB1D6FE40CFF4BB1267D169FAEDBCF21F1379B58C7673109  
 3BF233951FEDCA86A2BD505F9E10ACF169943F20846A341D85297DB02288BC9EFAA7B43691DD5  
 3CBFC170B4FD7D3E11FF76C30B922C8AA205A376F94D61066749C2C7387CE7EC5C6952AB7C9F1  
 2F7C11489AD879F8ED43015D1C63FEDF9EB223D52D79BE1E2242F9B92A5C64C8B6D5C36498A9A  
 8F862473C081A58004ADE1B4EBD4C4C0AA5978074FF22AD2CE1A70E2E1945F9B14E3D537E07C9  
 30864EB4C09DDA24B74264FA45903008E42059DEFE5CA0C04D45A44B716EE0BE551C47CE7D231  
 82370FB896B9AB080

## C.7. Primary Codes for the E1-B Component

---

#### E1B Code No 1

F5D710130573541B9DBD4FD9E9B20A0D59D144C54BC7935539D2E75810FB51E494093A0A19DD7  
 9C70C5A98E5657AA578097777E86BCC4651CC72F2F974DC766E07AEA3D0B557EF42FF57E6A58E  
 805358CE9257669133B18F80FDBDFB38C5524C7FB1DE079842482990DF58F72321D9201F8979E  
 AB159B2679C9E95AA6D53456C0DF75C2B4316D1E2309216882854253A1FA60CA2C94ECE013E2A  
 8C943341E7D9E5A8464B3AD407E0AE465C3E3D1BE60A8C3D50F831536401E776BE02A6042FC4  
 A27AF653F0CFC4D4D013F115310788D68CAEAD3ECCCC5330587EB3C22A1459FC8E6FCCE9CDE84  
 9A5205E70C6D66D125814D698DD0EEBFEAE52CC65C5C84EEDF207379000E169D318426516AC5D  
 1C31F2E18A65E07AE6E33FDD724B13098B3A44688389EFBBB5EEAB588742BB083B679D42FB26  
 FF77919EAB21DE0389D9997498F967AE05AF04C7E177416E18C4D5E6987ED3590690AD127D87  
 2F14A8F4903A12329732A9768F82F295BEE391879293E3A97D51435A7F03ED7FBE275F102A832  
 02DC3DE94AF4C712E9D006D182693E9632933E6B773880CF147B922E74539E4582F79E39723B  
 4C80E42EDC4C08A8D02221BAE6D17734817D5B531C0D3C1A723911F3FFF6AAC02E97FEA69E3  
 76AF4761E6451CA61FDB2F9187642EFC63A09AAB680770C1593EEDD4FF4293BFFD6DD2C3367E  
 85B14A654C834B6699421A

---

**E1B Code No 2**

96B856A629F581D1344FEF597835FE60434625D077ECF0D95FBE1155EA0431979E5AFF544AF59  
1A332FDAEF98AB1EDD847A73F3AF15AAEE7E9A05C9D82C59EC325EF4CF264B8ADF2A8E8BA4593  
54CB4B415CC50BF239ADBC31B3A9C87B0843CF3B9E6D646BA43F866276B053826F3A2334CC5E2  
EFB9F8F195B382E75EEA63F58A06B3F82A3B5C77C1800FD9498F803E524435B321210BB84690B  
ED0BBBE16D363B3A90656A73720E27008852FB7DACC8284411B177728D9527C560859084A395A  
6F11A96AD9DB6B43E00642B000ED12BFD967868EAB1108552CD4FC89FBC408ACE7678C381EC91  
DD000319124EB5D5EF52C4CAC9AADEE2FA045C16CE492D7F43743CA77924C78696FCBF2F9F7F3  
6D8E623752200C6FCBBD71ABB6877F3C5D6E6740AB0389458A6B66440858B2D383244E853646  
FE2714211DEA9E6196252815BB704A20BFE556AC474F8998944E0CABBBE21A6400B87BFDCF937  
D12B2821D59298AF4AD378F0F42BD8C41693B8D993C37C8B478F3BB5D33AD2A9FA24AD7B8F8  
95FDBC04964192F7BA3FF74E0E3A435B5DFE042E3115CACF29624C0645E9C917534A2EBC1F566  
5E4E1B1BC56208DCD8A27CCB6474D5D0E20CA4072C960E5ACE41BDA3770DF3B681F2B318F6F8  
E1CB17C2857350FB6009AED665E13B2780D79217F73FAC7A8A48048DB0FB8A8A5007CDDC9A7B2  
DA8257C99F1CB605A18204

---

**E1B Code No 3**

E57DE19A3E4A8C122FCB1DD6584B3D2DAE364D800F9C5A9E957B38F624CBD3ACC58FA3ED070B5  
E44857CCB813FBC0BB83B5D157C6C562422E5963C34DD753C45B0264F8E136A0F1774D77A543E  
44D51EF8C6B9408B6E3B5CEE1347A94F13ECDC94DC764976E5A50B4CBOAE7557553B47EDF0E3E  
C2CD32EA8D125A341E1EDFC77E75330D6E7B23DC838EBCE7E5567F5B8C80C3D15E7404B4E10F0  
BEB0C69626A814AF91334199864FC77E0FF548DC2A6FA6A71C3C0561F2B085CC05E8512E27B9D  
BA60B93D114B87935776C8E9A67905C429D48BF3AB1B0A56FABFD5D9C8D8C8A9E5918BFF273C  
F5E8664FF2B90314BDBFDAD5AB8C22A0E45C104ECE75EA43F9BDCE306A5A28AE464628163D24  
9D8056005F1A900951808CC8620F81768153436F741667A8E271DD986C7A1E5046FCC74C7CEBB  
F9A1296D6CFOB2FF85BE41D87214BB368DFF462AD649D7324A117252311C664D33E4DAFB830  
FBCEB6EFBD7391D4BADA7A775FD1949D981F619655DB3C22BAC34E5AE41222905C0C7E80D6EA  
28471EC0468756531C09A471EDBE200472E78F1701FEE96E5769A9893C0F11E7906B064442E06  
E21ED8B0D70AF288690C532A2D03B373E1E0085F62F7AAA658B569C5184E3DDC40ECAA88B8871  
18601691892F9F55E2DE79E49DFF11D434C2BA3AA6447522A7C99DC215CAD2ED0114ED62CBDAE  
9D315E48AE14D2014B7F8E

---

**E1B Code No 4**

C0FC4C72A12023BA7093C86775DF3D2F42C7CEDE616876340BE4301361B9DC9DFF4F1DEC6A62E  
165927BDE4F809E969AAD085437496BB95904719820F4CA8ABA0B84C34B06DD7E268BA10E386  
FA7DB9FCFCDAF2B6AFBA46A8A299153B4E11582FBA7F28F0A0F9DE41830AB3335062C57D81DC  
361EDFE491939100FC827F36273760043D1C35B74E36C6C4DBE1D307847D55AC07D8B212C2DBA  
632A86AB15BD0FAFFA43070644C7E50623195A3796AA8E8D6E4E964FA0E4488A500B9063FBBFB  
1204A0E33C6CF2879AC2BA7C86CAB57E3E8A497836194E65C5C39B950F1AFC3B58E850A5EC39F  
4190D55351D16529CD52B36DF4A2DC68EE202BB758CF19C54B0E1461D547B5D06C2F9DC09C2B1  
5458C3140860E4C6F3FE4F417FDFCEDE00F71212EE137E6669E569A7845470CA564F85CB47728  
08D65D2B48D409B709BD7AC5F7E28AA804CE9DAC3ABB5A5B768C6A184B5A974E933F2C1772FF6  
4AB26BA2D5A165744E314EFB2238AC4858A8B2723DAE8865478EAA261F35DD4D98A9C07ACB0B  
822AFF1AD3E739CB214CE737196FEF2DD0B0D45BAC423935670BCF71C2EC04CCB98943786173C  
309E75A02BB78A788A5E6F8A8F407E57B8403841A9E1FCB3A7AB80D1F6529770E52C173E2C47E  
DED4400D5E665E325ED845C9E8D0E66FDA16B17D61EDBB336F22688C3F0FB040A55F33B65FA9F  
3D45F5B22C445CBF9DEB22

---

**E1B Code No 5**

EA9596357B343DFC31D5875CC0E94117A33651472E476D3892D8112EB6CB6E0151D409C5A514D  
CDA38A773C58F18B590EF9017B6EDF0192AB7EB29DD6E1E7E7390C13E9B10209D5775F3B066F7  
B2DBB7307FB44F726DD2F368A5FDBE75BA7248762E1EC7E4589DF1A353A16D6B3CAC1C9ACDB89  
890ED2C4F44AFEFC763DB51D102230C37E1ED0943CD6F4176B2F5C19119588911ACF81A7A2932  
0AD579C1BFAED1A70DEE1B87037138ADE411E0BB92F5B3148DFA11F2F84CA6C019124B9228375  
03AA9823A97E443A66378D5CB3130A7EC9B05670E85D095D5E6F603092C632E51FD9013FE7FB9  
F08448FD09F1219A4744CDF82BF9C60039C8185C7E9559FC301C6D3F46A2E514AAD44D3889C  
8CB4ED7439BF47019194F2644363770F8BBD0AE92B6F5F43CBBB503A885239DA636903D4C264B  
3F09AB77E3FDBA7EFC63E0792B6D5183759E57D8A694CDB133B4A9E301CEEEB978050AD9A9E4  
10091AD29E389829E2F24BE1E3B24F4540C4A6533EBA72E8AD540BAAE43A0CB82F971F3A51DD7  
7FE9E1956E2EE7553F050A1D10B99552DDD5B68F2E2859712835BD2AD6B08881753B4833FB047  
40E3364D2CD4921B939393E7EA91B854FA1E5A8EE79FF0A83F111F78435481D462E0E1CBC0C92  
1D190A435A1BA755E4B7021244FC5E3F0630F2A1F439C02AE619393E5624834B05ED7DEDE5F0A  
FC7A40899424E75D4EE792

---

**E1B Code No 6**

90E92279CD4F60D98F6E8FCB3E9263DB60FAB146A835AAC2E96B3BE3FF07119032DEE0521C731  
117E90C2943B389DD6B65C5E21C34F86F5A7ADE04072DFD1479EA36528D340736B0FED4F6207B  
E9F6FC971D5EA11781AC2DA25DBBEE6B903EF8BBOAC0CD2E29F94B8CB67874A7B7441045758E  
09EA061181A50E0AB7BCCF801554E0644780BC137436E3FB7784C182856A790D6943BB53DB40D  
13D6A2F7B83A5C521073883B90FB8DB1C0F954D132943C09156A09984B822079FB8FD09BC07C1

D6336C7CEAE8CC3162760B9838CA6A38FD0044FDF099E416D57BF9F33A551043F34EBF9BA909  
01E62D2D981065F977852072F692535DDE24EE8946387B4E5B0FEFEBD75552C1FC325A608A780  
79A9AC864F2F30010A3304CB16A26AF98D9BFD3B8D128541190B2BBEE275A6F53B9BC51083069  
85ECBB983B56E34F18B48A12AEAB88271F4F780CFDFA83E05E35C12464F4350597CCA9B4498F  
5A5454DCC3218D3336763674934ADCBCB5EA52891EB240C362248226DE64899BE30735F6495E9  
4AA61ABEF62B803C57FDD045B724ED1966B6E7DFDFCA5B36F7B0FACEDAC62DE8E10B12DFC84B1  
A9CEB407BDE63DB5208ABBE5E066AAF262187E94502B1701B2CC8681CB616773DA2B7AF49443  
CFF528F45DD7F25959836771908C2519171CAED2BCDCFCEA46301E7D99A5AF7199155772E92BA  
D85F35EDB656F0999EE828

---

#### E1B Code No 7

A91F570102961D62CA6CB55144AFCCEAF3910F3336DCB029CDCBA164ADA72732771B6ECD1C58E  
49F468A2BFD23E1B996DABABBAF5AB3A4C74926187B5833006F8BEF7F9CD0F05A2A0B9BD9073C  
4C3976E8660CE7BF81634CF0B31C3DDD806A6A0C15BC552B83A86789CC675A6D137BE27BC86DF  
68FEC5D268119EB9E965260FE1F5C56AEF60A8622CDA8C42F24CBA7F5B07A7416917277323314  
AFD3ECD10F74BEE7B22DC760EFA7F935FC9963411353782547FAEED32E69A4FB5756C1A73CCDF  
FEDE50F4B2D9B5D2ED5C59C9A52D80CD27B989B8DAA14C569E763C08FD42358CD064B2DE05266  
07C9536D75E1617EC80615EF5EE2314FAC29907B61B61F8696CB80B14B3A0148EEBC825C91150  
A08A23FC7B38B5982AA02A18BF6E91B3A1F2EEF360F682A34AB36CAF CAD556841073F219910F7  
BC2F07CE45E98F77F50475DF9EDFE2DC9E3D7280193D61AB5076A14887E9D9193C3B83C5773BD  
ECA067CA1BC3D4561C3A8B4E30072A6269B529760CA1B5F9D3DB2B5D1202CE8B18E9E2E80FAF  
F47108168D3C7EB3C940B1A35A1D1B968A5A9DC0686DD8336E498C240F20871600FF995B9E331  
69DCFFCFB58E75C94D82F843C60A7118F0D7B40064A8A4176C5158E86AF0BE4C1D5D73D1C0511  
32A85CC0628486AFD660502A515D6353B674B1D4E61750C13E8A3AD48FE1F89F201C288A8F443  
867C2BAC23C706EE7A2D2C

---

#### E1B Code No 8

C6E00978E351164532EEA256ECBE0D4F8FCE02A276BD19666DE93936F7A242FC4C7E879791314  
B043ABF1D5F9B0036ED22AA92028C800C4D62BD6640431170EA77311865074D670AF2847AA47C  
B94584A793FA82F51574BD7C62BF14386F14A3D7DBD129FDE64EAD67EB35D5E13FF214D7163B  
770D4A77A62D02D88C0FCF3FA5EC306EB7F85539105FA2CE5F53D182E58FBBC1C57CFBCD2D2F7  
FC8A067D6FA0BC834DAB8F370B0971BF6D068CD4D3A32C11C6598DEBBAEA046528C5EF762828C  
C84D003847069FA18743A809A004431E83924B8FDF0AC78699B905ACCFF82E83FDAFEC8648DF6  
4042FC9438B261B73F0541498ACAD67D702AB631BECEF8680D33CE8F4FOCE29B95132591A350D  
D68B36734B97D4B3E84A76497F702312F2A8370DCF26A7C3C8EB91DD8699C48F551750712683E  
0397083714A6CAC3457C0FA70BB3A036C6E0BEF24E6B20BA5565B351C2EFD56BD9455FF7728BE  
07A097208E73DE4CD0CB4E215B4642365123CDEA419B28459D50E864B762554E7C1D7CAF73DA7  
D40EDEF5D824A2FE1A6CA473B07370932A8A5D441DEE3C9A60DB68E27A9D3E9C8229B44E5B434  
C6D18A8CABD6D17BC4614DEBEAD670C73132CE2F999C8716D1098C69277E8ECAC546EF8002E51  
82E25F31A354DF112E97F8733DD20893B430CD7130E69ED4A0FE4D6C2E4FA479001E42EBC9F36  
E5FD3E0BE35A64B89745E

---

#### E1B Code No 9

821BBB3FB91E50253A9E71AC379FD57AFF394C2CC59587B2D0337CE74002FFAD17AB5D504BCA6  
8BDAE9061C3DBAE2985E8E292B9BEC9D3542015225F44ED3C2C3FFB036A515BF33DA1690F3438  
FD225A5034106C5F4BCC43301E8C2245D73F63038E2A7D9B8CF95A9FD813FFA071FFDE423E0CE  
737969578BEB909764A8D6DAA9E15A4FA0867831652C0F6E9AAA39A63F0AEEF62A433476CC738  
0460ECFB8B7F3B2FE8C4C42A3EF1CDB808FC9747FB4F044B3B47A4EDFCC9463ABB72C55399B2F  
79EE5FEDA270D6358B27F8466969DE4A5F2E6A5F2C4CF0813C09F468DC97FC0E5DD057A8A0355  
767B698F8A79BF0350C4200413A15E6591DE70A1B502E19FF515C3DF36935974A4764895B9E3C  
A2626BD39B7ADB780AAF7E2E914E804CA923089A51F3876649C73CA3C2623A8C95D11EF4B3F94  
1E9772EBA1F4721C666F03F01509FF699F74EDE27182B6E98AF49D1BAACB41A328A8C34D6E8A  
A3553DA3962B27B041495F269328B6FB4A385CBB118953F3F009920EC4C8590003290DD60AC8  
9177BB8C4BF753CE723AEC A392B8D9E5E9E4113DD062F294A77B6EA9A0477E697C04C787CE78A  
92C704409D37D37B6B392128698D0D8D4CA101EB38B92F467F0D86EFD8759A14162CAB55F8C45  
7E82392790A5BDDC8DD2663944F880C95EC02FE5363B064623994EE5D4396C0E44DE2A3D22583  
0BA6160270BCD110A942B0

---

#### E1B Code No 10

92A0DEABA9875D4AFAF99A24C1D5F10EBBE6DEF9CAE5B0C85B2A0417C1CC5D1A5F71CD8F8A4B0  
13C3F012C0A19EE4A23106CAB8662C5A2A93A971D0B6E487FC05BAF5C355A9520C9148584CFED  
3EDD0F38696E161E64378C831C586D9178A0CE289A67F33AE68C02A3CD138FA09DF1CAD01EFAD  
FC8BF6F5407B79B18D09C82804736752D08A1FE09EB35F544E9F797EA36DB493BA947AA82513E  
B1615A356B5AA4308B0B4183E070EB494D628159D2D4BC3CB110AB0CCB2E9E73B5B7EB5671876  
21E72D99F1FB78565917B28464A5F29DD8D6F98B6D703040A44B0ACD97F15049E009E8533FDB  
0B6DB2F2582E6BBF81D7B0EADC8F402508F6B8531AD13FD1C55978A8A70DF4E053DD475132D34  
8AE27581370EC14A3E0F96E0D70DA4946DEEC0760011404FDC5B436CA7419D05895F5E0EAEEBC  
88C74947733BE9919F18CE702887A6C4DF7C19279B82FB646090822DA9CD9C7653F6B931A337A  
28F7A4A01DE0CC0744F22961045F8EF8D4B30B07E5EDF5FA944EDCFB9841A9088AE82444FCB6E  
90B0E9C567A80E8C42EC713D78132F37AD1D2592C31C93D2EAEFF38AD94E5C0D94F949F47B88B  
03BC1EA4E5EC9C7D9DF19ED208B8E44FFDEB0B625F633C7DB1C826AA9E1C1309E5B14A0DDDB79

714DFDCB52221CEAD7E8A140DF7806F127156478AFBEE922B8ECF322D66B48BEC434299BBB36B  
3BD9030467B7F2EBBDF358

---

#### E1B Code No 11

AFA7FBAC93326D0C36A388831B99DF4D527BCE7C9070F7B46B5FFCDEB07384801AE5F86A89934  
DE23DFE2C1AD117797D4FA1BBA6175823B41166DBE9D126F17B3761E2C352AB396A5A9CCEA42A  
5E9EA1BE3497C0A5BA9121DB97F64159AC78E62D7DEFF3BF4CF73F8CFBE045C9D39E41D5D208  
DCC4B47CA27E900C3CD8FD1408DC5E0F5114F2FE65817D37CD1452C4967ACAA2119FB8D60E5E2  
FD8A820D0AADD88B94D40435C095568AE6394D3B97C835BA868A83083316C49C75D36EFDD8516  
5BE74A4F2B2D21295EBCE085D9C4A4758FDD9CF71B97FDF34B7B63A5E9691DBDAB834D87D5B52  
CA9A53032FFE821398616EA92625C2DB633E37911987083A3B49A86FC562FB1264A75643A5FB6  
E97162E16ACCE353227FE61A859E094C2359BC4645946AD12AE5C39C70F59EA7B597A9B3372C2  
3AA578146781A61163C92816627DD9C4BF1788087821F9F5D41B75A0F251B06BD3E29ABD41E7  
2A1D48323D24E2AD6F11C2D49678CC04FCF6B0EFD33BE6DDCD444F5CA02FE158112631F782CA7  
B0C5F3607ED807495BF8E82C5EA51A922FE28C8168D9844859E7A3EE3038C5D1D4BB4B13406C3  
40894DF46406836739E31D01082BC84489592DA0E985630CEC40702A36DDC301B3AE1E8101786  
FEDBF752F9E175287C239C18FC25795BCB479DEF59C58C373313C02A1BC5F16355E2B50EFB588  
55670868728B902653ED80

---

#### E1B Code No 12

943CAEB680AA3E630755DF32F406F403D7AF5E48A710274D3887A7AAC8EA6744B889F2E0CD203  
3DEC0B434A9591254A0AA68C5C9BF11D35765E86B437497D84E5DCBBC0C0C580CE9BC50EC6382  
AD74DB02C2C233B7BB07517D48056226C505ABF2DD244F6BAA23313D570558B065E423277680  
78EFDB53DC465DA038E3B216D990EE951B3E13D3C1CD559998F77BCDCD2B9522B6F1DC5E12C91  
2EAEF574AFD69C251F9B2532501AB9F4B3B2223D0F8920BD562B0D358A14AB0D196DF6337D1C9  
6CD847AFEC6F81DED4B5773864DA32FCCD06B9AC53C122B2C6327E6E5FE227DE4893FF15BBB2  
257FAEA836E99676EE32BF6FC14D4F56EA191B8A3870374A0867C49EB0015D1C6D07B87A36BFD  
D1DCEF20EA7B80D997CBE2D83E5630F2EE6F73B0D50700C89E4F32438F5541360683DF11DA6E  
7A3C1E7DB2A87800D9245BF04278C990A8DC9CD86DEF39CBC6D4BC00FF13BBE132F9D86681A89  
13BE787FC69C35304824788716D52DC74CEA399E06DE6241780447C74DA8E947134D8B2FAA96  
48D6D5F34C9D60AE5973B5BB0187796D589C8FDDD7675671F28C04AC1038D09251980683CB712  
F694D7C5B0D5B1DE86CD10EAC4EA04A55BA8803D78249BEF516D38067890105A23212E72879FA  
267A8B4F0455A81F17CFD3E5DDC55E5D4FE00F83E18626C676DAF00E6AAFCC23D209DEE0B0FC6  
C2AE4DE161D13017ADB5D8

---

#### E1B Code No 13

E5E70E7837D094416558C044D758383EDF5755C80921218ABE76E51FB93249E211A38F6D07A7  
DFD2263E6E3D8DA0F921A06A606B804DE7AC3FD097E5F96ECC0F544D623FD6F43FB88CEA7C34  
1E901CD47A7E24AB141E998FE41CA87CD6CE8C1870D9ABB6503BF7E8B659084BAF2237DFC94F3  
5C9884C7F44B87120BFCB298696E613C1656AC4899781A94869EC603B4D38665337CA8593AAC8  
3AD8BECE10302E4B4694237E96CCD3AD9CD5F8EC039A1D1A4210716371404C5C3FF375CB3A335  
59B1C1A239F2E442C8EB033501BB290434BE73489F716965393989422CF4D57E5B4F3C76AF3C5  
E8999E61805134B9D7C40BFB59D0D0FD30F98567E66D6148D6AA64F74A22C50AE49D6B1ECC6BB  
5A002ABF38FF2E2436766B86BDE7D95DD6E02AB0FF06E7BC22CEC98D55AA2BC4D7B91C36B2FF  
9F525A74423498D548318509320FCCBCA582A6C2996AF6538422FF0D060C0BC7356B0850A139  
AC3914338127B786F4BC58CEB6064DA881376A147DFF53C6700BD13316A5874A75D7B9713DF54  
FB393BAFAAD7F7B0710C049A0B6A8B76A9956BF6185BA39D9C347D179FBB97D4FED68F47DB5A  
C8E0D40122EA51C4A1F88D23153DF651A180C2AD456ABD7F851B65B220A72BA48FAD0436332E4  
EE7EDC554B7D75481EE05C3D3453D760E9099DD27B324DD84C0C0C4DEC4C674D25284B16410F9  
59FBD09D9DF09CE875601E

---

#### E1B Code No 14

BFDBC82ACB4FBCD5A90C5967EB2FED597A02607F426002128AF4B38942C85AF4472B3CBF3B183  
F240E049B251713740A31117F108936631FD0F11C5F79325BD6677A2C2B242965AEFC147D9335  
8730AA782491209CBE600976F56030753CC979C240A196647CD9EAB1DD0380E59BC7905EF740C  
3411AD9DD72027D0D3DD6DEB0F5F3C18F6D6F7BC59B758E7E262937B4599B38567C147ED2689B  
A2CF23736CAF55B6925827E2B70E47D3813C94C85298BD6B49C97B5D0221BE9E3164B6FA3D95A  
ECF53AF170966090F19A69E75F188BD2556B4E8FA7DC4AC6C34F54297C06C2A96DD1C45B42E61  
75B5E8784568F7FEF0B6C124C5019CB57B374941E8515CCFC21F46D188BDD2C2284C688879A5  
BEC50CCB97FAEE1F75580577498D509D3DE161BE216C873B29E178CE17DCACC5E9E2224D05ECC  
842FBEAB82A75AAA20769FD81131CFB69D5E35409273CA106FFB27F63FF997CB500F161F6DD3A  
8BFA5719F004EC17860152D3290951678A131E4F3D3AB34CFFCAB2967ED9D8F1BB987950306BD  
28751D2AEAB05F071B08574EFCA01E5386E04F727BF413A8279F9392EFB64D9AEE00877C76C81  
EBC861E2B484A2D35E592A131726CAE61BC010B954721A82C968CC6F384D9BBB99B4E87846D10  
B94EE31F64846A5834DF73A67A267B894B1C06242D750F15F3E1E850A11CB2E2B16155008F914  
93AB3BC77CF9BE56F9DB20

---

#### E1B Code No 15

D64F3D1CB54CDB9143D9E701BD313779C09DA064D9A85674CCB53B0C5B4446C122098961D5EFF  
D6A85537486D5EB26B5E18FFBF8E6EF16C2DD2C02EC7C07DB15CE33015A636E225F744C963BF  
0653A89A48F1AF04819E273A3AE1F5538AD574D553C5A0DEF47B552957037BCA921970C76DDEF

74BA083ED55363760A6780612C075964B083B4F674EA0012FD1DF09F0445CE75A698852098206  
868AD8241E3B319FA8D2D86DE6E7631DF1AEB571F9676323E0627307F6D8F569536A758DE5EDA  
AEDF80F4335E3ACFD07F70AAD5CD08CCA1E71B84D4D97931F924AC0010C0811972ACAA414B89  
FFF7917E653BB31E9CDC72595066C662CDB9BBC96152D46BF4E8C15A8D34809C4B9D79871BDF  
0B63FA294F2D667624F6E0210CD40C92F1C033C3D8BF089EF85C4F571CA727C71B23128A9B0FF  
D70CEA93C316FC4D69D79B089107F292E03425B2552AF5AA18FDB9AF86EA1972B66B1276B0911  
9437E4DFB8F8E3972D91A93816EBD7D8D715CB47EFA742938B0B49FA27A291B0DEA1DF0B8F878  
332103F45A99936896181E51FF65C6995F57C2C54B8002DEFF54B0EB3131EE7D61030C33B5502  
C49CF398FEC4B7615D16FCEA3E8EA12FB311D426331A06606CA5A066707C4AF8D1048F1CA606  
5FBE506D06C6C00D5D250E227265551867A6816F05155FCBDE24D4AD115BDA98AFE08B12A1F32  
E7C2ADA801FFB78BA05726

---

**E1B Code No 16**

9D6AD9889EA02FC9A58949290975DB0F512EB37C8156CC9F1242B9E45F22CC1D6ED1CBCB6CB24  
5811CE729261641FDF7A8F389BAFD7311B8BD689E02409F6E8C5202F466349EA466E5398B29C8  
CB126D9600D89697A07A6900FE8D95951903DA3419839C2D9E35E9F4EABC04C9006EA585F544  
C7163A33D7E78DE28256B7B8978FE018CB529F7F79BBF66DC4F0DECE80AE3C2CD479D78C4480E  
4DE2F06C70E5FEBDFB4ECAEDC2E7BD891AD6C91A7C2446F1B13B340B7160782F6CC5B45F9787C  
F1B0985202DDF02EC552A6DC41325FD8D31A4316C13C56F7157134F66E1D103CC3AA7EB951C92  
094EB4409E67BC494434FAD80999D46D824A5A5739059052025F7DA4838F7D16A8ACDAFA06  
D175546FADD1E3F7975265230F6C01B9C1F1B7AB1F2FDD43A5778E3C88FBEA70575CA26D94D2  
49670E4D9FF28EC67D15829776D7BC6754D2A2BB01554E5FF0C3FAD8A1CB546E8AD5E5314103D  
086D14ABD30EA95DDC591C13D96C1CC3F60FD18D216B67181B6324AC09A97C0C45E50EE8380ED  
42F6E0430639373E7760C708248EE7D74830E9594114879748883F247D056B2BA94A0FC54CECF  
6F5C6AB4DCB7FC8C224F40D886427504233DBBEDCE160DEFDD69EE2B75746D9CF71676DC45  
3FD01C315ACA96373ED387B040BDEBA7FF3CE00D915F90AE6E1796971F8052160154E8986913A  
D7BA291188EC49A60BE27C

---

**E1B Code No 17**

B5184F7D580935ACFF18201CE8B5D54CD0A1CACF102FBC8AADF391C4CA5807BAEEF4E5E47F745  
9E74485E48E0C42D27CADE6970714FD97C08F9592FDD387C859FC12C1CCCF3EBF510D66FBD8C  
448C25A322CC5887F94A55D48ECA362C690F24833C3B032A047D12BDA2ADC6824A1F6EA9320BE  
D27968E9CFBDEC60D041EF538F1740C0519003FAA89CD4224293167E05344998FD396EEF618E8  
F547990BC06A8B76D0FD6FAC13284601AB7191CEB813C46C45CE7B3FC09EDF08DAFE136BFBDD6  
3E6CE7E4BCBB16C5DA68AC71A1298FD27363349A261C2F2CA8CB799E8604ADF70092BDBD6A04C  
B80568776A537AD1711891B251C74F42FCB095B23EEF70F167E8B4856BB7F92E3A43C79FF4437  
262DD70BAF9B16CBF5F10D1AD7559AB0F8CEE1B9FAD058E84FCC342D9F0D9FBE4207D40E28141  
6506242CA1B8DAB28DE88D2D00BA21AA7FDDC25940CB29F02811F8DC6850A6A87D72CA9F3476A  
73649FB4A254B1204CC1261E7D512BFE7B0D0091AD5CB0FBBB765FB5AFDFAB0D701941DA54832  
FE8253BC0CF61924BCA2CA231A196C7C32A350AC9A5FA2884D8571FEEEDB7D29632E71898BB62  
B5E4E0104F73AA6A9C6B8CDA816872805D75ECA64F961641077B259C9D39E2F3CCD9FCFB1E6B6  
E2692EA34336A967E587F32E49B961B91311198A204D11874B4BEBC6C04DDB5B82D5B741D3CED  
C03A56A2017B3D2C4FBBD4

---

**E1B Code No 18**

CFDD6B78AEB21CDCD6AF8C349F6DF8FF8B96BC8246A672A16E45B5D0AB7D992570EC45A534B77  
F204039FE200D4C5E7C78FE24941F578097B216177D8AD4E1844B2E52D843256D0BE8504CF2D5  
B639E2CD501A6FE39B8AA7DB7DEA924B38692E43195DB7E5F25E25152DF0FB7E0D4EF63F99CD9  
5F699E16576702B651C29583645070011B2A1F88C947BAE7C94D48EB07A132DB38D4FE2B77EEA  
FB31AFB442710BD0AE4E6102DA69A454517B6F148D97DBFBAC7305979B5D74D7D7568A0CA56CA  
89F23D8330261025CC741F9D7A4BDB356B544C68C89CCC2C125F5C71E18C4EA102343AE4A44F6  
FC695810E6F28C86BF53F4C8B8AAE46DF6006B1679EBAT90266D4D02A2095074ADA634EE60C7  
070285C316E1F191BC5A88B80D673F144D65B870A65FC93D8B4BB29B80FD58F9FE95F59948783  
08CAC5394781E4D5A3F5EA2A8ED834EE5BD31D2058C843F22EB778C4C25144193DAA65F9B57AE  
C4A344713E9EDF913F3CD29196B42E71BB182AC3B1A60AFDBF1112A86A20BFC1D28D3E0DBBABF  
38E8F12651C207C951654FE8C4CECB6C6F93EC46456DAFFD7320DEC8D08F2F712CEB4D82407D6  
1CC47B333F69310C06EE1FB5ED84F83945F05D4A87CF5A68D78B5536880DE3443E804040E599B  
C5837E22150C93CC1E5E711F9B889C78C6FF882D80857EF41ABC5F12E99105E6C894EC0B796E0  
A645780341CBD039E8C6EE

---

**E1B Code No 19**

ABA759AE16B9D8778FAC203FADF48015331D6499B8CD74BD71ABEBD3E53ED90625E3057EA47BE  
587600F308D38743A686EF6FA189A4D86E4A35EB798FD2307345FB10FA701265F6417603365F  
CC4CE7635924428167115BA372294C27A23CE6C27C506603C5A6618A2B3344BAC50AB7FDC29D3  
6BCBDFCE0D48D088EFD8EA1DE492C543093C30AB7694627C01B334CE3368AEB4BB3267EBB1096  
450BDFC2571977D7EF78D6E288FCE0388A041838EC2031248F5FD659C70180634A1DC7196C8D9  
111C75B51C50F854CEC63DEBF9FFE1AB9406735EC3187276DE7CA2FAD4287027956C93B8E84B7  
C0C3A9C3F7E82B3DB35EB6D2CEBDF0708FEDD764C839954F2CC9044B652D0A01D28BD6B9D3DD  
9740CAE39AA52597FFC1227FAD8B78EAFFC31BE94A632A1AA7A60AA5A9E090DA2B62F6DBDFDC5  
0DF6EBE1D9949619FE9B2302248D6C801DD2D6C01FF8206A93C0AD22C6990C4EECA7D4BDF36C3  
246A5D2D2B3982C608E6AD6BDD85C92682EBDC9E4117F8B7F841239C2A5AD7977E11E4E9CA73A

55859EADF7C9C2F1B28A6B4AC7202019230063331FC5586756CEA1F8478173A0A4964D00C1AC0  
99590152125A4D01592C54DC2555E1BA34C7AC039394D1979AE2BF7B2B2A8CB9D62E89132CE9  
E3B325F023AC6E8117CE57AD4B271EFB0C172FBFF8FA6A17A490B67CA7B15F865A8AEEF37651A  
622390E82AFD418C7AFD48

---

#### E1B Code No 20

CEA29601B96AD3A831646922000BBFF02C014A9136D9A151A0E61A51F9FC2EC0C3A8F4C83E64B  
DE569A33B4CD653C1345B7CBEA3B3AC0411B6145727B1DBF6066ABC9DAA8B0DE58ADC2510C02  
C2619A542A139FA3EF7A03AD3467345D9573C107A13E7FCDF43C0D51DB5EC1A09D409DA75462F9  
C71F0C9E36C2742C279C910F07CFC5CF7F98AD48D67232A2DF29A66B78209557357A4BC91922D  
4195DA9533CD3501F388AF6EE2BB3AD08BC7D53015059988F5B9BF7824D066DCBDC61CA588DCC  
F0EBDE4A96632DBA22CA0D770C61A1DD66EDA882D02C5FA284798E12296E89C45906D315EFDBA  
816FD869DF869A65DD8BA4E0B13C441EEB052EF3D0FD436E4AC68EFC749E0CF4C7E15599D5514  
E136ABD134BA638A02E9EC1FE66CC9ACBCE5082C8734196BADC21F4DA7621D9FA725362C41112  
7836A26CB44CB3851D53C599B94A5E67862665D7092C43D9B4AD3FE20B8AFACCEDE920F440F3B  
F5552CFAFAD04A7D7E0A9CEA18D497282D44778FB7D5072832C0B77C4C51F4DCFD7AC07DC7A98  
63DB8A38F1C003CB852F6119BE801AD12B8BC7393B00640F125C734447DB2FD8B02F7F7FC7A23  
B84FB80F9CC08E3EF888634FFB6F51ECEE9B20A89941FBF2B49314DBDD67CB7A1B5BD8D629FA3  
27AF2CBB47B5419A0A8CB807D30152FA560690DBAC49D6B043D5BC9D51E82C3B1CF4ED69E9970  
50C65197F3D93E21CBE91E

---

#### E1B Code No 21

D358BFC8C6AD1DC94E71D1F5D05589424275875AF8CDA2ABCC6404D6FCB7A2E0A74C68024827E  
02621C10CD5FB149FBA373AE32DFFF275CF386C3D7A04E3FE10B6F1A6F4782B4823242F29672E  
847CCE760BA005D6852A3459E7576A254B10A9A78A9F8112BEA39BA65898CFED1179D68211D98  
E6950ED06399E39433ACD898E2F6C87F5FB9D99518EF36429D447B0EFOC5B7D834ACFA388578B  
DF60D4B1FB5A0CEE7D1D613BB9B99E36DC9636E70A543BA6BF0B3A448DBDF80469494239D4B7C  
4979D82E80C08EF36EA67560C86665D458040CE31BA009BCDC30CCBAC50259E4485E570F19061  
3CB010563F6BD24C2F1CF73F6A6844AB8350D23BBC3D1361E73DCE94A83697BB817BA366C985  
5A754EFC2F007D99A964125682E65CF7FBBF687D221B5A0FD844477A2F87D5370F4469F76073  
A93AEF7812275FD4F70B2040C12A83ADE5E5D862684D119DCA0F75AE2B56C794968A68566291B  
731579A1055A84F083B3072B7BD5AC9D520F64F0829B592875613BDD81C11622B331289C98501  
B01EE1D813C0E97CF36878260F80BF88071D258B9DE02F3F90B4C12BB56CBC731550B5FDE6D9  
7A1283EEFE61CD6E5DF312D0F0153A32D65B143EC6A3F2B64E2B8FFB47EAE46BD92A6EB9ACBD  
D11A2D730D027A3EDEADBA5965198FD59BBC8574B680B96AD48586E5B17625251BF4374E28C6A  
B956C6818183FDC119499E

---

#### E1B Code No 22

FE69433233B6067B0EACF1F47BD3AAD9783FA30F684110D1152459233896479D08A976B853E4B  
7B52A34511239961048B7C1B9009095327C86F2EA291FAC1734ED2596F19D04528F3D8F2A343  
0A0C19DA6A70A37DB6DC034BA0053B57ACB9E7C00ED9BD6AC11339EA169D9D54E6739B051AF40  
EE79A1034D6294261E1AFFCD61B9CA5016C56B2D1172D9B2A7283E4EE0A06C8149E5A2DA263A  
5D2429C2B1FCE75C41887DD02E056EF8724645FEC6FE7FC1EF180529B1E894773CF3E2E1D938E  
FF9CD824D91454116797F5A84746537FED5F0EBF0583C8508FA0745B4989954EBC4F215BE3D51  
5687BCDD5FDAB9814358B07038E0CB869A8C34F916FC67773191679C60A15A0A399E224D0B01  
68439386C0AEE8F5EF77185AC847A66D934CB0ED6A3467C3B386BA7F115877F36B49E111DE49E  
409468F343A98974F4EF1EEEDD282F73013EC2727518DB46C6751A58AE3E0D5F9D2B966D4465B  
C5595BC31B2712AE1E1BF9915CC0E02CA7240EBB9A045F959E77DFCDADAB6248D58B47B8E3C7  
75DEFD629A2EED15201A21ADCA470B1AD3084924FABCDAB6B12FA6201E2A239AE8F1BCD7CC39F  
EC62587E58C84AAC15935D45261E3AFEB60016AFA0902DB98DCFE586513FF70EF4E3F47773635  
D475754A158FACC9C470921FB0186BD6EDEFCBEE9C803118851F82CACBF8C0A544B0562E2E27  
286CEA5FBAF83AA5C1F97A

---

#### E1B Code No 23

C7386F9FF39FDDFBEB223AD8B856EA2E7F3AFEDF197A61F183FF7DF2FD6DE208E71E6E1063FB3  
774B696913524F7488EFC2CA54E8B653E5F5BCB7A8F4994E312DCE99A316C2ABF3FDF85B8FA9B  
BD4366ABBD7B3D3D433C14710A95EBB3D0FCDA2D37A443D62A8361DA78ACA781CEC04542D01DE  
7B6C6D14CDD4EA709264251D46C42AAF404094286DA5BFF8E81FA2F8C54B172821054F4CED822  
87F29EA3D3AA798C9CF5C5A909B9FBA641A8D9E310248B0F9A1375CE4DA98EB62286B4EF4DFC  
58B877A73D017B17AFD7F1F58D3D2CAD3B7AF2F06699B08B88FB4EB70D2511190158BB4928ED1  
735C94400980144EF9ED06E06074E2F29325C1AA316A46E8E617B3CE916CFCF05A389052DE120  
498341EE26A27A3D757AAE763046B8C841350292F06AFF97C9707CE5561F5C119E2FF6C1370  
94F62573EB80DC13862797C3319158DD465FBC033CAD81BFBBB54D9467599D751B9980A9AE8  
BFC6715C5EA74859E6A10DB369D5DF83A92655A9A590228B33B36F55DE563005B886EB324CEC  
4160F0D18938E9FE41D39234C29E13B814DDCD13CA6450774800924B0848735C5DE076F66EDC9  
73FC83B13938811CD9887371470AC5DD985481185F1191EA8C1D3A7DC65E1E82E2318D0FF0C9A  
F65EA1515DDC536C5A8BD0AF481789838DA54A39BA56D014E12242600AC78D28ADAC3FFD3600E  
896445868064D1D2ACF22E

---

#### E1B Code No 24

BF5202D3599D2DDAAE5F526B6B6AC469D4BA0D0BA5D79B1DB89173320F0EB68F5D9DA495AA098

1F8022426F68519B548B19B5F8CF068A6CA1442AF77C83B7D8649DC281BF438F9576F7A719A90  
2A860B9ECE9AE9C14B98859B282010A5DC90DCE612AFED44E0E9E7666A461AE50C2656BC0366  
48B826CA9C3C7C53B30976335B097C19390716A41FD437A2098BCFA2B2975F1EAE5BDBB819202  
4C20136D2542FD89FB8F2F94C08F765109279BC4E511787496233F15F52D7C3BC3E98A6DC39AF  
A1818B9533EDE72FDAF021E2C9B7D6C74E49B849F372B1A131F4C532DBE3B63635E0E1334C87D  
DB6F3D73883D2B43E87CF19E40D6B404E581E807E6EC1A94F5261C7F7EF4CF043C90A1A7E974  
65022ABAA1DC21588FD285E7158FD9B67EC5F7C9E84029E961E045EB5227E4726154F4F057FA  
337BB20DDA25D11632A7995B810764084EBDE01AF07372EA82FBAFE0434401FCFE05CE8FE3C20  
C01ACF4E9B8EAF4D50C73D5C42A95526CDC8313DBCA6ECEACB457D9673565A1CC0AAE23FD6261  
A8943E8FB84CCEC676601A4B302A9CACDEC8998EDC847A53B3CB0E12C8B4A7897D5680CB14A3D  
11BDBF4826C3938EBEEFA0075B6494CC714D3C0DDA2F5F783CF23AD2D2545C899867C1115BF4A  
4F559F63E68098955550BFA1EF7771598EF86A08C0C634B291674BB77615121BF0838DA96D6E7  
C53BFE6A58A382FD9721CC

---

**E1B Code No 25**

BF8903A3918B3FDC06CAB4EF675F7BE3962CD7E3C6ED643386EE533C3B24A3D94D2EA2CFB83F0  
A346FF2875DB07BA647492D47A807E7FD9717CF12BC97B3C1BE1361E598850B39D50CF7BE7005  
07863BC4BBF26620FAC11D97128049BD96C5E09DC8FF3F62655D660FE66D31AB0B0F6D4F8420E  
3D2E633C571D7FE2AF1CB4E3BEE95E092B00EFD2796A3DEF376F75B7EFCBB141337D81AE52939  
D87956C41B1E42C1CCA4317D31AB4F53DC9502A3DC774E05E1ED5008CD931DDDB98DF4A69960A6  
ACD45B60895C4FBA2BDAE8BC7DB8C821697558B1E0A3111F156738409FD180C5A4A33B24C5EE4  
991B84133CE9AC089724D62DA9D9827A2A04FC103652F216A0895E78A96086270814C2699F475  
CEFD6359428D8C505B8E8C1A96D2793802219144CA6B3EDB455929B39A3E9F3AB74D685608CE3  
F301FE38202ADFE529CCFF46AF36DC24956A7CD07CEBA55AA4C89F7913A8A4B844FD8F152C8A  
823CB9888E3BFEA97D7E4AAFA07125DA4F51D974A5DAFF0045BCE5B868177A91BD932963451EE  
2673A85AA8B7D493BDF25BBC2F64AEC3150D8C40C835AB4F5D0B7F259DF099BD6FA9F5CB198B6  
1018B1448035CCD34E7E7A2138F437490026050B8E3CE2D4CF4F4F095CB97548E5731A338CB39  
03519D6B13A029727F047A7D00904A556C883745410360FC878F77707A716D549ACD6A70A18F9  
EE0AA8A6EE2080608E10AC

---

**E1B Code No 26**

F58CDE0FE2356F429B0F2F9A7869A4142A6173188DD75B570F1D1ECD282E4AFBAD11370C5B4C  
CF3C98535D27D73C0111F11A84711F732441EAE CAB684F2F0D7FD4FC4070749574922A906E84B  
3350CDE5957DC388FDA23BF45F05951A393DA253EAF691940897B57ACE655E9630F09856E7695  
8D6BF7B830E0CB8182AE226F39D48036C867BEFA7E7ADBAD17C1AB45297C757DA4AFFBAE677B0  
5677D60DE1D975A4F3D7EB3461B424B67B61025AAC257A69FF720CB9DAC007C50C69A7ACDBBCE  
210BAD4DC2E629A039D98E7EA037A5C344B5CAEDCA035F28677A41D55A0E3E6E480CCB12B8F1  
7062A983F4E651B4F7CB217FD06BE46747CD5418C0C81916465A4F5660152B3E4781DA8040D42  
46F9BC47366BF663CF9DA3BB247D9238873CCDC6FC62D1D8F669EFBA42527112FF4072262F7E6  
5AEAC328871DDF47588A0A0DD13A4139F4145822A5917F624B881BFC354F37B6D59C566823F62  
9A21C973324F7167BC39FBD2C121D2A849308D13DA1A28948EB59F7DE97E364223E17A30119BB  
C7F43E21E7DC3093F7505055ADAB4654194A77C1CCB61898840125455A275A8F071273D8C1393  
4915D379CC603657D99CE4075C1F1DCAB60B6BD62ABA1A10B5402A59706798002EF30ADE2F35  
4E38CE0B57900FAD31E7F684E53D097B4313DB552EA66F6D337F29594470D3DC0BC6CD361831  
251004DD3C5357BC0BECFE

---

**E1B Code No 27**

D9086F7C272AA317C64C00AF43C924DB5DAC97F8EE3ED2296252FC4756FCE6928BB009D4488B9  
BAB757411BBA52BA6F61AF1181CC7BBA94257593FA1BD26D52AD5014C3F1A1832FC4F7445C8BB  
B77C8FD31C88F0C5D4736D49DCDFBEEF2B8301E31185793BFF87CFD9E6F7E084D343AB98BA351  
8A87A5F915BC0D76B01AF7DC1CE45F1C5280BD39D3E3D94D0A0286F8BD9FA942849664E08F2BE  
0B93C6E3B89061193FADA0FA9485F62CA87F3E68E204186E1187642D651162E4D8E7DA049F46  
2362D8C94539CAAD09AE4768C96ED6C2CAB8025EBB6901CBB26865E1F19FA1B193D47ECE390B8  
81233578950175C85B928582D5B439EEF2F56A8C7EA09278E47741051223AC182456C4FA04D02  
5BDB33FA10C48C70EC91BC709E3C80FA3E01DCE5F5ECB9018130A8DE5D0583EDD68EA2EF227A  
612748B2F785A30A01014BD479DEC6256C8AD88470F79DE0E1432CAE448DD7049E5B7D4DF3C97  
8F65E708CA3759AB9D329C11FAD71204E1E92322E3EA1BBDD9D034E2A23ACFA21CF490AA5E2  
E419197DBE990667BCF277ED61B264632F694392EF52F0A27C38E478257AEC8D2542938BF0713  
EBE60779C95A0EEC8F32A5202A849CEE8CE0F99702F595AEA839531D4CFB5F5A6166B06EB6438  
7552A1F9BC6BB97B9B99D19C3D2E1E8E9B305D525E7413496E40FF50CF77D4D4E2D41B1D59298  
48FB2F1FDDA5A39DEA0546

---

**E1B Code No 28**

AE4E3B30560A50DA55AB3E59FFF512844A2700D2D763D85D5C3FD8CFFACD4D023BD926D3EF2E  
55EB1B3831F2276EB07E5C07B44FD7D9333699BED0804B678915F0E0F092DA9A62F69CB020DA2  
1932F9FDF9AF332E1B400C6B7E7880508E840D62FBA07E827A23A2575AE68E15AC444A1CE35DF  
3C3F7CA49DEF2966DF3BA89C8E90ED5E2421A6407F2EC51A3E92A3608FCBD6AD9FF9E5C7817E7  
9A0C09FE9014F7AC291448263E4346CBC4BAA6EABFB59B4526B6540407084F52B864F9769181DC  
6EA91B576956397CE55CCDDBE41F94E5DC366E775C86ADB1C807B66D08696A2BEE45B90E87364  
69A371F05929D9D9FD34980DE08E00BDE2CD0EAB6AF2165D76519F8F2D894AC70740D2372B374  
07BDA4D943EDF1CBD35CCE4D81340CC97751C568731C009DF65571F28B7F58106AE67279E83C3

A0C130DE0C5B6C99117099548661D290C4CAF3BC60EF719E2F7B210FCD4381C33904AFDF96DC3  
A6557B42B6EE895B4D604F5F8985F454C51E32B2C874E90926CBC58D044D483D6D2A7C26C7AC4  
D190531F79993D07B2E830FEB99BFDB00AE8C008DB1B762F3F4A81D41295FDDA37F3056B1110D  
4FOCF385F9FCC7E14C34F6752A2FB17F5CD3FC4AF0D51E4A0AF7D28DB0D4D6511561892094800  
54F8287266B1CB26C9E8CACAA0BE5A69C696300025D160F9DA29F9EC79838941459B7B8164AAD  
95577A0C532EC2EDB35250

---

#### E1B Code No 29

9CFOCC00B5788DD743A5F33D87E8FA5733B72EDBCD61AA4B8D0B81213DB52E7EF17AE90934F5E  
C0711ADD19E881CC330F696179C1BA464FFE6D7B04ECE383A4106BE5892C5DD1BD719AB3739A9  
09A384FACA455E6AF96600AC6FF809788700DD2AB93DD228483759BD903EC002D4C1278808B76  
4F018E3B740EFD821A61F5BEA2948A653041FB31F6D5D0DE0A045DA366E44112C820FD7FA966B  
2CCFD5A6816AF84DC0A3EEB8F9D2F0A912586F91D50B1AE3D930A680A8FB7435B6875ED2E599B  
87598A7C20245296C4965E2E0CF372B6ED1219BA68CB646D3E73D52665AAF2E3D1C4DE8D26457  
8299B166FA0E148281C877FA9B14818759CBF7FF575307E80B73933599D94EAD2FB1C08A30006  
330BF0AC1F1C0A4EE6B07F9F3381AD7E2E469E8DA9C2D22FC0A208B58924D2F994AFC0268EFE  
206E0A9EB79BB51CA26FB49013B9A17017E0C08F9FFC6C319BB1B5AE41771443BC670EEB91D77  
69F9890A9B80F52CB0167EAAF850FAF2A52B74ABB1792E7CEFF68C0D38B01F244AC0CC0EF0731  
E3BDDCDAB89DF376973A7ED5D4264EE82C334671FCD39ECD6E2CF869493914F332767BBE46170  
7166A9164776D29F5EC9291F505AF291254D7319AA594B5F397D5BDF00BB840C4DDCB425F4325  
ED8AB77E57BECA3441B89414616671692EA88A89D2690A4B5FE958F990BD84A3884A60FADD5DA  
57EDF01865F85829195460

---

#### E1B Code No 30

B85B6E754CC8F6805A8A19DA104418D9C134C8B0DCFD5DAAF5A71BC047A73BEDBC192A453674  
BC624959BB76E44C5B34244D4736ED3F0F3C9658FEC0DA5437E01E128795EDD7593D636CD73FC  
1780B37A381502633CCF2EFDA0BBB494C1D0FC7F602DF8C282F55E3828E81A92458EB16B74835  
040D8A9C8F2DDF180A617B0592344B4373E1B526C9706B843B0CED4D25D7324C6FDD0F33133C0  
0443638E6249061C56A116CEC7822F4512AFAEE52CE8F94D8547F72612EA8C7D160C65FA3BC9  
2BE01493706EC4E5F203F0BF85C52F417BAF8AF490E50133505685CE63AC5B173E07D8DABB2D4  
39C6DC18B41B9C7D02C92AB5C2F27EC83AB6B2DDCB7ABC830A95BBC39E9FD0CBB28118823F  
7D0342F1EB7B45FA6B3A50223D0D7B14E975E7658352BC9288B48AF1346955F4551F2ECA47D4  
23EFC63D20681057E5EF234D061A5E6E234ED01F3D223A0E8B4DEDDC552C7DC3ECF663D5011F  
C907EB4A7CF746AB9E07C2929B7427DF9E00B0A1308881912635A72EA99927F343EBAD32436A  
9B8EB1934AC29E79BB80AB3ED9F5CE39D1E43C251564654365DA43FB8A0FBA27F2328D82445A1  
EAAED67B92716147E859064AC326A42DC7880DE82FA782AFF9C59FBDC0E88746F8CEDBA288BC  
8C2C4B458782CC9B63A86168B671BE99A09F2217B7BB2A7BC88651C1BCE8A0B89316ABFE72B2  
2722273AF570974D8EDEE4

---

#### E1B Code No 31

DD40DD438251E401FC926CC6968393415D52D521A5BB34D4272D6BC7B5431062B35112CA709C0  
680CBB18EEE053AAD62B2391C9E9D580562541A453ED936CE8E88DFA61A88CA3BEE66CFFF8017  
85CCE863ED9C36A04D2DC8742A81CA55127B44314AB4E687ED921B4881CB363AFB3CCE7EB774E  
3205D4591939ED7D3C0C508A31786421F49669E120F01D35D467B40F85F2454F13F591F3B8309  
37421B5C8A6C20EA878971AEC941FD99CEA92FEE00E5DC2264987DBC549EFF3E4A26AF0CAD742  
1C4256D107A3E8908F67450960E4E41FD7E2E84F754BAC81C8F5F1D6F650DEB3E6EFF60598366  
43209E3880D7BDA701869208D8E4BC8D0614066414DB3F93D6EA187950285F55BB7A1B026EA4B  
FCAB4671B07704828D5CBF9730EFC99E68E91F1FE9664DFA73297F2D6BD9497DE04982C9FF373  
0BB6FC3EA2053B3F45DC7FB587BA19B3C6B7E780EA5F25B45BB727174D4CD3B401FE1906360BF  
0B15DB13B62752F82EC62226AABC83C1C26376F8366BB849DDB65958AD969B25654DEF1841518  
993033AF47EABEE3CAA936F19E28A205F3CDDB5CAC649DB6A90483ACB63A24EA46D397508EEB  
5DA94E9C883EB0451D036E28CC303D52B1BB31FFF582605F340D449508959ED1FE2FF0BD22FDF  
77F9680D6B5647D59E7E6A003AF0C6A95092F0DE43D1252EA6DE00F288BCCE3ED9CE273DCB4F3  
BA7E8D17353B8ECA24F03A

---

#### E1B Code No 32

FE38B1ACA366B4C15F3FDD4DF0E0274FBFDA0042BB203A4F6627ED9E29F405379B2F2DDC0F3B  
02A0CA70A9499F3CE82B87603FAA347B7052CB5D13D9DE84C114EF3B8F62418FB1F3E374B9971  
27667FD6BCA2E2F9DBC04ECA9D908CD37C62F08EEA6F44B3FDC149465AA8037D65A6C8B9B83D  
5E9A40578E5EA3AE1209BA49E5E2AC615C59A2D71AC1605B98E39A5E66A890754C7D1C07E06DE  
78632587BADA7FAAB0A529AB791095DB0A708B691E9D81F2CEA8F07B05495528B9FD56F77A4C  
8209DB972FAADD9791BA59F47C06F241F50C0619FC04F8456339E0AF331310FA4DCCBEA0E5DC2  
795CA6B3ADD0174AE4B30AC0428320ACEAFF68F73ED11DC1BC9F0237BDC75F7F48BE518EB3305  
CF2BB898B329716FC9EC7E99B510B3309808735F0A77B15731C233998F9ECEF46E2CAA6E6ED  
C8D05B943ABD17027A80D63E535038FAE44D60AAC5406A372D62479192FA84D844520C6774C  
C589FEE16A3A5549495D968AABAABFE4DB94F5AE0C54E603D6DA5C3056769A064890533EA8EA1  
E5D1CD410C8DD4B1D7E0F5F787232439AA4B3911C5DC792ECB873E8105A1AA61C627BE57E809  
C6863073E1E19AD8B987DE97D88A817FB43ADBB7751E36D1F0E7B70B3759D6EA8F2350D10AF38  
C331E22703B2B5103C908E1D35A8E814E45BAE81DCA0530FC3525CD640548245C259738E749E1  
95B006081A18C45475F906

---

**E1B Code No 33**

961408BD52EA1C6A9F340D9109B2388CC358BBA2D35BB6AB672A9C16F3AF968BE4613BA6B13D1  
15B896BE71CFEC4A4AFC0BF5D2BB1B5DC19405F40E60FDF361E6CC362CDC28B75B8C30B468D3B  
BB77F3FC62869FB635A3F7AEA63420CF1B80A4B3813B2240B83ECE999808E1394DA2881DE2DE  
62C870EC163AD8D81495DBE2C7383B78E19AC506AED9F3BD1280A77F2D9C55600BFA258E76761  
391145D45F74253C6E14BAE16179884F0F0EEF8150A445BE1B5AA4FEDC2198CC39763A3DB473C  
1CC4263CE2DD587447DDA6B0A496E8DF60859FCDAFED2EEC5B1E77E68F449ECF129AA17395B  
A39392EB610DF45134571BBCB26162C83FFE77D188160EBCF598EF6F092881612A04BA9F4215  
D429BB521E737F6C3048B5D95B20AC37F79AA99A12CD0469268228463C317A1F31E63E4754890  
F20B4516D179342A76201402BC0DB2AD091A70B4232473343FE9E0002E59044C5F3B6E3D7368D  
B7E7F9F42E7A4A1942B1161552C5C84390197A54079F570B57E8A8A30659FF5A61048142E436  
8D5542B968966E54DBF91D3970B9A3A278B951D6F914246FA5CCCC20DE53713D4830A86D758A  
DA7A8747FCD455B2C320FF9E5E7FE1CCCFD6F7928884FC0B35F34118B4E7E6F6A5D6E3FB4E3DF  
90CEEBCEEF9D7D595A4C456C373C5356EF0DB0E6F8D61E413F80E4C32532BAA39170AAE2FC606  
B7206C379C4155031AF918

---

**E1B Code No 34**

E03A069F63220109A77232F2BAF29D345737AAFED2E5E8D5C846B937277DC88392DB2D55073CE  
063F5FFC5717BB89B481B8C86EC01808A85ADD78517CE12D776CD3F02D948BA795215599CFCC  
D9B4FE56DD681A59C71D24946225171DC18E47BFA9068302BA428929790EE62306C5FC8C10E71  
F6F372105C9421A563A4DA704E01FFD71E46B28C6EE1B7CDF95BCA6A794E8CFCB6BCA6AFBB67D  
ED5C1267A12A4752176C3C1E6C2F665194C7F11C1CE6CC8481A5A966719B57124CA33D8EC9862  
AE5485788106562A0BEBD3980AFC4469BB1FD1653678192B3022E26CE8788C68F202D506DF098  
D49EBAFF7741CA96A02BD68BFC4FDBE24D34770FBBF8EAD9647C911B2E6AA705F0236301162CD  
2B41B88BDCFC2A79EC54698276126D6EC0213931609985224BF515AD3221FB5E8A1C4CECD51DB  
4AFF612157ABA6640866DC6D3602C446B8C6AEF359BC8703D5EF9FE8EC7F5F2685C53924C6F1  
F71519E0AB589EEFB393A12C06B906402FE0A2FBD79327BC101D3B57F10A52C172E50B74F2A  
00BD5D2F7C7EA2883908434C125969A62F1B09F42E578BE22C08E88B11767D97C4C0CBD2BBD98  
508AFD591EB0B0C846A95FB72159E561F9D87DB446E9A19AF378B6DB4DCCB49FF8DB547B3040F  
FD0171B87245CF73A0747287B6FA1F1E4AE99518E8C53DBEEA942AFEF75B69E4790D75CC8A518  
1C609BEFAB641E28C07082

---

**E1B Code No 35**

D8D7DD9242E54C6DCDB2A717A6F33226A94D5794FA0BDC401F4ED842A5CFA4AAB462F703239F6  
84DB9B95E5101A5DC6067C7062AED9259CDB2067BC815C157A7E150F8557C3A54DDAE94E5C56  
9A1E09C383A062B601F920EF4D957F4BCA8E329123BD6FDC3B731361864CC139E8E3C68FED0F4  
0FB127D91D1DC071DFA1552ABC6703494A632AA1314984A2D4B7A8BB32C555B79DEE013A66745A  
E15E8E5E4E129E44A119203425F2ABF1F03CE9CB33C0BDC3285ADFAAF4D7B51EC31F02D1E654B  
B10F0CD97EC3E389CAA34398166B4D5C9FCBC6E957FFEC9CEE4071F90EE2926FACC8FDE884CC6  
FF1F6EF1D3CC681FB44E45C5CF681AAD13226DFE19E22CE81265F3088D193EDB098988B2640EB  
D8D9D66708E1E9880DC41A72FD3D64792B14AA18C13E371CA17FB46B21DA9C59FFA2FD075852D  
42E2A578744792EC02F9A35F869912BBB44DCC648CE6075DBDF457A9AA891488A5450FC719778  
739AF323E87F9633E621B404F70614F77C65697E1F281675C843C523740AB66756E4D784F55  
5B5B4D797A06A0AFD35A69DEEA6E948B9B3C2A62D7B1D56832D9CCF56F2680A5A0A3037F4E025  
2413FB86520F2815C8824975634C0889A486963A2C874638559E14F780A7F3E2318B88B2C2010  
174150AFD4BECE2C5FF2D37BC2FF791F4A3136E19C373FCF03E471DFCCED19471182A93E91ED3  
EA68C402234AB2B00ECF62

---

**E1B Code No 36**

87F0D84B811E4635AE8023B74306DE789ADD1CABA5F47885CF7F9A33F2C533093A339EB0D5E  
05C0763A215459CFF0D31CA92573EF2074CE2B6A11FDD6BAA3C6FA100D23A9AA413BAAFDA22F7  
46CF74562F9DB0EF2F7CDF266142F177681CF2EF388E2E9AA012459ECCA332B779E48CA44E536  
082D59C3951ECA42F66B600D2621BF5F3584B59DC0DB76E66ED7D00E943BFDE703E7D5050A8F  
263366948253B3576311CE88B463791DFA6F401ABDCF7FA44B158AA97EF1CFD7A8802662A633  
EED958052DEDDB12A6FB353BF2224ECC2322937DE3D39CF82650B18FC0BC2BCB8CC456141C9F3  
FB09A0906AC1EB77E508D260041E4B3FF4BF3A53F7EB62E0FC503E8E38F185AF795F67FCE176  
65AEE29BD0D5521024A70B61446CA4CD2B3DC274FBE72A9AE29EF67A2217D6CC81BD8831B5160  
E4E81238B379B657FFB49023B040B6D504B287F684A0A0C07304E6BFA21E8D0A7629BA32F3F2B  
C9A33DEE2EAC1A2C22462EA0D24162543945B78FB6E26B86E12621588735B32A4F9A50157F20B  
DB7A4B6D151B3F28B40A03CFCB3CCA635261ADA2295B74947F1B1D676F6C014AB362C1F5AEBB4  
39DB137D034D00591235B6F8D11C735A0C1964B29D3002D5243374628FB488A04EF245E64F598  
EB6ACBDE8B87F2FC5D1ACD105460C26BC6E1C7DCEC2E92E33F722E0A613A86356343EB111D0B1  
66AFEC5C7A44B81A607A24

---

**E1B Code No 37**

DDEC47E0FE3E2F4205206CD673EC66D7435E8BD4A523A8681ED77F51453B904E4468C70C2224C  
5F1D01A1C5ACA89BCD72673F82955FACFDDC4DA499EFD8D18A2BCC5035B0C69D095AE0EF1AFDC  
389B6253BD6FC83D3C37E809EE732A87D065207684332CBB9B0519CFF51B553B3689246EC1EA  
42E236773A5AC4A7BCD37381615F78A41E5B181AF5C502E22FE79436D6EEC07F7FFAA739356CD  
9544C7DDBC42C56BB1C965441903962703986C93C6F8135A8EC42A89DCB46E754EF5B5250E117

1398FD31793594831B0775F2A39E63FAD99929A0F257ADF332C078B0B7E209229ADA46D69512F  
F2DE930F962B8F81EEFCFDD358FE8E4DA0D49F39C43AE9D99D8052FCD60305FF4D9FD4CAA3F  
A6BF258B867E3F266F1BCC77390D02132E370AC79B34FB37F12D102985950FA5FD53D3D4783DA  
5B284494EBFAB51DE6CE259E27712A0EB4D78EFD6573A03D629F29166B902795FC8DF59050C9F  
A48584F0EB69293C7FACEA8972098E1367D183C0B91C3550852AEE6721A84341612E820CA4F53  
C71A51774134923FA00FAFD84811C07620917C1966F6A26A032B125D76BFA149FD66EBD18F753  
6285CF94A8A750680D6BE0F4A4E7F2433018796A358CE465E7507F186752EA2FFB01941902129  
936F7B18321902780E2C6A5EA7D3607227D6315C570815BD0E808EAE242B554824ABA30614CC  
72B74E647D5B5A6306632E

---

#### E1B Code No 38

DB29CD5101A3FB7A651BAB94E0CEF2BF737BBEBF0F755AA42F1C0B2E6A2E00422458CD8E22445  
76F139E811B2469E1B8F10FD95A988FCF872607A9B5CF81EB5875C427515D8D6D4FC58F3C69A9  
2AB4932ED3D1CE6191E648276AD746F12A0D7B1ACE96B80CD2C3B99BD1094ED29F7020121076A  
6E6D5D750C39633B00F3DCB4793A27B4838C492EFCFDF94D955ED33814C954FFE8B8D29A81C3C  
62BB2E95ECB393F06EBAB479494628027CD02E59F1AA32F78C53142137965E662DF4B3EEB0B92  
A6FEBDC91F8B31D41E2EF69ACDE1cff2AB49E2A4B12C275A20439E30C690D14D4F661C81308F1  
1EFA3D014009D80D794D9F2C8B51E2E6C83686DBB07D1790F56D7C8EE495657BDC081A63B1353  
F4C4CA74CC0D02CFD7BE60E063A33D1A4D9050A9100F0E181704799357532DE152CA54FFC089E  
8DF80F29DFA14C19C9D6B7855482622504F95A8948A5DD640EE88B7CA98F8248DF148AE4F992  
BC7D1FEB3BE07E70F22CC052D92FB263337528C41ABA642C6B1C6F8883B1ACDC69196733FFB6  
84451D188107C1DD219AB8B0AE5F49628A1CE32FDBA4B8CF02F38513E3754D2020F4BAFE03EAF  
D7DCCAAEE9E28258322E43DD47DA3AD625DC2795ADBBBB9FE061917573936E31DE6355023F8D7  
4500D2D032B7A53630F37FFA80567BA36F771C4ACD71D76DE528FF47E8281ABCD325E4C4620D0  
B73B2BE2787A7F6F485492

---

#### E1B Code No 39

E8F24D8DFB54C5BF909CA2CC5496AEA76E583D2D865259C356E64E76793290BB00E7029A146E1  
E90DC0C45356E13EF59D60F20F080A0FEA743FC1C222AAEFA3E55876F2C9E6F7BD29C09AE32E8  
0B15DBA0E6B594E951EAA3BFD166DFCC17AFD2621EAE6539C74FD776BB998C24C30EDB3A8B681  
4DE088E7E6B7CE9A64EEE9ED8C9D987A21A3BF35A9D59171DD456D8D0D7D1BEB3F37D4A31812B  
E00077F0F0064DA56EF9C4D36D1D3CAB4D1D4C024665BBE1DC227DD29E1CF814EA65B64DE60EC  
A4AB9B19F937DF15914F3CA577EB3A6A0A2C8ADD53DE536721FFFD519FC5E7CD9A3BF4F030B1  
EB638D6A0F8C4E24085012D758414211585EF6E0DB8C670064885B67256BB6AD7E12E380C5E25  
BF58EB1731E935899C1FD2B20008CF87529AA3E714BFFA86D8B66AA94811A43ABD868A7711C4F  
FB339C01D72D4974ED53E7DDACCD36B5F459DDC05E9D475D3E2AE383F6FFC9C2A0D1791B4675D  
A843303C96A98ECA88B54735293C4E1906AF30221EE71AB58F3E38271608DA6AC0A488C0850DD  
86F8B6588C91589632EB781637C14D9D24B57ABFC301790B3C11C1B2938845F08F7280388E0B9  
D5A9682A6FD40374542634590F336E42D8FDD92F3F6C82BE4D3B953CCDAC984F6C94D8F2FF70B  
DFBA63C922060C322FE34188FF70A37648C362BB68B06D74A2012050FC007F276A54882A8A04D  
CE014655AE43E448639F56

---

#### E1B Code No 40

FF35174BF6B56B67D39271D92AF0DC2B64FE31AAE8D1135BD8FD308D7E281F3ECE84784423A48  
C1362B5852719023F8861E861AD8B22219259E357EB9CD8505A66EF7CCEB53636B47D38A2AF55  
06E1FD72D3E30A29EF897C5C44A271EE562D67B279806E8A5DCD78DE538D8121CAF4C217F8A96  
9AEA50D6FAC68066277242B1979F1A6B3051CE5B9949A11719F556EBE844C808E5C1AFCE5E31  
2C53AA9DDDBFAF7280A7FB8502D2C7D1B91614157AE0C6C962F868D05D0463131DC841169946B7  
32F8000E686467BD5D8086CC249693FF9794374266BD6A5C8AFEC65C66A834012365D60179450  
C58FAFE724B8B9E99C33900A86649B04CD54351D6C4CC7068B28F070417CC9C4430390493BEA5  
0799FCBCD7A13BF75947C597B3D7AD486E3AF99CD743B6230BC473DA35E6D05FDD17F7CB8D04  
A2B00EFBA30946EDA96BED467A45EBA54578D9001637702F1DBAFAD16D2608C475B8DC7994DA  
B93FB34DF2237E4A13D0C04A6CACD42FA9463674AF8ABA97CF511A82E861F8330004E165D753  
323F4AFFE598E4D108DD8EA8EFA45693A2F9EC8335C756393585E052FE5D150A58F058CF8C3C7  
20F37112DCBC6324877E87541F06C968C46FF846CB512EFE65CC401174BBD1C977694ED7BD170  
2EBD2D1EF23BB56D0D0C1EC2D90A27CC63F0A09D83F8B0A5ECC181D5D4265911BEE77EB1DCB47  
80B53CE74DC7A42252F3FE

---

#### E1B Code No 41

8FC54C96AC76BECE7284BB32C63FCCABED194E82FBBCFBDFDC6AD09AF95DCE6A5D6E13CC06B24  
7E38253D359A6C0EEE00A660BC3BE6FB217B9554C9018671B1E85117DF0CA17463E132333B8  
469ADF72C3BC6F218A96697E172CE2E6D6F4E70EEC2A0CB48F0A2E7991B1B90A85088CD2C59E3  
C9AE7FD939592C14AFE9A13829DD97E345D1AF92AB46BF196DF906BBCAE16F5A58A4D99C7D586  
869C81E182352C210E3B1EE822F4A95DD0BB3285632978B18FC1C29BD58C2152FD3BE73482D  
E1A6A79C3929DDA1D20B6E99E25A666AB20CD371A85DD20BF0A76C5A81041EC943A89A94AA64C  
5207B3166441FFBF4AA28A2A88173F280F3A2838A98667775F597D0368DC0BC53C1AB8B7670  
EE23E0ECA08CB09FCA68F2153F01FCB7061CA1B6AEDCD815D611FF71868F50855054085AA1B7  
CA3309581532D658C7D26069C3B44E0E3CDE45222DD9EB40C369762CDDAC6D9A6923FE0EA7DF  
A1DF73BFF8B60EFDBB8863538A38528803F3EC27E09C87A2D0E160C2480F7D2003DA331FD5C7F  
E05B582DC9AFB114D2AD2F822922067F1FDB3261078F33879C497035003171165FB139F79BC50  
8AB9D3250D1B53508410A01C35B53179076D9F46C5BE1A26DEAA2F9F71F442FD7D19D34979F6A

DF96BECF1124551D4806E7136551291352748DD2D58443978C3DEA5ED0544E6596769A760B476  
B9CE7BB09543991EADFAD8

---

**E1B Code No 42**

BA63AF12FA5F7D03F714CA9AFBF19375D2A7E31EEF4A9E10C7C2F8650552A6CD22FDE0E012D46  
CEBC773C87729C7E746FA4C0361099D4876701C0B2A16EA2B5A6B750CDCEB573DC711F95CEF06  
B8DF516CA2F9BE6387550F22502E53A772436F324569B25BBACCC781D30DE25B806D369AD1EB1  
D1137EFACD0BE765DF4D06E177D3E3F13E9A3165F269244FE8B130E9066B23474418A5191ED48  
1BC8974074336E71BEB02B1BC34CC620BDBC24CDA8BCEBE068416E5F5B5A263A51CB3F6589F77  
D4E607939F7A0FA637858B96189A014B5688A9DA32FE2ABFC31FB00401DE475BA07265B3FD189  
0ED0FDA487D7C616E099B4EF4E47C9F9114E6B8CC757C92C02C46546130ECF7CD44160F55A72  
831692A5E69146086C43A5F043BD1184965E2A6B154BD7B8FB3B4B28C081B0F349900492C703  
913885428A82A8D2EF1240414CC0B6D56D969BA1A121D9D61584C6A880D533AB58B94C85F0773  
2B5EBEE7FC87FF3AA279ED703858957A1C1501D71DC5420C24BB2D570F7589F0AC5B6EEA87AF6  
8442FBB38EF693D2200E73DC73F58FCFCBE43FFCBF76DB4241FC4A7B131F29C8BC0F77C95843D  
2FD2DE39E3D4D44237DB39994380C5F1A1A3AFD927F6B736D585112920296B90CE31D58BCAAF8  
CCBCBF15BB36199B48F00F308F7E8264D039D6DAA6E848CECDD1544323C9654232F45689076B7  
C4B1123AE0FF152124E930

---

**E1B Code No 43**

F2CE3D09E701F60716A413AF06E14E6FB7BBC29DCCD8273A083B00D429B57EBE9FD5270EC0C29  
9D243A9FF0FF73DE19977EC16C2772C6B7FF88F83481924C921F49EEE41121DC79B7C23295EFA  
50292B11C7D45D66BCFADC3C3A390E03E13CCCD51309BD4061782273CE5D0E1BD3E11271A3C52  
654D2B846B5600D3E68D2C234807BBC32F1A350839500DEB6D387AECBFF5344606CD04BE36142  
62F068FB256B2855EABD5A7C0AB5C28D5719C844F2A6FFC500628CDBCE869D2F090E588B57B7  
96029A84E2319FB6E59960553B62BD30DE99AA7ACF508168EEED8DAB9996041BDD78BAA2A1CAA  
D2EF366F4A3244DCAA3F06EC9A24572CC80C3CF44B557CDCF6279165414066D6B700DAE8D361  
034D9DE455A55E55CBE39898B65651FE709506D1A1FF67585D0D3E1B2C5EB599704B3925CEFDA  
45C33D92C9ED9F0C45B7A80706E6629594F66A0F74A4A767493B73B23AF323D519B0D05EEC62C  
6123A0829CF612DEDFA7F275A55F1629DC64D2F77125A1BDFD7B9C213C51DD9FFD83DEF42E87A  
D4E0F9E5ABBA6B120E131F9E5A3097F7EC766539C733522FEB0F02604613CA1190024CC1C329  
7E7CDC3C514F8C3787943EE8CE457B516677437B2212A19629A0A04B0DAB8258A17B28F52BCE9  
15A680152225304301FD2BB1BA2A557B3E3CFE6553CABBFT9A47FEC31DA590308D156C3537B97  
116224F3E21EA3841A505E

---

**E1B Code No 44**

AB2F844287488AB6B0F47218F2A4C54E6BE79A80F1209CD747FD88A575EBB11F2F0756E2C263E  
753D9388876E159EF3BBF99448D0865173572F4B6A03FB72244334E4E861E0495AAEF15276379  
F8DD88AF9313096805D5596446B48EF1F1BF2ABEDDABC1FFC98ED408846D85732F807196C9CC  
9B283EA4E0D78681C73CB6AF89E5C361476F84E979814F30C0AB03E97156015A493E091EC5D85  
4E8B08328581D80091564C25D6A714407D6B591F17D376953F18308B8BC12EAB5B5C9FC11AFEF  
293109785CCE29C978955CAE2601A1DBAA274B72CC18CF27FE077A0123258A1B879E1ABF84458  
BB10652CF7310278C7FA11BDC5D00DB65E5D6A13D77FBF9D02DD0574DC7AE3849C7C47820126F  
C99B9766920516AD1D63E7EAA366005714D6C1695E731E88D43A38B615407A99B32A101C4D417  
D5E36B886C26EA1CBA9FAB0C040468781897145489121E47BB2FB6D064CB325AF5CECE5D5A4  
BD590C70C7A9B068D318247D8FE16A3609C94A8D431E9872E26A3CDB19DD971971AE1FBEB2FB7  
6F7A71AFC5815CF7871BB5EFE3B0C49BAC441ACD9CE1DA4AFBDB972659D13775AE77F843259E  
ED57A62CEA93FC449EEE1EFFD9AA2D36D8FDBC06A95A6AC9B067468F1D813F2DB95D3456063D5  
B23395824385D5C68D3F869C4F639962D599AEB26FE2D5148A51579EF385D31E744450E11307F  
0C803C70ECCA93F831EBFC

---

**E1B Code No 45**

9B1066F98BA2299266D8C1351E6945D7EAA658CEA46D5AB353C2CE48D01E915E740DC90E9CC4  
87126AF9FA722A335FA1A8D11C2719F07CCA23B1DC5E5B9AB198077177BAE0B5F35C14666FF32  
926AE0239F21811921C77FFB56F7B218A353F8EA67448F61ECA318196B1186514D27416EE2F61  
764940A70300B69EVD02719191ACAD969B1075EDD09EAE26F883AC99DED1AE9355C2F30CC6569  
34C0175E824E76947F83D791CE7A2960FEF547CD3BA94CA064659D1F68C0DA8C13AFACC07F3D5  
A653F259DD141E2ECE9B6D25F67CD38AF3F802CCE332049DCDAE1504061C2437C7D3BF4E15D88  
185D4114E96BFF7EC673A7AF8AFD53C979C89FFEFACDDF873686D892DEF5FB67877734CD981C16  
684320AF392A464C7216FC5C8B22BC29C8430151FACC94AA1513A08E1FF2F6A965F68E3682455  
10B975595EFDA4E80B7FAE432FCE9737962974905F367FF637121237B2A404C42A5A9318DC5ED  
9CFBBC2EA9C17A6CA37BBD98F8771CFA7EF58B1EEE40BA2D6C2031EBDE4AF0590AAE8FD10B2BC  
02A254C97726521E4D4D49FFB74FA5D06F8AA0BD43631FAAFFCBF01FCA87C9360C5E6A62A4B0  
25B894E2C30F9003D29B642335DB0A3F2A3436A917B61776F96292A06A6B4DACE4F6F0EE0232E  
1C206427A0386075BF50D6074006D45E3A3CAB085431032AC20D2690F0435D257D3E2C93FAE49  
D75FF0F320CB4D348C6288

---

**E1B Code No 46**

8A7F8C99EA79E1B2118E3B203F72FD8921BAA5C336B006ED66AC7181575D66ADE21D00FC8C7DC  
CA7DC9E430D1D086F2922487B5B025AD38750B4F60993368D829CC361B600ABA990E570370AFF  
F9BF171610F2A0B0B93A0A3AC54244073A0E816DD691BF1B0041BDC165125A14C621E01C8F069

C3E05F48FB77E66A998C27A87FEAF07B5912B303A98AE5796F1B5D4E2EF52F38E68F0EC5786C1  
9ED93612D7152BCFOCA1A3044898F9347FCA8370CE6E4A0510750DF6A42C1C35FDBD91BD2A26A  
60FB229CC35FC45525D12A092505D901A4F9E1E8D42D25C41B8FDBA13AFED8BC5566D4F3BA13A  
779D7BAAC1E25B6710D7718B73A641F23E1D22CBDED3B7BC3AF7D92B2DA1CF874D908CD8590C8  
0F1D5055CB8228AD964DE099A4D037202C65D197A35D8A268D8A3BFFFAB39B93615DA295A09AB  
979AF925D895CB60B5DC5580055BC4347F0DDCB1090DAEFA46C8ADD1009A5126362B0B4F1FFDDA  
B4A00AD8290EB84F76AA345DD73FFF7733035026E3CC1D99428CA68ADEB8CBE98E4A630F99F4F  
33E8AB66895AE7435D2E84EAC95CF19E9B440373EC0B4D4B2CFAD672C7FE1FE8CE5F34F55B016  
F8B115FAD6CC7B53DA7555E67672FBF6BDE324AA09FA18F13D9FF1041A12B04F30304774B0765  
9F397554E66CA589D9F1F262CF659F718CA7F443B8331BDEA8C3980045562D909EA44E917FF  
5D47812A0390139B2A87D0

---

#### E1B Code No 47

80B35D641CF6EEF705D51DAACE1EA5EE92057FD497B0D937C7CE9A546BB32DE580F8E434D644F  
191798A518785BFB9471AAA5D03700CB0B7B2635A6A14750F03DA4FCCB1B363C254A5294DD8E7  
943E4CDDA318C4B92B57B14EB0F8EB250686CE129BBB2B18EBE7FF53C9DA9C0B664C527A3C69D  
905CC6FAAE8BEBA7D83294C1656DA4B8308968EE49DDDC2D0C71A17B02053027D7DB8F4E77E3A  
D1C80FFDBD37938876B671D80E99F5F1C7BAEF50B7E05CC0CAB8979A3A2A852A7018673292CDB  
CECAABC74B839FD3C084682357A5414E431C1F25E34850FBC779285854FC6AFDCFB7B7749E0DF  
FF5F93A8AC146C873B407F2CD6CCB461312AE35DEE8D6D51347B0824156DDD60762807A5C132C  
0667FBBCA7489058C47A156B2A50CA5C24B894C1EE7C44B87179176905B7657A8E95AF7F2EA6C  
6D2A12384CAC9E6D14253DC5C31B8FDD2462581C109D2DAF72238E4B63F436DFD7DD5571548D  
2206BCB8B837D8CE8C9C3B3066E46A1655E3D84AF42DE1051DDDEF438821E0F0C1EDBF148356  
D707036B269C19C4CEF4C4BB4048364E2A3886E38B42EFA15F22CC8F92D802EAF3FFAF9BF4524  
7DB76C03E99F662884DC2A29EE488023BF0EBD46539DAC307410846B25280349106CBAADF658  
A066C3664E35C4C696726140275AF7611D2369ADB8258EBD2279DD24DBFE002377B9A3C1B1208  
90A6FDF20597417F88F15C

---

#### E1B Code No 48

ED6621A6BAAF64578BD988D08FA8D3D2873C87C38AD7EB38C0922FF3F7E59F0A8DE0074469893  
9D42D459E6105ADD3C77E9FC4911F572B3856C9AF6C15ACE704F026C6B2FC8BDCD9D84022DC10  
C47E11E934BEB7E1DCE8B6A2BAECD384D810BC3AE587E7EDE57CDEA908DBD020885624BE042DE  
0ACCDE1511CE38AFB6C9DD812FEC339B8137D88108F07035A3869CDCFCB9402CF96B9E331297B  
644DB13DFA88F60605E067B9F35607D2D75573E0913F8080EF603AC4B7133D836B84F32F48534  
237CC559ACABA53A96885D297CBB572BAB1C3275F7CC7A3AAD10F29E727B28BC29B038F4003F8  
C93FEDC88C63D72609A5330F36F4986CD9536812676A89305C6CE58D4C49C088B5E273F2AF77A  
8D31D1B8574B9DF02CAD4930D7A7F76C067E7160ECD1A845FC6A3B508708C279A2C94F29108FC  
E34A63E5D5554FB530522394BCA00508DDE6039ED9F47609781CC60F6E211BDF29E6F44ECC87  
3DD24F1D37E49D7BB7D6279FA7B9D08B5FA8F9364EF6D4C8D129A5A97A8BBF17DBD5E64C4A314  
26881687BB79285B09290DE61AE40C295CB1F3C8AF756E88068A777ACCE3C4B6E78C62AC1E8E  
AEBEED0AF3153983214D7459AA8E254633B52E5C0ABF4647B906AC50A62543710EE92B335A716  
2B540AC70F2B2F49FEA892BD72DBFC5F7A35C3AE56636AF2887BE680FA63768C27040E888202F  
700007DE648482F5307C56

---

#### E1B Code No 49

914BDB196CD56E3B7D7D3F1D7A5E4B0A1389578F111449DC2DF643E6E29F688227C3C07033C2A  
3818342B229F63C229FAC11EE1AB6F0FC8E608E03B46DC983318DF15FD8DBF2970EB342BE2E53  
4BB0455BE58290A48FC60973553E94C4CB53566CE0250D9FCF055936523A8ABFC9287DB9DEC5  
4710859DF62829D2B6A100358EB64E6219451868D6BBC2AE4DCEA0C0E338B26B748D4A1A34AC1  
6233046CB7D346D0D79A3CCDD4CDCB435B9B3075AEBEDB4C0F18C5DC006F5C208D882308510C7  
5E729D08C779CA99D5A685E78D5628094AD137BAA635B7FC0F492C48A9CDBE63209C823145501  
2EB3E830B5B2A79ACD8FEA8016243EBC85BF5D6F46A48FE013D2B3B789BC5F743200BCDE03995  
BB2B6A640CFB099788E380B4E01D75409A8D8B3887DF2B1CD34960091653EEA6C52EDD745B936  
3BFFF666891D9C8BF511C3C07D38F49DA2892DCCEC81E1722F6EACB3214E3335C93E6141AB94E  
5EC31BABF8108F6BEBC3E60B1BFE37579B4D5DC8B77A347940CC1F6BFB5B46097B1EEE4C3541  
59BB3475E05FAB6BDE5672014D9489CB70DDF537F7209BB9EBF1FC6B8B94564AAAD5ADD83CE6  
E51EFCF73DC6080D738C4FF1CBC87ED420A0B92FA459AD7BE58789F0A191D149F88173184A228  
74DF6D39DC1BCD4413648B178ECB03F8358547A68DE7B672BE9BA1FFC8BA392F8A58ED2806155  
C00F86B7669BEE4220D420

---

#### E1B Code No 50

97051FC67ACA30E8AEE73D3A8CF38BB13524D4E0EBD9BE68398C7C16227CABB1D0B0A0ABE7B63  
84ABA02905BA0C3C7363599D059C7B4C99DB165CD14FA12FA7912449CA7DD5E346D8010C85A75  
7382270DAD15BA3CE36A76EF55F81A1E80BF366B37FE3A88EC722028C25E234E624040450A99C  
D808F942568A7133981D72E7F2928894670AD5399482DF1B90E7E64062F830B736C79C30F362  
81495C76699CD48404673FA334F042F9E067DD7F3853BF71ABEAF6A9A5546855E840CE42B224  
D8F6490C6CE5FC02EBAF4FFC390107058F54CD635D4A7F2878099C1EF495750E6921BE2F39AD8  
08C4210F287319F811A254CEF8CF153FC50AB2F3D694A530949E5F578D075DB96DDCF2BB90ED3  
DE09D9CA8E08662FD8982741DE1CE0A6B64C3D3D5004B5C04B20DFD976A20FACC94D1762D41E  
E03B40D2CF367612812EF4CC41D1BFE9CEB51AE3A22AF1BE7B85A057D3048D0E73FA0FDAF1119  
EFD76F0A41BE63128B22D64A5553E9549D411483BBCA1483EF30CF6A6D317AD2C7973EFA6D4C1

121F703D2F48FCDA3177AD450D75D2A28D2C244AEA13F0E60AED8ACBAB444D400DF5E280DB79  
9B2D9A984DF1E2567D39D1DE58EF78CA6B4D8BC172B07DCB02D156CA96EEFAC69E556CFCE0AAB  
617C7FBB8C34871C1D35E74B7BD307D3F2E424C7A9AD676A1A69E0FE735EA50887A1DFAE6CA2F  
E4460FC7EF323ADE493020

## C.8. Primary Codes for the E1-C Component

---

### E1C Code No 1

B39340CA1C817D81EF4FAE4E95BF3504A7709089FB48560E9E3EF802180E85EB2194E05902C6C  
4C52021FEB7EC64FD416BCEBC8E39D64A4B5EE345291911AB8204A888C25B1CD3D9342A56C538  
636D3EAB957037D09E879AE5F3A39834FBB84A3D8D5090D7814246B62E9CA68533D2EC403B4FB  
9488467FF9758B0D15A8CEF89187A1D5897880040B6C3C5244E85A2AD14BCF2F5ABC44A7B1D4A  
87E8BDA05766218773ED4F70F8D1D07CBB1E8CA6298E64EE6DC5886D37495BA2EDB3E0B0B68AD  
9F300310B88898DDEEF484538C31A9BCAA76ECAD0C16607D32189058B0862EE9D70CEA9D3047  
55CE8037BA4C46C2573181748A212E4B2BDD04F9BC240518273DC17CBAFF21A03E9120FA7DCA1  
8D56DD1D9A7E510C90CF219104385F531F2EFAFD185ECB6B911F9B7809D98D86F15516FFDDBE9  
BD1CF8662EB777C3F94EA3F962D7B79449FAAD39935429E92CAE5637E9BCF4E94D413D2793495  
2409AB536BE4055AFBC4330CD1E4B5509EFE5F8EFC9ECBE9EF377DE7E37C479BB9D3E7745E46  
09B0A6D2C5D92EB3C9E2278C1F2221FF907596AA5E096ACF8990EBA907E43AD320F8019CB6355  
A2BA8670EE5A4F463E8E56F8F1D3E7F4922510FB668E32C4CF23AD8496399638B095B47833E0C  
BB34977EB3E4242EAF870D86660D6A73F83E45D6E8A41EDCA3815079649544597C5C43B6C93FE  
BAD5700D22EDAF431FD340

---

### E1C Code No 2

A64F94BB47BD4033C76D4924305907EC1F618B43C7535F3CFC093E5AF5DDD5C4339F3BB6D835B  
5C2C2053CD3D5693368D4E1A7CAC59425D1FD96809C67285CFD3FC05B01053CB0773221D72057  
78022F487BF99D1650566BE287FD7AE882AA8E8F52E5D4E3C0C2F971C9FF70AA378691EBD8ADE  
45CF213822D09FD05243F9726F6C69893845E57C37A7643E16B770E26F431FF69D437271905D2  
70EB85D8D229D7D87662121F0BEEB1E895ED9589A9CF5833408A04197AC9025D8570AD9B75DB7  
E192EA0A089504996E9DC652975D83633619CF80667D8B519536B3475248BA8213C8A4C66DE6  
9B4B3774BF9142425C57F34A27B1E288119E3FCC6AF6A21087F9394F09DDFB42F32D059B8CD  
4104A519BA640765D5CDE490E62F10E695FBFD33CBC9D2208A532C8EC25DA28B8CC1B6850AB43  
D9B5C00B6E74B7A148791AB07B328D347058C7E6233E18C5ED172C9F9E9ACF29D913E2A1614BF  
C0893D4967ED033B2B9AE6B51F908F1CED57C14FEEA85CD4D9711216BE7F79FA6721B7DCCA033  
C80127AC6E5FCF58EB4005EC24CB4886D787355362D5E7031B9B2AC2A86D730AD734181E723A8  
11FF510A4DF868001973FE83288D78E6F9B9441DAF5BE2974A2848FD917C3BCD346A431922246  
EC852E4AAD467E60C15D61DD3BF4A207BB57DB45DCADEFE3210BE74B9DACC918A394469F2E2C9  
5AD1E211947948FE24F5E4

---

### E1C Code No 3

FD1F6976002C39C87187C44E3D224ED4DF0B67750105944C651A5E57798F168A136AC0FB5979C  
4E847A82B20A2E6C45DB42EF2B930A80D3257BCCC53EDA966F5DCD9AD47CFB226EED9B62A874E  
9F6404D4087798A1005F4131171D3A47907A3CD602B83DABE094D2CB031867DF4595F3ED59FD8  
C4D76EDEEE59E422CE5C7D0A5F720BE94FA24DF05F758348EADD5EFE9197C6BB2292E2B14DB8C  
6DB24AA94C5FF0F5106D2B566058D32C58B63A150784F7B02478D9973DD4CFD2E84059AE0F4F1  
320754B7EE83F04A51C67EFC2EB1C301C0C58DBAEBE95474E348A76500103C14C40BB0B7D3A  
04D8BDABB605C1EF9FD4A6564934DEC50BD5878243AFF80F9796EED70CE1B1E8B55725DF76472  
D12D4A7A487989F42E6705818B1F7E149E97153A7B05A82FA3FBE51763E61171A4E12931472E9  
4CCBA74CC09483DF93623FC60945070FDD3A00B561650427E4BD64D675B1EB398B35EF057A66  
FD0B48EDBABBDCD57C32ABAE46F5CDD0CB1FCF17765258236F3DE40BD5D0A3C5C978D81DEB073  
67AB20B2CAA9834B9576161C4F20FB9C184A01DC9021A4E92B71333354E05B8EA9015E5AC4C66  
312E8B79F0B92279AC7EF1936BCC30802B83DB3D113BEF64452CAD7ACF6674FDA44023A661019  
841A101BE80FDA4E3210AE774E433A9ABD97F2755259AECE21F7A8C3B1A3D471F874D2EEC85B9  
B21BC0C2E2EC9016F847C6

---

### E1C Code No 4

EE38BAF6F61704B01509B5210A0534E4702F93190C392E749869B5572BB7AC4D7120E2BEDC661  
8CD376C4C1B4965F7D9D73400824E88A5C7B5B66BA88C3E0065F9628A9AC6B91A1882192FC553  
E3140349934D20698C9F291B5370948AF6CC90C837B9F3607F13CAF D492CEF1723376E6A5B813  
A56301B88A8799519CB7646F33F91C44CDBE7F768D7DD9B323A5002D2F784C4101AF90D6E4C5A  
DE7D085C79E827D43E10DF63AC70BCDF13DCE0471B487C5ECB752B9C3E20F75DBD243790C9135  
5ADF7199081BFEA03D80E82445EC2831FB5014B85EFC2A52748A8ABFAC1BA3904E178DFBAB26  
C1750228C9A031104F58BB3B91905EDB9EADF7B0F6DF22ACEB0DE944E277809D77507D18EAEDA  
A176769739842115D04AB2EBFC466E99F0AA540482A49C6AC8FF95E3F962734B03EF39873A93  
B70470B46FFFDFDC15C89F8FE2F4637B59F9BF9C5752D9F8AE7EA75D1EAF1C22CA27E5D5C9499  
624105D61B2A691F9194D277414532A5E6C63875F7F20DD13C6EE73B0C3568392B14A5042843  
926472ABA343D2C427792199B543BE1D43A178FAA7ECF53B98AB7528D8E1B8B82C52D973CA042  
7636505837F94284E8D6B4F496FC5A48B7958D4681DA00651B8A7BC56EC859C071E4396A05F33  
588B8087EFE9635E565E6B5A8A70DA70F50ECAD1A85E6E36FF07B4FB3B9119EDE0B611CFA91D9  
D4C58C1F4815B07B9EB1DE

---

**E1C Code No 5**

CD37D0FB0043D03444A939E93676B9DAF5F2D19A2615E3D97D624E62ACAC8098099FDB9A5A2F4  
B3ACF20F75B6807A5A3F157C2C0F479158F4A10FB4972855F3AE2FDCBDEEC00A4D470AADF5F5E  
571818AD6E872D897E2DDC402006965ADF16582B1E06B1861BF7D0C7E7BA491C79E86224AF6B2  
46317F725FA74DD8376D63D7993FE2F2BBBB2F1DA9238C6F3FFCAEC50FF61E645FADEB6E03F88  
3892C42CCCF904708B123C9271A670D4DCFCD602951D12F5213937CA2C05ADDE9EE3908E99AAE  
8DA31951C36D36D671CD7BF15DF60B707F00BF6EBBE5476926D015628A5758BFF35C4AC540F3  
9E761B2ED3CA9116E8680E28BC387058E0F69345CC6AB3AD160E9F2BC4D6047A1934E15D3D7A2  
42A296333C09296981BBF3B8577E4B8ED2A362486611F6638F8955431195B60C5C089F9897DD  
F0D34A3DC627CE337AC8128C28B63A394908E4C083BCC4522DB8CE5720C45EF76B2716225E534  
05FCAAAA72AC198226575D5225195F106C1249E4B87AC05287A3ABE6C51A2A41E07F56ECD46E  
989A8568D35669B525A6FFCA90DC91D3013967F6A5F4C022FFCC17751B68FB0D8F16FC9229851  
DFDCC060838F923BD44C1AD70A993E8EBAC1667DAB0F91B66F8F5B375D35275188E3C7702C231  
2CEAC5B20D67BB34400401BDF1DBFE79DFA0EB73F173A04807215DA5CE8E1D28F2126424C3DB4  
4ADCD7A961260FDBCAB31E

---

**E1C Code No 6**

CAA02DD19DB9C721EB35AB7D64B8A387796427242698A47D832C3F1AD4DDA0B5926FFCE9319EE  
EDA1565ECB0FA1EEDB424414120AAE8CFD0BE88D4D248899A0BCE31F9BEE7A4DC4DB3C3B10444  
FAD6ADCCE28F0EDF7B808536ACF5EB05AADAE92693EE02C9512B3EEF000844BA35E24620A2E89  
35354B8432C07C8FD615534BCFD0D8E3B572BF2CF06AD343997590FE8B244A32BBE69125B5D7C  
5E513A493724EEA8DA6CB0FFF3ACF1C5085A8120694CBC40FAE1A6326FD71487CC3BE7C10A343  
15CDFFA8C618B68EA93D330945586B080381F0076351B888087F56B969E6D6A311AE03CC79FF6  
861E715C9DA9AEE751F1220661581C75DCE0515A1C9259B9CF8E944CEC4B1754E5809E985D6F  
43FE45710893242ADE0D3B84F1E1942B7A95648611595FED13F546CA11DB8E5A55A3C3C78C379  
3C6689E1B3AFB5F67526A480DF923A586A779F94A09CF963594FF4B0A387876EBB3E8FAB888C9  
7F6773E7F0317B038E47DD7D109545BB07263B1AA84284B86E47FFB9784A171D101E7B0A6D38B  
CAE7E63D827C999BF551728FFC642EE690B01D486CB6EBEEB9D5C888112589E5C9BDF49E67  
5965223416D6DA02D2333BFD4614706BF13373973207C849A0DE41EBA137FDF79A1EB25D74E30  
CF60B577C2787DF04740BA8CADE3F9DA55D3F0084F02809E37543239E0A71E99751EEB21CB3B4  
1488244193A4868CBA9276

---

**E1C Code No 7**

FB227530F82BD527E648619E532D7646A5ABBD15DB91A6E7033DFECCC65D095A3D83AB77EDD2F  
3FEC52659CB3AD1BEB009D7A1C9FB544291EC1C67B75DD6DAB06E70C32C714983139DE4A41EE  
07B4F3C03BF566558484F19A3BB674B6795F0D8537BC31BC8D7A38B2FF1B2EC8B78539B2251D0  
E385DE484B05A411477681A3AE7527AC98BC2943AF1CF7F09ACF2DDE4530AE896BDE1266FE916  
E833A1C0CA2B2D2F5985AD47B2D0D1D3AFB6E50D4B3DA7DEEC4385E6CA8FE22760F92807AC55  
556AAF7973E8016ADFD43A3919088B768351B1057498D2D668D7C1E8C63438055FDF7D36C5E7D  
F02FCACFB9291A2149E7B429B3202D329E47CED51EA5771772E308C5BEBAB7B934597540D83DB  
EC6C3BC61A96EA4CB2D7530D9D760AA9403338CD95B829F17547C5A90D161F7B8CE0037EBF403  
C91C0D0C70C589BA87CAE8DF26CF14281E235A686CCD10E2D520A76265C4C2780EDFD0705E89E  
FE3C953FE760DDE45A8CF1F2D3F36DE3164D5BC2CF32204228ADD7C182EC55F1158AFA9358BE17  
9C722ADAF1D0BF1306A0B56218857FC5C21001499F61E273442281E585B3E6DCE148AA97B6622  
B23BDAECF983BF186F1B34962764758AC3C20C84036061D49CA33B3C3FCDF03F47F7E53B940DB  
B6E1E4A26702A118E525A9A0EC229085C925D133750ED0B200CB28A113289DE143D1D5839D2AF  
8B0525E0027F34FF32106A

---

**E1C Code No 8**

9E5DA18A19514CCC849E9697AE4BD1B317B34927D0461A96A7AF4A5D6C13107FFB9DE38C5E8C  
B7C5682827F57D94ED2E77D36F9F1CB05E4C2C62B1DE254C7B1CB236FC4ED70BF8DD1F43AC773  
C16A37392B895F8B157578C477C85E53FA7CA58BE7D9187AF5F7A18D5A1E5642335E46C2F8F4  
691AEEE6A9692E21B9668E2C083D9F45C2DB3E991588BA87A0A23808732EE39E8B3C876BE7922  
7C782F07EE3FB3086AF913D71D71910A0F56D62B5DE5E224F7856A42A4A1B2AFE380827BE86E3  
81FCE486FD08A91B22BD91D09615F417E178C5593E41B0917E075133960AD28B4DD4096D1E84B  
EF1363098DDE92C29CD508C40BA7E785F46C1E0DC72E729D394911DA91EA6F94D14567F4FADC6  
1CEB8DCA2821B1CF048477E2433E9DC718DE618EDEEF302CDCB5DE472656D6687DC41EA34C2BB  
4DF1CA08DCB933BE3F4B419158BA0B68AE82A64ADD58559214FD88A4CB34D99F646310697DA9  
82C2FD4EE069DC1CB102125C34A89AB20F17B6EF648A834627320410FF6881C7919AE4E71CBAE  
5F8200E523934D84BFA897C44B89B9BC6BC0129F7F97EE0FC049BA1AFD67D00CD624A75FF5A30  
514399BE4801CED057B498B9DBBF0EB9944295D5B6AE968C4B8BBD2B9A9E17A3039C5FA35A0D3  
0AA54CA426C58353943DDDD3FD185895C0DAEE950455FC131F520B46AE118C7406D0A72BE6127  
C5307730AD441B6FC3D1E0

---

**E1C Code No 9**

8589F8396F5B1C54CAF2B17D4C152CEF347E66EC7903C878F2823D4ADB9E7CCFAFEBB926B7EEB  
4AE1BECA339A027CE8EF997957532FA871F356E0326ECE0BCE3399F81179BF78C5C7D135018AB  
C340C0BE58D3063DD7CDA4C1918A0187BACF830C8B6900D43B62E04DF6E831CFFEA13BDB5E873  
A527F24327C95DB4BBDB65C81A20F959F828F5DAE4DC13E5CAC7417EE089401FB497ABE10144E  
28EA383E61D4A9B63B618AA7CEA4588B2911EC581F506062B05E7BEF723A5A465C9FBE70E3137

53BDE3102845A79A206BF7D996F49A21752D534B73EE83B48C1A225F85F5103DDB9B6B8380F61  
AAF26E5CA643EB62EAF58AFEE0D3494E4F7A4F642A3454F4F56A406A264148FF5DAC9DF5F151C  
12E89ED9D4FDCC04EC5F0022DF8CBF3CBC67CED2853FB4F8C5894C96CD00550950E7EA2A26C8  
0A72DF533270A0E23EDBAA4D0BE935D62CC885E1CCE653D66C51E49C43952042E1B2D043BDA1C  
FFC1E98A3F806EB587A4EC9AE299BD838C68B9BBF7C420C12B23AA2793FA0248C932A91BCDD64  
1DCB38F0B2D7187D8986928DF4602B381BA13B263291134628FC91C8EDE92594B39650B877D9A  
91DAAA05295457DFB2C5D8207BBCDFE16AC5B93600E33BC970B38E1880B1A732889320352B52  
4B109560136E605D32784CA01F8B11D077C81EAD6B7A5741C82D76CEEF764FD07E361D531B751  
06AF1572AD1375B2BBAB68

---

#### E1C Code No 10

A3E17A4CAD2ABE76E32D18501899F8D60D293B1AC3ADB64F81148AF56741790F87F8B7A2D9A6  
E7645EA50B75514C394508884CBF9E320B24D41D8246EB3C163B9101240776C312DB63C33889E  
3C1218435850471C454486DF7FF4D2DC0AAA14980F394C8EB7B828A60C53A2FEC3315BEAEB30  
045B3E65006C6EBB23B47A8A069EAD45E32E771B9C467B4359EBB681AB48C891ABB7965441691  
78203BCC4BC6B4A278DCEFACE5E9385C059346A23DCCA001FC9E47CFEED4BCBDD947B12A3F7E5  
FF8B9372D9497EE1A508D8BD3392BF3CFAD58F0191B18F6A300FF9CB8D914FDF37B48BF24C2C5  
CA76ABDFCCF833D51D48FC90E06E7B972944BCBAD169232A8429B6100BA562F7F3C55A625A187  
0A7C7D7BC9BD4C4783278CD95D07F89E8010E78876547F9AEC44322B0029A922B2922634ECCF2  
BBB47BF87909C494049550F1E6D03BB5354DEA777F499D2D6239BFA5C1CFA536F8CB16F4DB9  
EAD96F83A4AD34AE2C6893ECDF6994C89E7F4FE426D95A18F93B88CB357996B8E5A34C43533EDB  
1F28A8162FCBEF03704FCCCC80C32874F345D34E81E813DF5CC9B9C299362F8443AAE91BD0E  
AB9746E431804B6129FD32916303A570323FA121F7AEB2829F2A50A82CACCF6D273FFBD7AC6FF  
C5807771D216F50742F7091946F91460115989C87E8BBC8402B4C8B95C102CAB53843D581FA9  
F16C0ECCE8944E5FC4BF4C

---

#### E1C Code No 11

9D7B1CF0029261D65AE1F021DAFA81CF1673C9E0B47FF2C37D1B1AF46E7A91BC5E529C8F93EE3  
BC74E92B2743AAB1EDE16A6523B5B8A591C617C1FD0150E63F3B7EF0494162437B0FD555A83A3  
BDB519B3BB209E7F924D6BCDE5992BA6248690442E72CD5EB64B4C3D3F7DA339108A18B61AD88  
ABE87BB7C85A3A352D7B882FD683B2637A17A2D9CB0B7F41456DCFA66D62913F145600BAEEEEE7  
EFA5071C3C9E6FD0A6779A737071FA6965978C89776386B108DD7216FCE962FA87A26B29FE  
0E732309C0124B0C1E99E5642E5EAE670005B078C097D16C58B8923633C18FDB0E8FF8C4610B7  
89387ACB5A2DD0B6AE7E0DF43A6A9E8C3B89C7E5D628D59759C58D07E0687812AEDAEDBC63B4  
FEE8524D10E4B467696957E6791C1E94B13CADCD0ED60752C2DB1B65E035EA72F89FC679138D3  
609FD2A30E4DD1A946418253C67AA69B07EBB95D4973F562CE3773430007A6DB77271D5F2B342  
CC5E76E115178F9C7B1600554F5C794961BAE81A5E9B621BA17851008BED9B556E461A553FE9B  
E00A40891750E4EA4B475216283B530CB8D479DC70B026E07889229F6017552AB9E01EDE6703F  
D1E2D59AF0B71E0F1DC9A42ACC5823324BEFC52CA0DCD25FE8B10C999152AA3676A30602D3506  
F78751477033DB7AB1A2EDC21A6FE51273B6B2890088703CEFE74F9EA89881896E5BE124B1FC9  
430B92F0C0568F5A068A80

---

#### E1C Code No 12

F23088E3EAA0A6BA04D0633AAFF85203F8B1829223FA6B730F6DEE6799B521F2E8323B8793D0F  
7F2BB9305B3EF4F5B4F1CB822836E4D92C8E4928A851BCE688329DECA6F7285DCC85195E5BDA3  
B503B8AEE6F1CD7FBB158444E7DE8BF6A9A3CDA311787755A827BCAD3DA5621908EA913C0316B  
9B52FB07ADAEFF17D3766BB450DD71328A0353B09DC24DE93CF83A2E5F98BA9D612187B6011  
57D6B140E675228B58C9398618C3BF0D11A226E489366102B9C35A916653F0DB36711ACBA5F32  
B327F5789F3EF48A338E4676F4BC2C6A1308597171903D2AA299CE7E523C2ABE4B15AA4FC4895  
4187E0097583EB099419047244B4931326E5923B6313DE08423DB00866374ABB5C31A00542CB  
97CDFB8F71046AA2A6DBFD7E1A71C068ED70E8D7C3268EA3E0EEF2262BD7991B6C59F471F73A  
4E85F4FA015E164F9C15FE0AA5F4772BF2D62B26D3EEA25CE83EAEC5EB3577CA83A68168FB64C  
40A7A155905CBA6E64159E55EBC928D125E55165C639F545B0071E3CF1A3F58B4994BB4F50C  
2B24F2E06E4ADC90BC1C0954A257D8844347AAECF136C15242633463DCF984BB673666E38F1  
A45150B1B7D1C31DE06EB9C2F4097E9D9B4D21EBC9F3A918000DE2449DCB3F5FDDC3C773A645D  
F560F7E013E847E2356D33EFF1E215782638F58034B09F4739F98915BFB0B1DC124681492F580  
21670D03CBF5E8F962351E

---

#### E1C Code No 13

EB07F9EDF03596ADC2A3B7EB6DB1CFC911E9A4C42336A57309F7B6C3389282E557D94BCC71827  
D7C5737B1C530D2A087E3F507242F3D05BD1BBCA4DF8B78BEEC1DBF7EBB2EA1CF1DFA79E60785  
BAFA23658490C9A64AC61C45779DFAFC6C55C85C9FE457BF47E45A3FEF092E178ED4495C0357B  
459E95AAC82132FF1C8044F4EC84EB882DC195D9C6E996B1CCF523098E9E1A57C37C2E2D0ACB0E  
AA34B0B56FE5A0747130B1E75AA923F6F94C0D024A7FCD22E7A4ED8B201966C417AE864420767  
AB3223BBF56C64D4F8F557DD950F7C50D9A39AB2742CE686C8F92B35711904C600A9D4D3DD83  
F3DF1ED7DB8042C76B0B7D5D9BCD6E0B5524184BF99D8D0B4F14967FA48A93A2F44E2275ED7E5  
9F3991EFB0CBF2E26AC1F8D9A41AAE4563179254BA37028867E68C8179454B8B71FAB49DBD1F8  
89104FCB64C8121151364DB64B854B0DA22B8620BD7EE3D4302A88A115F8BFBA649CAA9EE7  
EF5BC95CFAB26503A9D26033370A4EF3CB8A5D094C63305A833387B4F8371C6FE1987514BB458  
C571E6CB5DF5FC900631652D3FA4444F8F1F0312204340FDB2092F709FDC51D2680753131ABC3  
3712B4F1067EA1CC87C40B281E69209EDEC42C22A88950E9C1CE8130DA9291897BF2D8D1D1069

11743E7A9DA36220FA90A02A34EB0B28543217839374EBE79F40B3B612236C902E4CD05CE2E1C  
07F3DA10E2AEE8E387494E

---

#### E1C Code No 14

E9D537A821DEDE526B441BA4252785779B54DE76F82747F8607B8952DF990F268C039CC792883  
B1C76C297D81C6C0CF17DA8BA2C7110B16741728725839D33B5942BC0A5614A3650675FDA5D7  
0F29154A429A42819D6EDE324C64596F93E84CC9B2C9DA3717AA6DFFCD03B75AC96543020A9F2  
024620353E1364E4320FD44933799FFF083E73F5D20B83BF77EC2247964ECE442C3213DE99026  
F8FAF0E96302EC60067EA38C5CA0CD989475205FA38869E349FC7F79EB81F8457CA3D1A875A8D  
166C96EBAF1F39C88815E2258EA1A14943298DA39EB9B738AAA4E0035F9567A0A9D5727855944  
96316D56EB3D39E1F3F243D4F16111E194FC537A635FAEB2FB4401CAA9EE0091CF3CB28B366CB  
5446A6D3B10AB86B4B1A0714D107FCCBD50EAE520D56A1161E03849192F5096346FBE5150B6D  
04025A564A43A3D22BD4B7E10DD4061CE20FA2ECD36F66BAAD7EA96CDBAA0F063B814707718F  
47278F8570F77F3B15799D0E354CCA50DAA38C31C746B17482297D9C089FF379454FCCC8730D  
89B1462AD95426370AC37DE50B775B952663B97AFBC403F6F729BB9CC1D21DD89EE78AF09DF85  
58F7E68B3711A7D9075DD4754174802F52CB9683FFE746471C7E543F388D024327D1866CC5CA  
6775C58A14D70A3ECCD3EFAB52F9AE6CCE146766A8419FB546E39EB604F43B15AB88C72741F8C  
7D0A7FE2F462D360676D6E

---

#### E1C Code No 15

D79D916241BBE52B61BE8210A02543F75A47032E9C0CC128524A675E94D8F79A69B6842B0C5CF  
F5C1AC98D2085299BDBAEA67A41C724CA36B6275A80D377DC3A6EB4C8D0B6B88241334A95300B  
53FFB546163D2889D7C85F1D1397924F126DA76085BEF131A65C7DDF60DDF4086BD33B44D2502  
5D689FF41E0C256EA12F4353D9E722EE37907AA8BED0A5A606333A031AC6B9A16614250916759  
B72FE6C1828BC6C1966C9EBCD51413A77F41F808BCA2534AC49DB1D32D37878DF5CC0BEFCC099  
C56CAF50D8B92E7CE616AA026EA1D81DC7ABC17C4705F9B57A0F99FA749F30F93DFA982A083EA  
E6582C8461A1ABA74B11663ED7D66EB4F8DE14F090EB1CA6D8D81CB6B063A391FD354DCEAF7D  
B71C277D0E92B4B463873DCBEFFB698BDC17F80845FED5F0FF150ADC9D7797E21E4279B54BD  
D4B7C9D403D9FA6101604B79AC377780A5461499714082942313CF74AD1147CD10571A31D8287  
1B6B3A055D50C6CDA4BDDF3871F41EFDAE8ABB995344DB6366E35C6E506907AD7FC76632F99  
124A58A32C86360FD6DDBF50324D86694518AC44F1FA19662C0EFOC0860811B5B976A96EC2A14  
49E53A7E4A07923E9F85794F228E441D92903922E5783F2FA21C677251B6B8DB02AC2E242C0C8  
652E0C17C9E3858E52DE78DC71B2DD5D2AF9A42DB2E2BEB3FB6E0FFF13DB9A1E02C8F84FCEF3  
F7C4D2DDC09F2A2813E8C2

---

#### E1C Code No 16

F8E2DACDD88277D482951555C657B3E3C5DB79E5A43500F7A2C8B30C854DBE611FAC1087FA03D  
439AC4635D39211E234B82A91248DEE5D4F67A02D5AE25C676E64C4843E419EBB3C4D81FB606  
B9CA0836F8207CD19D106C0E287EFD8F8DB5C1A3A22886C2765FED26B5189153657B7C47D5590  
F11C6340067B800669B05A0849BCD2005DFEE6DF95833C9E94328D72F931D69CFBB2BDA81AC83  
DD660B3B17D2BA4023491DED324FC4F22510ECA4A5194B1245F4F3FE334DA9C1E6BF83A3FB308  
97BE54C688D2A7C5845F425866F25DD0A9852BA6DAAF8437DD80BCC72B3E258A906DE079A2D33  
EC5C5F6927503BA13158305DFD3F86345524394151AA557D6242060F276BB6BB25586F632942  
ACF5E0883CD3F8393688F360323A000B82BD89414E9C807994B0234D730BC6D7CD0A2BF75D9F5  
10786E83EE98D4CACF20EFF86EE9C38B8D52455D8A694B689F0D9A632E7A6AC6675E190A12ADD  
716D2C6322657B878FA97267C1BA4631584356768EBBD1F13FD2F37EBDCD1DF96FB943942E8A5  
188666235B455BE2F770C9759A8F070971CBA49789744FD2F64DC4DC6E003B3F9BEC7617C7EED  
F6BACA94D374400499CA6813C90A03DFE2C537261DA93A1C0F6D8BA93D1EB5FB17255DF28B787  
37582FD675D056A4C474A71CA8EFO77BAEBE5637711AEA3FF2B014700448C3D74E3DF264D773  
360F45CCC3342987169C9A

---

#### E1C Code No 17

94741D7F05B0CA50908E6BC14801A28E353551F01769451B1482FAD0043D5C72331246D9AC334  
4F0FA2E28FD00E86B38F5E0452F46CA11E92D01B37E966455DF1374883DB8B055C4DF25B4218  
2280F86D0D825C096018D2949B4BFCEB7BB2C8A5BFA2C79E27F11A7F9B43A50AF928D81FA95CE  
C86A114222B99786072311025672AB04B2593C5AF50100B71D052AE268FBA992BF7868E58EFC0  
07A24D2111774A36115C1C527B5192EA955722EAE849EF83817FE8595C96EA2D76FECF6476D89  
F65A262D94B3F5E89A5D8B1A7333EFCDFDED17FE1CCADEBA0D1E7B73E67491B413A862E34A30  
8D5C211787E6D8683C6E1DDEB8EE2D281166C03E7A72D7D7BD8B878D07D2216C21B855CCDA76  
B7B75DD1B2CB876E59F91F040D42B97050043499DCFFC65AF803E2F7455C9669DD9896FE1F622  
27936DF905835A644D31130A39479D7E75B4DC4361E41202D51D50E0E4B4B218AF7F5CAF264DCD  
060C296E777DF1EED6AE8147E9B6CA73184C345FBDD89DE4A999C42AB4681D9EA3B86DD75031A  
33DCDC807F8FB14EE0CE61B16068AF01CE7378C9D965943476AD21A469D8B0CAE15BA8FE0497  
1FE1EC61D3AAD3386DF71B33FD0B4F324F3DA518FOCC0353182B3D76CF4EF5AB150FB9E74C282  
34CB3D907AC81CB6D3B99D510B481E1F0423D6F4987F5517ABBBEEC07F46AECEBA5F15D91AEB0  
FE91490E91F739D465225C

---

#### E1C Code No 18

839A01464B473A64A3D1EA24EB363EAAA590F4BD0E4492FEC4E3D4DB5883E4873BBA17595FF48  
134893F16F5C4A43659C46484A268C3303B2DC345E8C98FBBA6D06946F997074AE15680EC9423  
D6464585D98804B3541662E183F6540503BEC204749D58E3DB9ECF11C80CD3A38F8D66FFE6CC8

A003BDD35F547E5039DE9A21F70A8A07B2DD89B68E43B42C2E021A11909817C543F839E686226  
8E38DCE712B4D49C39A5035F3D6BA19AE028AE70CCF557720794FEF6442999E740CD6AFE6235F  
165515FDC24AB6F578DB2549C8065E008577FCF8B8DD8A3BA679BABBC9A747A4E2DABD9150142  
4E4191097E689A741EB6644A771CABDBFE6B74ED3ED171DF8DE641C1D42213B9D0F8CAD1E11FF  
63670F5587F1FB7FF92276AB48F31751E7A591AF4F0966F3909883EE6015639671BDC3D137875  
0F66F5DD165912CFF1A54ED463905404EB7D3412EE2B0F0D9E6B99EC81678ABCD1789BD8F1D72  
D3DF8754A16DC2106B83B325807E27BCBD22A25DAC32F27EACAB6A4CB6CBA4CC90D5302BE5E98  
27B7AB48BB696B2902975C48B3A4BA4630B14E0FD8A050B0718C2829371BEC597387172B0B319  
2EF958BD1F7977EF9A3A6C80D53BC961315F97B714253B9731A017BE2CA1D43024F75E26BBE98  
9C4D514D01538956FE4B90BE17B3407B55BD08BA50FA807D0E448B7CAC65EB3FF856772A933F0  
C5F3E6F41E051015C6F9B8

---

**E1C Code No 19**

BDA2B72F0BB0265269F198207FB061DA29DE43E30847E7C062A581A7EB53491EA51B51EDD36F9  
91D15AF89AB53198537988350FD5FDF8E003019BE115840B9BA55C238C3CBC72C0E24E25090A3  
D6A59BEA9FED0FAC9EAD40451A95649638FE0BB0F8FFE61AF5B9A8AB84BE84C65EA1E12E9F665  
0ADB59A824E608E80D1FC3AC19F418169B3879CC946165511D5AA280AE644AF360C42F7A3EEDF  
27E368E46480E3353E67F536E02B33505341BAF3941069567B723D7C125C8F066F9A6255436AA  
FDCAA8C554FDAFB0A9AAD91F1263DC62EF91A748FFB29F57E325D65A38ECB4F2851923DC6E9B7  
296064148A9BA2D938116266C597D9E1F11A46BE0F526225BE750F0F3E5B0AEB7DC2140FA3A4  
8B7238D0F5A872000782CB6F7751443EC6A1B7FA1ED02B9ABCD1C1DE4FC85E9B405C7851913C6  
0F85582B1529276AD475AE52BD8115B6E73A5306E7A0244E1C29BCE4FC20CFDF883392BB399  
0BE2A1B3213B68EC4A166C77D724CFAEBDC34C45ED09848A994BCE1FF6A9BB80C7F5CA8FD44D  
3FDF8DEC8BA6552C234F8DC52382D52D2B01BB23404FC453725C7C9269A785FE09C712D4ADE7  
072B66295CA0C6405D9859E134FBBD3737F2956DD1D718A9F8242CE95BDB1E49F265EBF19976B  
C46E29F7DE0EE5C89A43AF2E107588A46E1B6762E6F8E48B8FC4F4FF93EC60938B8E5C3719022  
C750C4309FC62ADA4E9028

---

**E1C Code No 20**

D240216C5C4A70742CAA03AE910E8859C92E5A90A352CB8B45847BAC7793E1F75720D4491E89  
6AD4581E1FD83986FF235C9834BEECAA1556794BE49033E79D4CCDB4DC67C5200E8B6A3EE891E  
700B348CBF092E4D3FA5E648B620E34E491D7B628A1FE7E2C45586B6577E50788687F0858C10F  
78F371B25C712ED2760C3D605D4ED4F052E8B6FC308D3ADD4A9B86F00CE4257EED085EAE95FB  
B1E113FCB42CE12BB6076178A20903C55DA570EF8A25BA7AC8B7E134B8D4E35AB172CA33CC972  
94A5E7E579B9361B92B49B63BB1982740015DFEC16882989C917F50D5FDD9166FE1001F3282D3  
C54A28AC7FD773CCC0634AF7CDF225F94107C169D2F2BB75TEEB55933CCE0FF116D7FFBA992F9  
A075A2439CCB369D5B5DE460CADC9F8C81D98E71651AEBFC2A918C551082D85F75675CDC8CCA1  
D3E486CFFB3B025D27C8D67C451FDFFC59C3BFA163EB791152390E9488C604B9B8116C329453A  
98F7A104527BC677411034CC49686108E569B7595E1DDC85918D90BBCB337855860D6E4718C06  
79DAB6982D23FCB6648E8561F44BCF9B052D8B58384523BC592C9B7F824B96AD1A39AEBD2232D  
6D34DC171E8FBF933900960F207B55597759D23E1E794507586114228A2FC100CC200D2B862DF  
3F26E6D1C9370373FE165C326D8C29FD2F0B3071AFD5215781FBF589F605263FF065B7A5CA3F6  
AA9DE3FD8BF5589BDE3526

---

**E1C Code No 21**

8E7752C52805DD0A723D61F0BBE0122DF576A42B5AFDF9F196A766C9B3BFE296DC16A892FAECE  
EDD8256D2B1AE6BFE5437D4A2691803043B59862B30D68E4FF94A0700D735CFE967299724DA9D  
680200C898EED1C785E7B8CEB14F1DCDC73FC625F9678B407603587220C2FDDE0A47E82ADF36C  
26F942797D608BA6B38A3AD1A967315E1F2D665B27D51E350F075531A179DB2EED55547EA6176  
1CD2B3962FCB347279117D1C7A7574B49FFE0991AF572A2B0C962A8A79800CFD524AAF9E6401C  
44569600F41F04422DB891D25B9F714713086BBFD0FB268E66A4FB10C0ABEEB31D0FBFA20B0E  
4FFF404051596FC6F6C8093AD01807FA52041CD33007B205D15D47AF733966411A36F4C7B846D  
0BE049ADC21B89EA4CE0FB414C005E66F36FACF3C43B474D47DAD78AC114D0171C031DFBE4A1  
5FE1A22603CD79B6BB448B67A4DED97262F7B869C54F385F3682C744ED5AD6C0B6E16793920E  
6B45A024010896D5FECFA111CC9F0C34E728B32F2C4D45B8AA69B621AB9AC3D9D79B38BF205E8  
D0D19FAC44A76B9F5644526E06858F76B3EE2D74AEB1971D6B6E68B83773399AC32203164564B  
102B26C370A9FEC673C285AE0D1D3DF239D48B6492B89846EBED4618AEC940DC62AF4C3FF0D56  
FC9FBE23EE3B0A4890BA2665A88E9F40C4B6A770F9630234ED10A3A7FF3C5BCCBA836F3EDC8B8  
21AB18D4B1D51D9962C328

---

**E1C Code No 22**

E682E9D8E92A7837823C9B7714D267F9CE290E9FA6CC0A8432D3F7507DAF6CF681246AA4C2323  
C6B53BC6E53B31F49742EE5F4E6F79DC36727E98B06D0300ED21F0CF5F2B51D8304A51D0B498  
F4BFA39C0049B8117DAD334D4B2E37676EC42DFE0EED63B3726872CCF9A10223A8A4563BE8AC2  
66E0697004921DCCEA5DD80C62567FDEBF2AFDF030192831A6FD871F63D5DADA4B270AA9E0A  
CE47E75BD19018C8B09B548D4F2C24831C384D2B807852F596BD4FE32CAB3A16899D0B100E9F  
96D06AACB8DA8D51DB0B0F600F3B614461F5238188B5EDA68EA753B6ACC58569E841BAF92CEE0  
4E6E2626B1FBD01B9B67D1311B1C3D67427298E2D193F0647EA17D16FD7FD6A40A1BDBB320A1F  
5FC64B97759AF4E92AAEB759B5DD30A726E9B8EAF372FB83CBF0000CA75F219A95D6A3CDE  
38B8DFA9281609A20EE39B73FEBDF6A155359476D073E7153BC918C1191C9BAAF0E0F161384DA  
D8AFC31A3FC1E9EAF495E22D18C05194EB85298AB0F042E447DD627904B73E6E505712DF0105

31C88E695F6510C78B443C731D7FDCD62EB7C4015AB5D530BD09CE5229FA4DC5642AF176C39D6  
0FE070DF635CC5435136C7BB9C4DC83B0D382B9BB636A6C2B3838542904D53B862585FE6EC896  
0A9A77783D17B2D90506F5D60998602AE5430E86025C8864883CECD7CE51B49CC2953A2A41D7E  
F8027F1A83815BBEF6F6B2

---

#### E1C Code No 23

F6BD4204243CBA14DAA15A256FBCD138B5D875E28BCC0BA36855E648434CD04F49935C3D074DD  
5BA2EB82AB14E82C30991A1159E990D1D36DAF794853A23C499AB6B3DC02A89F0143103728136  
43F786BF19D3FA8C463EE50D9FA87107E91C461AD2E5DF2FC99630D2005894CB7698123111FAF  
C0C5BC9D1E8E84FCCA5179A6C9AFE3E36922D66854F90D2668A57FDEE00C300AEA4E88F03F05  
C4D7695B206DE9F7E1D429E5E6B65DFE05D4C861F4E7844DBB9062C0B6DB46B27AD0368992F54  
A44829DD11A05AB97BA8AD854E428B87F20C4E5E4BB1FF3803809A81F2E4C109572006729A5E4  
90E0AA40BA55F4391C9FB758EFA79B97E6D413BCB02D33A00DA6705BFBAD66CFC21291C494B  
7C3293810012ECC61415E609DD97AAFFDEB795DE36026B4602DD546A1AD937F1A6DEACD3393F5  
530C48A7974E2882CB327AE600C05A535BDE5D15AC524859582EEE2D62194B73E01643359E7B2  
625F3EB9F7137514ED549A3196FFCBC8072B4F6C18CC67AAFA0ED6029A805EF0987E2F27A326  
0F849C68F3EF91DAA9E579AA16FDA698C18AE8706E28C6D84CB3F593273D763C2969933D8EFA  
564E8C06C427809E6A5A6F76DE7C8B07FF4EDDF6CF2B7595066DFB15F5C6F3839DEE642FC86BC  
1F3AED7ED2E65B665198AA034817DBBBE0FE30E662B2161276CBD969FDA05AFD6D6A570C1E3CF  
7E324634441983F257E2BA

---

#### E1C Code No 24

A9366308475F2D8D0C2D451C4A65A01EE58A0AF19B791D97382EC59A52616C7480B86EB1D0A83  
E93224B0DF73DE1D7EE6D51088F3B20B7937E6C0144E0DACA6324F0C8E5F9D93A8CBA1045E5B5  
09D7DF98619FDDFDD7892C3082D69008D9D3ED6C9C1367D9DB7C04621D7CDD8A5A2599EE45B87  
A82F8CE8D60293E7A71D11700CA9AF117D630C5D8B876A9DCE519BD653114448C68B265813C60  
8435B96CD642A420A15FBAB467692931BCA74F1F9D23F5BFDCC5B8651139B5A73F04FEF3DA64B  
7BD56E49235069EE5E8A136B921051F1D1C7D5993E6EEEEA2D58583152ADCD87AA89CF5962BC8  
341EF99CEB3682A2D0686602CE140ABC2FDF79A7789A9D75AFFDBBA00C0BD6A8A8AFF9B5D1F30C  
8373572C81BD9594890102F46B5A393ED126C36AEF6A66E231A246FDFCBD3DED198ABC54CF357  
ABC67AC83680C048932D7C902AB7DB16952B3C95DF4E845B46A362FFE1A27CD1388483FFA41AA  
563933371C018084F9E3C03AFC1F00D6ABA29A953327A4E3D9FAD4616C8546C9AF89FB4D08D4  
256923B736A8F68FEA5A097E0640C16E0F7F942E6A6F5CBA76BB00D81C606C7FED908789A63F0  
1F9B5FC7B7BE434E85A0A44B2070BE71AB2BA0132D9D7B32E2D2FE229619F85643E75B4141D35  
5386D1A09F45738455BC21607086C7BBCD4B73F87DD83E905BCE8FC6C5BF1824E904C4F5C2651  
8B2FEBF8EB06B22437270C

---

#### E1C Code No 25

92D87BF3F54B0445C05E508E80F9CBC0502F0897D717CA232004362F394A023BFBFE3322C1D33  
1AFC6454FC756FB48768693FD5C46DBB40DCBF14C726C24ED67D8F3EB613BA80B0E39CF0747DF  
62D258613640D881E085C377DE1C3D149C8359407C2C6ABC0D2718A2D42439A8E7B38CD7DCED7  
2AE750B2BE88D0069FBE94BD69A9A4B4AD42FEC5E651A31F86B90DC2FEBA6FA6E5F6368B620C  
1750278DF393F7C5035D47897FC05FBC419A61330135F24365F13D653D77CA2930DBB05A3815F  
E83F75BB1BD8B2DE12A2FAACD1ED62329C55B87FB32CC8F3B42D888981B4192480D1F57CEB0C  
55897BDA6B9C0ACE1E7E4595E30C7368306243208444FCF4574C47B07725B25EC2E28F4C50B74  
4B3860B361DDDD22D949AA94EBA4F97606FCAD91394B6FC0E634BD15E099E697403B2AE84CDF5  
DBDF36D91FB82C0BC12B984FEE83CA9E97C194CAF8382CECAAF49EB3BD446F660F94C188C074  
CC312E186BEE0F6585535B050C226659A94B4C4974DA32CDF30DBEB4DEA588C6F490F7432DA5  
FA2408BBC931EA60EADD7B891A61C157147B8DDE7A45F909BD20D5B12009783DE410940245FE  
4E91ACCF72942E486AE773CD665912173EA29875A1722F8658C414CD08CBFDFE1DD356E167A9D  
7B20BF7441562EE816435A78BAE7E5A5EB4DA6AAC36F594C93E2851D76B6A18B0B03B30CD38B  
97E38109C494C557643D58

---

#### E1C Code No 26

BAA2716F115D72D2037841EF9138D19833C7C5FF40F058A960826E690315577710EFE64BB3769  
1564B3B0B6C577DA603CC3ACDFE1785541AAD23904758A5A13BDB018E7169D479A1FAA031CA72  
FA6D6AE9613D6B2F82AB07500B49DF535F86A76350C140F9CD25295D6BC2F38C5D13C99540E23  
63862F06DDCC486D884999BCB840BCCAF2AB84F5906B9AA0F77D6432F6531558392641C52FEAF  
9D8ED86BF0158134129F34EC0D768BC02ED442254515A74999C6B8052A1FC797F5720738C69DD  
9B3FFABDDC8515CD279B246EA7C67754920038C5A4C8D30119CEB95FAB2765DE39DDA84180CE  
BAAFBF4976118A8373FF6BBFC7FEBC3CFAEB1DA69DD3DB9E428C594950FD51F4D98A393BAB960  
01461F2765834ED70C60BC56406FCFCB3E784C59B91C19783E67CE6C86713C43DCDA9512B2E717  
3AFC2EF9A172C9CFDDD3000D7A981440AD994C39DAE6FC0B645BA0FD49ECAA19E572ED0FAC748  
EC837A7D6F28A8D004402F71CA209B9403B21E29836C5FE897268DE0736E985F9631DFDD1AC5  
9D5411E684BE082F41108E33D2B92B2D45ED70FA52EA2D6DE121EB9F9C886DA479464A9DFD997  
0A406491E334372D7B78936095A7459BF AFF0E9090C2C6B6D62624A79334F879A5C92C685B50F  
75F04BA664EC95893FF40D62EEB24DCDD288729D0C297DF5ABB83C77FC11D0EA3EF18E3BC7C2C  
065CAC51390C610B591D24

---

**E1C Code No 27**

98CDFCBAD056240E180F347C00912F2D9ABEBCF5464D410BE6A50404B830F744D78F7D9718040  
4FB3BCCC2288B7991810B2562C4D509200CE1F9C4DF6DCA4C600D9ED49C9C1456141C7B71513E  
728D41970ACDB6C15B4A4E327B9A87ADA73D1D46EB0A21F2F5481C3B42931C51B780FA526C29B  
98E6B9C714B20049F7A05252CBB84B8E36026DB2379C9632A0843436ECB72D15EA2950ACDE18D  
BDC6DFB01BF08F7E191EC885F11D1D8B7BC96E9836B395108F6854545082A694D5974CC36C8A6  
58349186C1BA892DAA85D3F156BFBE94C73BCD815E7652C38E178AAF02014F0E6F23A4E7EF689  
EBF3ABDCCDD40E2DECED316F07E20716927C8F7B203D51D957EE6EAB062B99ACA0D28E0AB50B5  
16CD92CBB9BA90333E73D58DE0B4B633D81EC93D15EBCCC813EE63D63BD18517F4FE85C374695  
74B8122FB91388123E1D5E805166FB7157494F8559F90A4FA3DE9E71DA6FA7CCC608E638BDD4  
FD3E4487506ACC84F1E1678D714B86FAAD57A6B76E085CFAC30DE469BE32E2D203C63B43F073  
DD24F4A1E039B941E7A97F8BB28B516217455268B6EFBB0E1745C23D6D12A8CD13E5D242F562F  
56FE92496342000A731BF3DB0A7D3110705DFD0D8DEFB85665B77347CEFC8629F3757304F6129  
DA9845F6509FE3D32DE9FA86EA4FA9BF86FF7CC8E726C0FA9F93F889C467642C5E944501BEF8E  
D59793AF8804A9951B4B88

---

**E1C Code No 28**

906F6C5A1D3BD03A03802EEF5937E214E87B5E2F0182BA2C258F44B516EC66EACB705E06EA6DF  
DB56600B8463A421DB03A51460091D7FE889E6DAE32EC19190E721F08D37846CEE7364B6ECC0  
7C1740CE990141C4DC4CBOAC9F25CAFCA6BC911102EABA250ADFD505201FFF638B31A77CCE7A  
1ECB273F9C8ED84EC2F403C1191596A53EAD823421EC47DC5E78F3BD1339532C97E4EAA024CCC  
906EBFB870C1467C3D845A178EB07C11BE8D57E4EDEA7ADEF162923E9521451B871DF6E357DCE  
EA7F62022106F647DD8A23074AC10AA632C56DC32B34A4A184FACC64E5D1E8FD69269660543EE  
A2FD584117A3EBCF6268352F0212ABC7CD28A93C9AF76722FB5A71FF9E5AC4579A2BA32B9181  
8CDCB62C77A6A8EB1F4C34132EB463812B329B6B22108AC36E71F38338AE3A52C632796E45189  
632B73FDC0BD37A457204757261B7CFC01E06BC767A57A5FA7CFE43794F65398A94B4EF09D6DC  
2A8691BD0CB018BBE7B66E0C37BAA4723247AF3424BDE22614A9A581A7982E8C2323178BD2D46  
E6912A2FB2D2531819A180689D7F2C9B5C5AFC2DCF1C7FAEB1927EB79A72EB1203BB0FF17DAAF  
27D66022195890BDDA786CF1C36ABFD96BC36FA1D2A5A0CC3D7EEE1A1050CA840209903CB9FF  
429C7EE9DF9CBC2BAB84CF28FAEF5BB45AE9588970A28B6BD9ADF8DF134C1FAB0DE274B5C7452  
C4836A573A26A0B4C14B74

---

**E1C Code No 29**

C6D5046A5000ECDB54C872F2DC494F2DEB88430007C9BE8EC39FFB148F00F7861D8277589AC83  
9AAD30AF7D7A2E0F9EE8217A39C521311E9BD59A71BC6663A7738669D6D3BB28124A80ABDF905  
DFE2C9539CCF0C8FA39EF84E9633D63BE0C32F3B2AA9FCD18AC38C3C00924E9D54977BDAE614  
10F997038BE066DA6C945D8258B7DD133EECBA836A7A6A2907C431C522619D466430E6ACF1503  
0F7FBA4F3D6BB545CAD85678E81898D2DE358cff3951C8184066B18930DDA867890871AF6F413  
3B492FC894DBE4AA5F1E44BD361C4560ABBCD3101B4AA4E065FD60308795DDAEBADBB604A3D58  
776006CD074389AF49A0EF09586410015C7DE4FEFEEBEA6262B23571B93BEE15CDA2BBA60B6CC  
72A7DC9C80C81C9A25FE3D149C7A8BB2F704BE11177F92E2CEF0BB0D12C0766D691CCF093D456A  
FEA411A8F5F1C1A44F31017760F0D0CC3B271FB15F56D9F51A594C34FDFF8F8ADC91584ED8D7  
E1B6DAB27B2BE1BBDC4486FB1C822F23704BB2E4B521E02E42FDCAF69588B0B9D92AAA73116  
D26E8E948DE94F6267414AC845467597B4C1F2A9A8E1E82C0A1C05955022CDF87386098E AFC5  
BF1A040716A89B53A36B143376927028A561BC07AFAF42494DF5BC0D95170D853DCCCCB22FD  
36B7947712EB369077D02BF85B0A4F57757ED80B247E521AC640D1B1CE30F93DEBBE2389D364A  
8B7971A51AFA4F557A8E12

---

**E1C Code No 30**

FDCF36E6C842D2ABCCE9D8783D0D7A7EB74992EACEEF6C618AC7DED4E457B1A708BE2C82B28A9  
563F4A088FF7DB146B16B47A900DF49A4F3FA8EDAAFC09F408B025D04EB673E105E0F55959B7  
951CF0E999CDF68EA9B32333DBFE0516D27211CBB9933CA8AD8AA6025E5F9A062D8305344CA  
FC3CA391BD8DEBDC58F7FDB041B349900E397609C71E4EA3A9D8407C63E8A6BBEEAFC92E9C9  
39147920E48E35DAC6D123DA46E4F0838FD732E43FE4EEF6BD68D5AF0C9BA3A0CB2823374B29  
1D4E10054F695DC10A847E661F39C4C133289B07ACA8B544E3E2EC288CB18C40CD9A8E48A933  
78FD50E077EFBC21996424B539A397B3D2A6C7DE58112CF55E82EFF10F75571A15DC248E6B77  
CBB91D8BF2D53E5C4E9A85C7EB8FB690F74BE029CE1B569EFACFC16872C5008820FC6A7D12AB4  
3E08B4AFF57DE6B43B613DF8480ACA556E29D792C6C81CB1CB54A67245C571A04965267BA0F9C  
D3FA0950B9A5B393B4A230A41E455267CD396F42285F0E49C5AFA0B53EC7B60C1C317EDA3FAE4  
B1713A80D4EBAD32FC685C13649C4806D6FD887A24A4F7AE801405FF28F058B37112A680F9E9A  
D0456314E9F490393CA25775797E4CCF9184FF0C6A237AFFA8DE1B84C420A6183B1D49D6F2AC1  
E673E7FDE161A8159DCEB00D85F032EE76E3931C459CE935DFE4AD6C6110591EE58496B82A166  
30E82320B9510880BE4E72

---

**E1C Code No 31**

94964FC9F66389FE3880283C4250E6E19F195DFEBD2104FC0959E084308BC9CFDC6E5ED1C4B48  
B4ECAEB4FDE5F215FBED85A6CD4D1C1466E68A4CF21AEF29F77933549A3A6FF7ACD8AB6E6C689  
F1E8DF0AD8AB289D5C33023DF90B21A26320CE8C1CEB2C099FC1DB58737665855DCD20D587E17  
6483E33EF14C80AA4760F751EE5B28460811E5110FEC3D689AE2A6E91D0A3F1E22623E88571F4  
DAC895AA428D42634EC142E56D0D57CE68D7949BE13AF234229E546E9D66D5C58E510BF3EAC7B

73309BE16DCE6E2280AA80247D9EDEDD20E06295C9876B412B786CF7E5F1073792158131AFA00  
2FE7750A17015A9C2580646A9A0D2A3F0243AF1AB4FEBF3D028504553AF9C5C34D1A4A2FE3B8D  
D8BF8CEADA82AE63C319BD7981D97155AA2F105D724A8C09310D5C316877062152419A006ABF5  
6AADED74DF0DF325D666C31DF51F194CFEB331E7DAF00410372999D2D05B023B2C3067E6CE4A4  
72FED3B8BE1C15C24DFBF4956A5B670FFCF128E5A23039764BE39CBE55636B83674060B3CCF5E  
F9A7B7EAB0813ADEE82E271C422FB78A9820007753B1E62BF4CCC074F7796D5B2008FE6542DC0  
C77ECA3810120ABE9F90BE5934E8EAE365D02B3D2DF4EA4A827E033263B113EEE5823DD3912FB  
31E3C4B46B274D7115F34CDA793DB6AD2CD8BCAF4B13B832AB605BE42B2877EE2E66B411668EA  
29A7DBA5BD969B9F152638

---

#### E1C Code No 32

9B8071D96E7D361B2462CA93748DE4D31746972DAE582AD4F70A188CB40C2E6E18288B6A713E  
D4B647013B3EC31C9EA6217DE55D016A1977A0B285224129CDC59A9E54F3E5094258F11C0C995  
F60785614E560764312CD86C6969B3274236EE602EFAE392C015E4C3972D6FA2A47AB48D5C5F6  
836AFA54F28CCC03BB4DAA0A1DC0DCA3FD3F2B15FB2ADD907D3BF7719D1D9A8284A47C30F3271  
2A8CD440148B8DFDB851FFD25ECA2864150B832F8B5DC3A7C701371785A66285601E96D285FF8  
8947804AA4D88665B3E15760CDE327FBD21393042BAF62FDCE6EC41955E877ECAC331D594ED40  
547AFED34D410714CE57FCB4F01C8826519ACB85F447306C86BD1BA8189E0621DD09451E8F341  
AE47E7FCF1FD2DE2AF78E0AFA27A4B6DD51A0710FC1FC4A5998234EDAA1D4CF0786B779F637EE  
1A72058774C1B4BF5E125DEBB4230645ECF87E3C6FDC91E1D14397FA72686784815D9654839AE  
8FA43864709EE0F4A336E3C399CA20B2E652E2AB17719F9253F772EB7A9E883FED4EBCD0F8CD  
977583BDCEEBBD925676F56AAB0C36F3D915F6691A30D60D523216FB233CBBEDE7FDFBA82745  
0E595AB51237F9E77058E40F862D3A5A96E4AA3DA74503812EDEFA501E526DB6B4C64222D7F3  
3B06D9CD0023471DF5730CF8E2BEE834D108A25729C1C1484C207ECEB0E4598965EAB5216D4E7  
C30577A89FB8BEC0B118F4

---

#### E1C Code No 33

E43093167F77AAA20EF9F4AB7D715CD0E86542A0523BDF0256BCCFB1FA987A6565F808C03C71E  
6343EF41D2ED4C4FDBBB1AB1D617BBBD776F07B000922FCBB3718F5FF326A7BBF4BDF1482064  
11E86506FE5CEB8EC0F7AAD1DAE3BB46482F5E85D3B46DDF93F4BA19DF9DFD700C35DC038CF4E  
499A058995A0F6BEE8535631966751A85571271E6877BE6216AFF16AA2B9046F1AB9126E1DCAD  
BF40C4B390D23379D52C80C10CA05079D1F05CA294EAF7E2C66B884DDBB52DC85A45FFAB2BA6  
EB95869689486DDDE372DCCDFCB408496E647F33575BB99FF1699219D00D2608AEA1A47CF52DD  
21A3CEB3F043AAEB40EB27F042D276227C09CC8201304C55D254AC228FF309FE8DB74C85430FC  
F9441EF1B51A1192703B140CE3703E5848477FB0BBC2E82DC38702D4C6A78A41729B7EC86F989  
0EAD369DE4F25EAD61DB0B5B0ED764EC84FDAB904FAD9DBEDBBE89F338DF52F7A6FAC8EA1D76  
001846802B328E8D1F110219BD6BB51214814026BF6E32627B696C7990F53591CC811A9A09A1  
154A50585B882DE0B404D7B5846DBDC8C66E4AA0C7B90B08CC96A5CF2352A6592BCA536359C86  
3D639CDA60FD23326619A9014FD878EBFF3E73E4424B045CBD506ED744D3243725EF9491D6165  
D332FB12985022A71C7DD4E3F942AF5CDF2396F6C346088EAE89535E1B21DA8F7B2E1E12DC8A3  
7738310248808B9973041E

---

#### E1C Code No 34

F5B9B9204186466AF61609CC856B6B2B33D6F526EF1E4BF4DCAA1F1055F033072B3801B642700  
249C024414B3217D160513E5A804B3AE8425852CF5FB9F51D2601F9BFF9F5E4512A45ED8F615A  
6671315590DEC31720387533A4E090646F17244EB571DBD6E6A10890FF19809D935A5E88228D4  
24FF2E54B1A37576C059A756290BAAE5E36AC977526339CDFF915A763B2CD0657F3A3D385A5D  
92466A44980AD8A1B4E1593DC177E2447ADB53B1EAE15A91BD6703E46F01AE91D6C316C1DB983  
688576B3B2BAB280FF196D5BF545755097249C517E1271202E3856475A3C95324F827961DD7A8  
27709DA2924B21949B6BF032675D80FD120180F6850BFC385E72399F840B80E5525EE70B89E1C  
524D580390D487D0CD31AF3CA5691067BDBE8E2E91E0099F59700CDFCFDF8B3ACBEBCB61DB23A  
28E80C3E463D9E53328C37EF8FF0D4FCBD287932C8197DF57EEBC9DB29E2046C7FC14970F9F3  
7CED37D8BB0958155192C8595E2A9369944DAF58FCC1D9E1987DC4F7ACB256A65DA78B73317  
8FED14DA3E3E41DB808849132EB05E48BCA03ED499A314C857FF7C7C1FC8BD2478635396BD7F2  
52ED984C102E23F55450F57ADC7EAC50A57B78BF4F988565A172E878638ADB1D992703D0BB742  
605EB76E3C85319F567D71B9F2E40251EEB936B323DE98496229B1F8A996AE4F6C0C2FBB3B224  
4F3BC57EB3FD067F535102

---

#### E1C Code No 35

A7F21431EF8C75A1E9723B1FBB602EB4B92BE5FC8DE70183659A45A31EDDC46643ED1287A69DC  
876634231D3AF95F2D02FC9C0C7BBBB12319CBDBFDF6CBF94E47A05204AB14A490C6FBABC329  
B5B0EFD8C2FA28845764510624398BFDED1B250003FBA61A67D217550FF07A6FAE2CB5B8FEB2  
3D289FA235BB4959F8845B25405A75A30E7D05D7BDBE721BFD4A998DA6F1A54712901551E30D  
618DC80FADF7CB7863EADB7EEE708F1050AB0510A956C3C7706756B6CEAF61F02656C3CACBFD  
9E4507AC2B4B78D0EB0BF757496C84C7260CA972F0F45A393A89AC2BD70F15E629473D61FFA29  
BA18A468D8D4B1F72DDFF99608AC9E6A6D6A9231F24388991E80FBE6A9269AD6D31182E79235A  
0E33CFEE9E3526FC068A9253789407AF8CAECE14BC337FCE02333B63224A61E913367CB36641A  
74E2DB2892C4E939A50127DBEFED7456F7E61454FA5016A6B75E6133B0417C2860B2F640ED8EE  
62D5100EA172BBF8FB02E2022D29DF33C25654C96F8FB2305B72A92105E027444EE0F27769946  
A67E58D9A26AD01483FCA4BCDA4C00A8119E355CE733474349DC8311AE9853A064931FD68D598  
B02E0724A13FF63D88416FD5D03A962B5D8F79586E696C484D7F287773851831EBF33B0158F51

C89C493C116157D20DE66F3990061135F5CBC46862BCFDA5EB0322793BD6AE188698A2E1DEDDF  
71702B6CB01EC2BDF85680

---

**E1C Code No 36**

FB2C4002173D1E1581890C14672C1F232E8A1332655108F24F78E53638EFeca3dad18d19fbb1E  
91C6AA4761017DB37FA76F70BBBC4C8E8015384DC9E9EF14C6AE60DE55974D448DB8C36B030DD  
55DF5EC6F6C56DA8CB9BBAACF6784628B669913A7B291632730C11710D7E181401FB535FE8A9A  
0B81578CE54123A6C3897496375CD7C60BB4E05AD16BDD4CB8F652448E3020EDF4D51FF5EBB9F  
A93A740AE779419002994348358CD7827A63BABCD7C4501CF8ACD77A2200059DFF5B180AFFBF3  
CE52133C7451CD108AF9CC8FA32428AE9ABC55D89E1931E6607160BF96015901DC097B56299F9  
F358DBBE921FBD7D0DB43C9C5BF97468813C0AC632D35C858D8384C32EBDEE933C9037EC36D23  
22F54FB0D3CF305801DE42B4EBCB5F83F3D3FCC1AF56910B7A547F50F851079B6D0D262676145  
C27DB362AF383037FFAD5E3B26BD2095143B361F82425734842E2153C5F428D89DBA45EF59BD9  
DF1FE1BA941F172A685F08C18B76B6A8FDC86EED2867A57AF48E00467993864EF70D80CE5550C  
5EDF085E94435ECA89F6513D23A56235739534C777C17BC6DC7BF6E04BDA9B0C94C4D7AF1368  
C6B4B9D3C97D25A26B05703EBC4D1F8869C5DDA359D189F4A3E548D53731FB429F3536880CAD9  
FE13F70DB0A080B949C3636611CBFFF644ABA8B56D2C6E988B3392A7452A8C8E52F228856033  
1A78F4CF021D2A41B2ECB6

---

**E1C Code No 37**

CB7A566070A06E759017D62CF78A429913370E6498BCDC038C1D3079A0A3E6FD4FDCC851DCBEA  
9EB3A7D266479F75C40452A282CB406E9A2581372BE2FFBAF6E7F3359EAA594631CEF876FD62D  
EFBB3B816EC98A1F72B55F6023B572A51F320CD7ABF489AA905CE2274729C0EE0F677A04D7449  
A489BD02704CA65BCD8B753B689CB90C87C73FB4A45219DCD817E9AB584EFF049EA711CD3E24C  
E41423FEE6F258A65CA8EC3A00D45371EC5B846CF1549CB5CA4FF14B696140D3483DDC7801BFE  
6CFEFB9189B5C7AC3DB9C0709F630D80F361442BBD22636B00530EEF21D96D4A12CCF85E01249  
39B025CF35A0A5F1B4C2FA5B5DFCB3772CBFEC1F0C1C824B5CC22BA8FB2DC92164FCBC60333EB  
F920A14599F1E8EFD4E8CB0257134947331D820595BF5630EDF00814C32994039B47E8784C29D  
0D1C5B5D219A955FC14CC18DACE6A79698A8073276A424BA9A6606DFF369CCF5F9F4AEC9605  
F6E44807507B36A4918FDAC448E3134106683EBA80A2D97E12EC2BC1EBBCBADBDC631CE7D61BB  
9DDF143C3EEA4E36EAAE AFC001849812A7CDE3EBC194A51EA2A9A2AA15A0A4F29C2FFD8B2CB4A  
DEE99B59553BB2398273C04329A5C884989D417C131D68E9B505594C9B9CF1C13AABF05093A9E  
4224D71B54C6F61F1255E25FF7527E47768FBD51523F42915133E02CD7E404147E7AAE95BE651  
BFBB65E29130D0CA31C2A

---

**E1C Code No 38**

D90A7D104DEF06F51CA5FE107C115C130B8823C423423608DEE00E0C2E6C202B60C5D20BCC9CD  
C18767D89E5E7857BABC9531C21B08436AC14C5B34EB986E5521369BC3D9B1FCD07C99240FD0D  
A306C69303B310B8F78D2BF97D6E9E88843234D73214431F6BAEFE5109AFDA22C4C348A469370  
BBF9B0A81CF27ED919A0A48DA3E906113C56659F7561175A608B7FB37A76EB9E5ABA5F4A6B48  
5EA5D097482A28F4EF7DE785D31DDEBFE41DFF7C51CA2B64A0D2A7A70269FDE399FF762820228  
9EA97141F995FF51DB5AF7C9C5CA76F0AFB4981D021FEA9EE6A49ECCCD18AF290B6C231265247  
DECE33B3E165FDE4FCF82EA84A4A8AE3FA90972D96DB68550AEF21FCE82E0FC75FCDE33C2B6F6  
59A873AF09067D94B068DCEEDCA4D392BE5077587785CB6A1F1947841F483BE5080E85B49F107  
3D4778A39239266DB2A24B57B5F51B1F021D05C634D66DAD081D1668EF0520424581E5E0B62ED  
085D005F169950F971E1493A49A60A595342ACBA236EB16D5EF94E749889E50656D98F94EEF2  
05445AC027387AE1363696185E24749EB67518B89057899548BABE29F3487D273C54EE2BE6254  
C7F3ED3D3B22FA3FC94791A7BC7C499A391179368D9B1F0DDC325F55022F5AB7B91142E2880BA  
C761D154C11F2C58F4A42E8B3DBCFD44777F08A74676DFB7039F24C9A4C4620726FE12849C9D3  
C15293A3DF7F4870DCCF56

---

**E1C Code No 39**

9D238D97CE04FEC0D292181D145EA0EFA727DBB7BADDCC60357762D262DD7D7A3BB0189E05BE4  
90018ABBB61B154F94A4FA81985E774019CCCE4B8ECE9858C0C2BDFD7923B3354A2144ACCC5C  
9DA34E50299EBF68E9BA0A269760386E5531F8964F8024ACC99E7AC3F40BFA9D94ECA1B14A1B1  
73A06867100C57883FE7333C079C5871A8A7603395A87387EFB92A77C5812EF548CBC3B9178E8  
74E45DFA8796BA6FECB5D81687EDC0AD5F804F36A9CDC58A5F991A2A0BA999F86E663715CC7  
9A439DEC44C394ECF1F14801D8F9F292A648D29D2E910032F224ECE51D0708E4ED6D3E65FC788  
A2C1D286750F4B6D768CBF1B6EDE8524C2A7457A82404A491DB5EC868E6B95B02167A0C4E7852  
90156943FA091F28234C4CAAB586F8095895FD21582E0356BC15EC7CEE893E70902CE4D012174  
74E0226FFF30CB78597726C74B95732F44D03A626F1D1DBA7785F55859B71C2DAFCF71D99EB99  
FFEF4877518C579D2623FF6EB326B8D6C7674826984CCAF98CE41724183952EAD69F05F44750F  
3B857EA01475555FD25A828BE1DBEF5E8B1C123779E9E69D35E7BA9ADA124CBE710490280B64  
B2DC5EA2C41D6644012A18B369E3CA2FD93A254C493506C54FA6CB4DFE24E0B5035230F2BDE6F  
F21101164F322B4B066ECBCA3BB4F3C476B41BD02D8948E555AF74EA13228F07A1BEDBF95FA7E  
16F2BDC5D178E74FE5A1AO

---

**E1C Code No 40**

8DD8032BC8D741905EDAE449212146878D8FA15AB037E41C36D21B0064D65BEBB74A18F4370C8  
0DB44EE93C2AB06DCC6C6FE7DEA83F270C9FB52CE00BDBF546348F0E6285A35A32A47512823DD  
6E22FB7949071D4B58B46241544AB97B0F6023C70AFCFF0C7541B4B9E1FC6B3C3C55500251665

D964871B9D1247B3A9728AE02FF47368053B1DE928B6A8D01ED3BCB18A3180EFC9700871F4809  
59137CA1480C3640547497ED7CDB4912ADE1385F9F35B6D27BE64E362BD71E0981BE952B00AA2  
0DC57465DA89B87BBE07F27454FB24B3B86766F95A5A5B4EAEC2620C3BF87C0654E6561398F2  
7F96178EB1062E42F6E6AE0A669FC6C7170F217C850E822B4E70C9033A375BBCF6D62D11B3DAF  
7DA976D4A9D955B924E7F0A19CE77A53EDD424ADFDEE8558F06887E82A936193AD5E508938DD3  
FBFE02DFEBD98C2272DEAAD8AD3B0FC86C3637A6CE694DD95E4FD55F433E151D35DD4C930177C  
A66322001110B9BD0B89A096C8C3A3431C100E39E3D2E65504A770F4EB2F19E9D8FCCAF15B8E5  
8DFB52A0B88406A48A036193F3EA9F8ED2322FC69CEAB9E2DD6AC627DCF4CB109EA05AB5DCEA  
5F92902F3E7BD457C240C958FCA7B17F2EDA1248961C9C827E99BE0A3D60B3E27E42B1FF696DD  
58E48C7B832D8FE95529B9C8F075E67294C1B1060EC6736DB73FE7407B320D850B049D80F9F4  
D536361038C4BAEAD92F24

---

#### E1C Code No 41

C10051089B11B578F56E6C24FAB973C5D1B4A2F937E4A402FFCC45267F4A3F4CF4EED3DFF5308  
38A570000F7E523D1B97FF798A3C6E12F9704126A9B6FDF606031E4D8E1AE39A470FE929124FC  
95961B85A5A6E10A79CBA60F54F37D4DCBC13FA3B0A3A1729184C59036428532E3DDB3F7B8D37  
3DC08842EBC2ABBFD5B73B2F9B7E83C81D5D0EB3037A32AC0E5B6CDC7CD84B9289BE16106D  
1D019D47209AFD8DA78EFA0F9108377C187B170CD53F366B17899EB41903FA1627AA245C07EEA  
5D6DA78039B3C4C1D70DD28870A40EE3A048D8209C4088A0847D6859513E01E0F4172C383D64F  
0B307D721C01495070336A753A75E1CA433FA973B131E558FACC298C0A6E934E9F717E19EBCE  
A11EDF3736D4EAF593A8E5AC8EDFFE4D2B17B613E024B41AAD19BC0A27A1E9B9D25344D43505  
96B9B0A48AA014191511B26E61A9753D8A38C4E3BECAC93E67CAB5696888C06B9099E9AE85648  
6436FDD1AF1C193057AD1DFBBB14F772F7D9B00F37A6DC9E805A8DFD9D53A161885E5C2C2A6D  
EDOC54D00A8E0704877DA2F1EB6F6D8EB93B5604A4E2545D454C3D4F0D606AC192E170D44E85E  
2ADC91E54F56906909024DEDB6F9050BF3D3928D9AE23D9C42576AE4DAD1336F47519EDE436C3  
B1829CD2C5A0AF63476C7928B32F5E51826D844A1DF765C5578F9C2E5F79024BFDA96FB3199A3  
C7B47D3755FAF376761B4E

---

#### E1C Code No 42

9C6674915677A62A7AFD4FCB27B45F8E6DDDD08980B7DBE1131E6E2425C5ADBEE8474E93A8A2D  
4E495B195A6B83F2CF6472A36E690928362B9A1FA994A9FEB7BCBA7FDCB771F59FB434ED289CC  
EABDAFAE29113389EB98D6F17E5508D5976E11BC8A1E93AF97B1C81686265930B4D334568E3F  
29E1C2F58A62572A610016C1C1C9E1D0EB3FEB2B3A210C59EB3980C44BC656FA7C5E05A4472  
D4255B40B8A1604FE39D8B5026A976310648D5C84CEBC87A8BF6545DC843A3A0B64DC4CCAF2D2  
203122DDD75BA42E096844899A35A899FDFD72C26E3392EA03351DC78BB9F62F51D913F8008DB  
00969C64003773FB2014FAF97E794A45792495BD52D7BE7ACA47FF2BF570CF88303377092B5B6  
BFF3B01D38A53E8A68B0D81FC2D1D375EB27C7AEEDD70679E8DDBA6DE656442ED951478FB96A9  
79B4A9091F344EF39AF23DAA886C6FBA8611C61686332C630690109E2869D18EE7A2C21B2292  
1B9E3DE40BF063E370FF64E7AFE160B7EBFC4AF6AEDA043042552F5F36C2CABD339FE1442242E  
AD931D1B83968D1A31A7E32A0838401DBB9C1034D56ADCAF5942462EF63440FD70F91520137A5  
0372D0D125A6285F7D715FD9225D03A109E1FC5EB547303CD7708F88FEED2814607171930436B  
249924714E8D8E024C24B3C0C9E40127DECE1AD966C3F9DF01793864615F291B73F73D27B624A  
CBEAD3D371B8D4FDA823C0

---

#### E1C Code No 43

A1B9E8AB6C44A3610768CC17E3B899CEDDB44B746319EC50BA7E006EA0F3C09E9D67EF8A20154  
B2F93EC265B800503BC72831800CE0C9FB6CCADC8327A840F69DDF29BE212BEFE4AB1810026FF  
786D9D3A88B29745EB61131FB47B385F83CA211B4A2BC0449F7ECE43B2DDAC94C10955FF2E078  
AF573FFA7349907571AF501FA62FCF24E4B5676F8213475351C0398748FBD60A5EE8A1128C09  
98E57D076A201453EATC70B1F171E7D084F444311C9829CAD03E0C2330D7E8D39DB6B7901C307  
87FF123CFBAD4E974A5F6412FB1BC927FD65CAD1F3AA4ED52E2D84AF6257EF311222467DE179E  
89438524116D8E0A4A94C19A4D66D0AE0FC535D69C4953C2E43136AC07D6A5774D59DEF1471B4  
097146C2124DF83D36678FBD7BEA6E258D826645D88AC9A7EA5E05FB49F2CB29EA9081323FFB  
2A00F3915D1F36675BA1C9AAA3B166D9FB2529150D3573E502668E33DFA5BE95AA6C2F1F106D6  
9218839BA590406B4FE4A03C4B16E29E6BC31335234BCA55D34955880B702F08203198EB7BAE3  
81B231FAFE513F24C8BA9E58798F35465C2679DD5BA8B16EEDAFB04E5A807B9BE6EE4B3AD7760  
9D2B9E0985BB23397BBDE08F4D0B2149A3129857E37D13862C1FF77A57AC663C206A92F8358E  
6C05FDE1A9D68131BC04B76F6865E8DF5C48F9424CD9AB6FEFB3B49BA8D32C923CDB8602C5367  
AA9ECAE48AEE6A276CF25C

---

#### E1C Code No 44

ED1196222AA470CB4FC8A0B7D2C785EB45D232E06453B77DB76F60E5F7BAA0FAE80467EC8C656  
FC27FFDE8BFAADD2368B41AFF69460495923942ACF85C09EF01BCED0076960E5CDB1D3601933  
C1B6037548D27932CDF969FD5A910D5564F3A6BAF896A2A694F0EDA76E813AA261530F6860422  
35A39A76081F58D952662894E6E648B72098D840235EC4A2B963F8E74B52F2D0088DACA7EDF4  
8115618DBBABC698C04AAC0632475BEE65BB26A4EAA08F0209B75EB259B826724F580209F8B9  
91808411F823819CC5F42A9FC1F0CEDBDC54C046EB1D1658FFF7252908B09F8C1D82E5F6D605F  
0B17B25506FAF91D4B3D4EBCB7A705E5BCB2A6FB409ABE4B1B0B47630F1AB0B40A34551816785  
73F82A7C139F072659D80671961D614D9F7DA72914BD5D6F417EBC152595972FDFAE876176923  
CF1F2F745A6FC27E134CEBC2D9AD5CC733F619C1B296026B7C4717D2086D91765D83AB7660505  
0B810C542819BBB7CD87EA2305AB4A567B2C500D9913B7C6046F748DEECFE3C3AF829EF97E037

99EA50F7C9EB38990F0D466498C091C3ABAA18453B173F0AA3A486DFAFEEE68E7998EA30E5C13  
49F2A54AE753963CEF58332A114F964B83B4E446A44147B11FFC60DA25B5FA705F34725B1388B  
17E99018236BD646DC714F8B7CD3BF2648063B2D3FB713AB94D82ED81D571D5BB4D3E5F2F067E  
2F2C90E8B6857E6A651B8E

---

**E1C Code No 45**

EBE597534C0A6FEE9CE6AD10A80D2DFD160D7DE7A20154F62AFD7C3187D51D09DA39A958432CD  
CCBD83FCE19131E65A30DE99DB796D93D0944223D960BA233798323D368DDBD407D51B8035097  
6951AE0E50CF409279301939624C741D20D5CDBF4BC3ABC8723E267BE75707024F6398CC6D32A  
7BCD0989555E0EE49C1A2354D1E961CA9910A5169ADFA71D56745181E0CF13469D8F3C6020637  
B8118ED8421A680FD4D515DF6B31C39ACFA36B601027AFBC861493D34ACEACFB501DF9A311B7E  
B9D38D7107E6B5ECBE74FD35CC8BC8319DF9F1948653C94C868DC24AB8D7E650D8F70A3D1D878  
558AC9BFA50D425604037F3DA323192654F1296C8320AF934AF60DACAD7F9630EA4ED0A635678  
213F6D09D73A2544C779596990DA42079C23581E22F541E6A3B6D3FA383597A8BDD7CA4293081  
6D74FE8B12F92CB9303CA5FA12BF5FE954FA7B53E0D88B79BE263B4B55B42A7672F5C4F7E6E2  
DB4C02AFD6034B7371E01215CED3F73AB8E3419D7447781AE5DEB4F4547C5549E9B0AD59940C1  
62790650344E5ACAB33A187A58E29C9032963F088C044ABE73A855FF1FC93AB8DC258E4197773  
11B7997EA95D32CF1F0140CAB9E6707E73E4FE575E0752816122C39B8D12F34ED6771EAEE192D  
830797DBE97A0BFD00E39CA382D44F080BB4F8FF6FAAFF2A82744C6E14D3036E00EC2ED5C9D18  
4ECCA300030D7BD77B27DA

---

**E1C Code No 46**

A56990B45E9AA5F9523D563D53E854A47629A4183E85CA1995BB374EE5601BDBCE5C7407999D2  
8FF0F1B3EC7A463D3C941C57B7EB71E6262DA3A7136627814EA6D28C8D16E91680B0D961AAFAC  
E2CA4099F986CD45A2AB387E39497B13678447480514B4008F0FA3B95AD7D2B4751C680F0C7D3  
651F9621E1355CEC76F10468ED33DE4C7D7D68B786B7F0006C604BCF893739FFE6AE56AD5AACD  
7D5BE76DE1CD581B10EDFEC9DF65AF925C4C1289837BE1854A62FCCEECCC4E2AB47B4864C467F  
5E4C276047501EABE444E051DEA933863E0FCB2356CC0C3817BA59B2E0AD78BBFEF4C3E4C3534  
3331CD81C7F4C428B0418DFA4D6FF655BC50AFA9C9A5E8A67BC265A3F30800B93E42C0E66F117  
E6C59C85BA5E273234EC7212C7B7AC3D87FC0E0EC5FBAE6654461F24BBDF9A063FD0E3F98741C  
5622ACC8BC008E80E3F3D57680F12E52FB94CD957EFDD49BF512D9131757161A73DD9650E3561  
FB31509A908D3E8ABD1C3A95AC32E6960E0D17A218A25784332A88E85303DEBE117BEFEDF46  
882995AEBD704AEAE032668AEC6B8E5BD28D3F110C9F8C1DCA8FACFDC1188A073037796555DC4  
FAA26ACB9F51B545D32C224424BAC3DAB20D3C08D784E9FEDB47547C25671C269A62163742B55  
AB4CF9406D2C5047F92C76356F0B90221E019B31890C0B8FCFD04E6B5D06114B967D135879723  
8D5B14D824C8F0BD7B8BDO

---

**E1C Code No 47**

D85AAA53F2DE2946EB0CA09DEBB6CB61D91D27C8907B90C89E20C01F681D33BF0DC70B6C79F19  
E4DB64793505A0E055C33D1E07B7F5AE09F7EF0C8CEBE80C84373804A48A945CA406D3A1B17C  
A787DA265C1D8FC735CB098C1AB37A0452F1A287B8E19E3A57E59EF8F2E6CCE2FOAA777295597  
7982B1F6880AE8717520753636591BA36E351310E98ABB77E26E2CA5BF267935FC38DE173CA20  
C3A964B56924A5E82A9E36D005EDE6680D543C021C7A9F53DB69BFA3201880B7797E90D31011A  
FA17BAE836505F5B337C23A07D6AF167258C314C3001291DD9FC565F6B7FB74D99C1B42B49642  
2B3D3E1A564769C2306E40264641EC14724301795B4D54F5FF8D6C4AB3645B56C1D0FFE9B977F  
C5017E2A53392E7458BAA308C343AAFF5B46B808BDA1FE5C284299A9EEF755132F9D3B475E2  
FC6DBA84917C601B5E8340B5A68148A33563E40AC5A1E49BD8D5FA77BEB6B99E6F4F68A10ECA1  
12475531E7C1942AB9504B8F76EA7BCCA4A19EF859FD6B6753F07BDD9A19421A2A0B8F27643B  
2311FAD7978F4366C41BD9F609486FC6E7CE833A00D7A48AD816412BD201F40C93D136ABB8E3  
29DBB816D1F59A1F3124D6314C64C9B640E4D5BB201CDB4490A65C73228E78055AD6632D81709  
AA443EBF29A4607A504DD5CBC0D271FE595677B8E6A5E29E23D171D50B878D0D3F9416657E399  
7D077677B87399A6D1936E

---

**E1C Code No 48**

A0E629454DE594F7693888C9ADB907F83EC6818D6FC0019B70077BF1B0E3C2CB16A263BE145EA  
8129FED6BD98F3D9120BAD28379EC8E36DEC69C59B37BD6C2B65D172C70C69C23E29A6143121A  
EB9E6A9AB46C3DBC3979BC876F4357F6BAA5A0CB33C3AF1654FE547D5D760E8CE095A9B324E1  
5CEC1596BB7E0D56433D8908EA69925A5CCDCF01702811AD1103F237D36C5F12A3CD938A61EF7  
6A3387340499E4EF1855F892F57AC39AB419F1A397CD43FE7F4C5E609ADF3A2A8E401FFAC8709  
85826CA0DE211996A3549A203B798A5162E98FFC8B5CC2CFA68D618AE80D399D8DFE0FE4AA81E  
D9B586EA89F646D5C0AA8B107506C7F86879419D0F717E8F70C5A9DC2C3F122CB52F3B691087E  
F5971C27086512F1890494ABA38B1619969F8846B8876B95C56142F5B171502FA44ACD0299E82  
FC94EBCD4CDBE1F5DF978871128F79C1758BB512D5C3BDE59A89786CF4E4716F0515F45A1CA3  
1B06B23E4883F99EE0488848EB0A60FA14AABBD41EC5421D0C162590F0EFFEBB4DD0300221471D  
E8DC0C87DB3F1D54DB11744F8A7115DCA0595F6CD99B74A6FB10C0D14E430F8B40E3E7105C89B  
2C8F12B37A8879AD9BEAD49AFA1BD56569713CCDA3FB634C3011D51A8DCF84437251A7B19EB61  
FCE5DF6E2278784722BABE384BA5424646FA23F6D10CE23DC5E0D8D512E7C5C094B1627D6285B  
57EDF38A7DB1BD57B72044

---

**E1C Code No 49**

CD7AAC98501F29507EA4E0183E8A40D2E5117E47BB5D18D01A3732DE4C821DFE86521CBEA7DB2  
9BE1148BD544ECC681689BCD1B41EAF755310B7659342F8EE11CB41550CC30E566E192796B66C  
1A83C0B28BACCFA6C393043A0A2CB8971BC1CCB174DE58E66896AF39C1CEED1E05B0435F8CF6  
FD920D100F51584FE24879987399481DBF27DDB6286B6353919E552E669290CE02AB4CD5113D7  
F484229F379C7332767EC69E4336439B05DE1C1E3563DD303A4F580BFF20A40E49CB0822F715E  
D0221EBCDB5DBAD751124B1715E82F37488265135B6C8BBCF4F801ECC4D3525F189493AD4EFF  
0C042B070C4CA8FB1FDF43D79F06A6E4E3D35D7B07D4B728D5DC54EDACBBBA1EDDCDC07ADF7D  
FCFEF835E44DF1FF66DAF2A7BAEBE218AC3B15E183044D6A8A89B3C101B40BED97ED5DF93BBC1  
B84931D56B8C822A6D058AC74CFA4C85D8B456698E82D5B7574C17B041E5F4BEED09F75012355  
CBC322B822C63F10C18A8F279E9A0E18E1FEF183D23E13894E31F6D046956FE8A647558228F6D  
4D6910151EC03937876B6ED7A078D33DAEB3F2239353BB8181E62B286BBC41588DE10F478A5CE  
5B508F205A41820356767B0A0ED4B8DB9EFE348362E9A90D6C30218B295B338B51C09239D02FC  
8A1E7DAAAB60AC37F5E67CFC88EEF69567B5C81A03B449F4ED38B9D295A36AA3503173F6F666  
D93CE72D753076040FACDE

---

**E1C Code No 50**

ADDCEDB50E907D20E826E6E8A0D30C20C74B2DF204E784BAE9F618CAE33A3C937729DF9CB10B  
A2A4C33E0182A37200C0CC509729D828B8A2A20F283AC4F9306596684EA3FB5492A4C9F2DB459  
E7531C9F9C0950E7D9E93B3EE5912AE7E39AC8F4EC14B18F24E325003F477E347C5AC1B67CDB1  
1AF3BBBBCD0AC3703024B5767AA67A208254F798684BF01D3EACD757EEC77254950A146620400  
DB95E694574F739A991EBA771EBBDFF1056BB39A77DBE0636A032E17141332F951C57C6C90F34  
8F165E3ABDD60D429D5D6BEC7E3E3463806F819EB2D212B3528A5EDE51F235AD100A35E890955  
F8A1DC51FDCB53EABC2540997DD054C1F5B29462995B876B44D085904E55E1B838BEF600A992  
EB49CE078DF75AF3D0F137685AC0D07F0BE1EB87B63A41E74DDE869C8A683BDE60AF5D77FF18F  
7137495BCEFF0ED28F62F9C3E25D332B5F861D999FCDC0B4851A984A4DBB53401FD40351ADA43  
35C702BCC8D900C737507B990BDBBE91D201E3A0946DC968D43FD10D04B0B76667FF5B4291C21  
24B0124C6B710A6D1BCFAEB016B9DEEB0F7A4FE044CA4EA0CCD84B7682617C3A545071EC295B0  
663B3F577D562DE1D9DD80DE6A1EFD6D5991EB5246F1597B86D0E9A90CF6DB0EB2B8E7BAE9431  
E567F01AA98502C773742246467ABF911A91A51F6C1B9E0C3233DC1A37D17DB91A5F0F661B0EB  
5886964456C7818601BDOC

## 9. Annex D - Licence Agreement for Research and Development Purposes

Licence Contract

between

The European Union

and

XXXXXXXXXXXXXX

N° JRC.BXL.EA.xxxxxx-xxxx

The European Union, represented by the European Commission, represented for the purpose of signing this Agreement by Mr Roland Schenkel, Director-General of the Joint Research Centre (hereinafter referred to as "the JRC"),

on the one part,

xxxxxxxxxxxxxx, having its seat at xxxxxx, xxxx, xxxxx (xxxx), xxxxx, registered under the number xxxxxx at xxxxxx, represented for the purpose of signing this Agreement by xxxxxx, xxxxxx and legal representative, in his official capacity (hereinafter referred to as "xxxxxx" or "the Licensee")

on the other part,

EUROPEAN UNION and XXXXXX individually referred to as the "Party" and collectively as the "Parties"

WHEREAS

Pursuant to European Commission Decision of 12th September 2001 SEC (2001)1397 Article 13 the European Union has the mandate to exploit technologies resulting from the programmes and activities under its responsibility, grant licences thereto and promote technology transfer.

According to article 8 of Regulation (EC) No 683/2008 of the European Parliament and the Council of 9<sup>th</sup> July 2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo (GNSS Regulation)), the "*Community shall be the owner of all tangible and intangible assets created or developed under the programmes, to which effect agreements shall be concluded with third parties, wherever appropriate, with regard to existing ownership rights*".

According to article 12 of the GNSS Regulation the European Commission shall be responsible for the EGNOS and Galileo Programmes.

As part of its management tasks, the European Commission is entrusted with the definition of the terms and conditions upon which third parties shall have access to the OS SIS ICD (Open Service Signal In Space Interface Control Document) related IPRs.

The aim of the European Union is to promote the take up and the wide spread diffusion of the GNSS technology related to the System developed under the Galileo Programme and to foster its use for research and development purposes.

On such basis the European Commission is interested to grant a license for the use of OS SIS ICD related IPRs, which it owns or has the right to sublicense, for the purposes of research and development, according to the terms and conditions specified here below.

The Licensee is interested in getting the license for the use of OS SIS ICD for the purposes and according to the terms and conditions of the present license agreement and the terms of use and disclaimer of the OS SIS ICD document, which he declares to have understood and accepted in full.

Now therefore, the Parties agrees as follows

## **ARTICLE 1 - Definitions**

- 1.1. **Copyright** – shall mean any and all copyrighted works mentioned in Annex D1.
- 1.2. **Developments and/or Derivative Works** – shall mean research and development activities based on or related to the licensed OS SIS ICD IPRs.
- 1.3. **Effective date** – date of signature of the Licence Agreement by the last Party.
- 1.4. **Export Controls** – shall mean any international or national Export Control law or regulation applicable to the Licesee's activities under the OS SIS ICD IPRs, that regulates, embargoes or sanctions the export of products, information and/ or technology in any way.
- 1.5. **The Field of Use** – shall mean research and development activities.
- 1.6. **GNSS Systems** – shall mean Global Navigation Satellite Systems.
- 1.7. **Improvements** – means all improvements, enhancements, alterations, modifications or adaptations to any part of the OS IPRs.
- 1.8. **Information** – the information exchanged between the European Commission and the Licensee during the execution of this Agreement, including but not limited to the Research and Development Plan, Result and Derivative Works, intellectual property rights.
- 1.9. **Infrastructure Developed Under the Galileo Programme** – shall mean the system of satellite and ground segments, comprised of hardware and software, designed and operated to provide the Open Service, the Public Regulated Service, the Safety of Life Service, the Commercial Service and the Search and Rescue service as defined in the Galileo Mission Requirement Document (MRD).
- 1.10. **Licensee Background** – shall mean all the information and knowledge whether or not they can be protected as intellectual property rights, which are needed for exploiting the Result.
- 1.11. **OS Signal** – the Open Signal broadcasted by the infrastructure developed under the Programme Galileo.

- 1.12. **OS SIS ICD** – the Open Service Signal in Space Interface Control Document in its latest version.
- 1.13. **OS SIS ICD IPRs** – shall mean any and all Intellectual Property Rights contained in the OS SIS ICD and mentioned in Annex D1.
- 1.14. **Patent** – shall mean any and all patents and/or patent applications mentioned in Annex D1, including the inventions described and claimed therein as well as any divisions, continuations, continuous-in-part and reissues thereof.
- 1.15. **Research and Development Plan** – shall mean the efforts and the strategy of the Licensee to exploit the OS SIS ICD IPRs for research and development activities, to be described by the Licensee and attached in Annex D2 to this Agreement for information purposes.
- 1.16. **Result** – shall mean all the results, whether tangible or intangible arising out of the research and development activities under this Agreement whether they can be protected as intellectual property rights or not.
- 1.17. **The Territory** – shall mean the territories subject to this Agreement and specified for each Intellectual Property Right in Annex D1.
- 1.18. **Valid Claim** – shall mean a claim of an issued and subsisting patent or of a published patent application in the Patents which claim has not been finally held to be invalid or unenforceable in the proceedings from which no further appeal may be taken within the time limit for taking that appeal.

## **ARTICLE 2 - Subject of the Agreement**

The European Commission hereby grants the Licensee a non-exclusive royalty-free licence, limited to the Territory and Field of Use on the OS SIS ICD IPRs. The Licensee shall not be entitled to grant sublicenses of its rights under this Agreement.

## **ARTICLE 3 – Licensee's Rights and Obligations**

- 3.1 The Licensee shall exploit the OS SIS ICD IPRs in the Field of Use in a manner so as not to harm:
  - i) the intellectual property rights of the European Union;
  - ii) the security of the European Union, as set forth under articles 13(4) and 17(1) of Regulation (EC) No 683/2008 of the European Parliament and of the Council of 9<sup>th</sup> July 2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo).
- 3.2 The EU, as co-owner of the Galileo OS SIS ICD copyright, grants the Licensee the following user rights with reference to the Copyright pursuant to this Agreement:
  - i) the right to integrate and incorporate into any Result;
  - ii) the right to store the Copyright on any suitable medium.
- 3.3 The Licensee shall be solely responsible for:
  - i) exercising his rights hereunder strictly in compliance with all laws and regulations of each of the countries in which such exercise takes place;
  - ii) compliance with all Export Controls.

3.4 The Licensee shall continue to update the Research and Development Plan for the whole duration of the Agreement as per Annex D2 and provide the European Commission with information on its progress each year without requiring an amendment to the Agreement. The European Commission undertakes to keep the information contained in the Research and Development Plan confidential and not to disclose it to any third parties.

3.5 The Licensee shall mark all the Results with a clearly visible reference "*developed under a Licence of the European Union*".

The Licensee shall also mark the Results with the relevant patent or patent application numbers of the Patents to satisfy the laws of each of the countries in which the Results are covered by a Valid Claim.

3.6 The Licensee shall swiftly and without delay inform the European Commission in writing of any possible Result out of the research and development activities carried out by using the OS SIS ICD IPRs.

Once informed, the European Commission shall assess whether such Results are essential for the deployment and operation of the infrastructure developed under the Galileo Programme and for OS Signal provision and, in such case, enter into negotiations with the Licensee in order to obtain ownership of such Developments or Improvements in the name and on behalf of the European Union on fair and reasonable commercial terms. Any dispute around the terms and conditions for the above mentioned transfer of ownership shall be settled in accordance with art.14.

The Licensee shall assist and provide the European Commission with all necessary documentation and technical information for the sake of:

- i) protecting the above mentioned Results and
- ii) ensuring their interoperability with other existing GNSS Systems.

3.7 Should the European Commission decide not to assume ownership of the Result under 3.6 above, the Licensee undertakes to:

- i) make available (free of charge) to the European Commission and to the interested third parties the Result for research and development purposes;
- ii) make available (free of charge) to the European Commission and the interested parties all information related thereto for the sake of ensuring the interoperability of the Result with other existing GNSS Systems.

No disclosure to the public concerning such Results shall take place without explicit consent from the European Commission.

3.8 The same obligations under precedent paragraph 3.7 shall apply on the Licensee in case the Results are found by the European Commission not essential for the deployment and operation of the infrastructure developed under the Galileo Programme and for OS Signal provision.

3.9 The Licensee shall furthermore grant to the European Commission, and to the interested third parties, access to Licensee Background, on fair and reasonable commercial terms, when such access is needed for the deployment and operation of the Infrastructure Developed under the Galileo Programme and for OS Signal provision. Any dispute between the Licensee and the European Commission

around the scope, terms and conditions of the above mentioned access shall be settled in accordance with art.14.

#### **ARTICLE 4 – European Commission Obligations**

- 4.1 If in the course of the Agreement, the European Union assumes ownership of other OS related intellectual property rights (including intellectual property rights on the Result) than those listed in Annex D1, the European Commission is entitled – but not obliged – to update Annex D1 accordingly.
- 4.2 In case the above mentioned intellectual property rights are included in Annex D1, they shall be considered as licensed under the present Agreement, without the need to amend the Agreement.

#### **ARTICLE 5 - Maintaining the Patent in force**

The European Commission, and/or ESA, shall not be obliged to maintain the OS SIS ICD related Patents in force. If the European Commission decides not to maintain the OS SIS ICD related Patents (or part of it) in force, it shall promptly inform the Licensee in writing.

#### **ARTICLE 6 - Duration, Renewal and Termination**

- 6.1 The duration of the present Agreement shall be 10 years from the date of signature by the last Party. It may be renewed by mutual written agreement upon written request by registered letter by the Licensee six months before the expiry date of the Agreement.
- 6.2 Upon appropriate justified reasons, the Licensee may terminate this Agreement by serving six months' written notice by registered letter to the other Party. This Agreement may also be terminated at any time by written mutual agreement between the Parties.
- 6.3 In the event of termination of this Agreement in accordance with Article 6(2) and without prejudice to any other measures provided for in the Agreement, the Licensee shall:
  - a) discontinue the use of the Results or any other activity covered under Article 2 and
  - b) take all appropriate measures to minimize costs, prevent damage, and cancel his commitments.
- 6.4 In the event of non-performance by the Licensee of any of his obligations arising out of this Agreement (and in particular, but not exclusively, Article 3 and 7) and irrespective of the consequences provided under the law applicable to this Agreement, the European Commission may automatically terminate the Agreement without any legal formality, upon notice by registered letter to the Licensee at the address mentioned in Article 16. The consequences of such termination shall be those specified in Article 6.3(a) and 6.3(b).

#### **ARTICLE 7 - Confidentiality obligation**

- 7.1 The access of the European Commission and the Licensee to the Information shall be limited to the scope of the present Agreement.

All the information that shall consist of, but is limited to, the technical details, all business and manufacturing secrets and in particular research, development, production and market data as well as other business information and any other

information is communicated under strict confidence. Neither the European Commission nor the Licensee shall disclose to any third parties any confidential Information received by them.

- 7.2 The European Commission and the Licensee may only pass on the Information to their employees if such Information is required for evaluation. The European Commission and the Licensee must ensure that such employees having access to the Information are committed to confidentiality in the same way they have committed themselves and that they shall not divulge Information to third party even after completion of their assignment.

Licensee warrants that its employees, consultants and contractors are bound by confidentiality.

- 7.3 Any loss or damage, caused to one of the Parties of the present Agreement and arising out of the breach of this Article shall be borne exclusively by the Party responsible for such breach; the breaching Party shall be responsible for making compensation thereof and shall indemnify and hold harmless the other Party in respect of any such loss, damage or injury, including but not limited to reasonable attorneys fees.

## **ARTICLE 8 - Liability**

- 8.1 The European Commission makes no representation as to the patentability and/or breadth of the OS SIS ICD IPRs licensed under the present Agreement. Furthermore, the European Commission makes no representation as to patents now held or which other parties in the Field of Use and the Licensed Product will hold for a particular purpose. The European Commission also makes no express or implied warranties of merchantability or fitness for a particular purpose of the OS SIS ICD IPRs. The European Commission declares that it has no knowledge of any deficiencies impairing the validity of the OS SIS ICD IPRs or of any technical defects in the inventions protected by OS SIS ICD IPRs. The European Commission assumes no liability and the Licensee shall keep it harmless in respect to any infringement of any patent or other right of third parties due to the Licensee's activities under this Agreement.
- 8.2 The European Commission disclaims all warranties, expressed or implied, relating to the OS SIS ICD IPRs or the use thereof by the Licensee or by third parties. The European Commission shall not be liable to any party and the Licensee shall keep it harmless for any claim, including on product liability, loss of use, interruption of business or consequential damages of any kind, including but not limited to loss of profits, loss of contracts, goodwill or anticipated savings, even if the European Commission has been advised, knew or should have known of the possibility of such damages.
- 8.3 The Licensee shall, at all times, hold harmless, indemnify and keep indemnified the European Space Agency (ESA) against any and all costs, claims, damages or expenses incurred by the ESA or for which the ESA may become liable with respect to any infringement of any patent or other intellectual property right of third parties due to the Licensee's activities in breach of this Agreement and for product liability or other claim relating to the Results and all third party claims arising from the Licensee's exploitation of the OS SIS ICD IPRs and/or the use of Results.

## **ARTICLE 9 - Infringements by third parties**

The Parties hereto shall inform each other promptly of any act of infringement, passing-off, unfair competition or the like, or suspected or threatened such act, any challenge or any allegation or complaint by a third party in relation to use or intended use of the OS SIS ICD IPRs in the Territory which are subject to this Agreement.

The European Commission shall have the possibility to decide whether or not to bring an action for infringement against the infringer. In the event the European Commission decides not to bring an action for infringement against the infringer, it shall, within one month of becoming aware of the infringement, notify the Licensee, who will be entitled to do so directly.

## **ARTICLE 10 - Action for infringement brought by third parties**

- 10.1 If actions for infringement are brought against the Licensee as a result of the exploitation of the OS SIS ICD IPRs, the costs incurred for its defence and payment of damages shall be borne by the Licensee. If an action for infringement is brought against the Licensee, he shall notify the European Commission and enable it to intervene in the action. The European Commission, at its discretion, may undertake to provide the Licensee with any assistance considered to be appropriate for its defence.
- 10.2 This Agreement and its validity shall not be influenced by the fact that one of the licensed OS SIS ICD IPRs should finally be declared invalid.

## **ARTICLE 11 - Intellectual property rights**

- 11.1 OS SIS ICD IPRs are the exclusive property of the European Union and/or ESA respectively, as indicated in Annex D1.
- 11.2 The Licensee acknowledges the OS SIS ICD IPRs as described in Annex D1 to remain with the European Union and shall not acquire any intellectual property right on the OS SIS ICD IPRs under the present Agreement. During the time of the present Agreement, the Licensee shall not challenge the validity of OS SIS ICD IPRs, or support third parties in such a challenge.

## **ARTICLE 12 - Indemnification**

- 12.1 Subject to Article 12(2), the Licensee shall defend at its own expense any claim, suit or proceeding brought against the Licensee, insofar as it arises from the Licensee's use of the OS SIS ICD IPRs and shall indemnify and hold the European Union harmless for all claims, damages, costs and expenses awarded to the Licensee or third parties against the European Union arising from any such claim, suit or proceeding.
- 12.2 In the event any claim, suit or proceeding is brought against the Licensee based on a claim that any portion of the OS SIS ICD IPRs constitutes an infringement of patent or copyright, or other intellectual property rights of any third party arising under the applicable law, the European Commission shall have the right, at its option, to assume the defence of such action. In such event, the European Commission shall pay all damages, costs and expenses finally awarded to the third parties against the Licensee but shall not be responsible for any compromise made without its consent.

The European Commission shall have, in addition to any other remedies available to it, the right to injunctive relief to enjoin breaches of this Agreement.

- 12.3 The Licensee shall use due diligence in order to prevent the infringement of any intellectual property rights during its marketing and distribution activities. In the event that the distribution activities of the Licensee lead to an infringement of the intellectual property rights, the Licensee shall be fully liable to the European Union for any damages resulting from such infringement.

### **ARTICLE 13 - Permits**

The necessary steps for obtaining all permits and licences required for the implementation of this Agreement, under the laws and regulations in force at the place where the commercial activities of the Licensee are to be provided, shall be the exclusive responsibility of the Licensee.

### **ARTICLE 14 – Applicable Law and Arbitration**

- 14.1 Any dispute, controversy or claim arising under, out of or relating to this contract and any subsequent amendments of this contract, including, without limitation, its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims, shall be submitted to mediation in accordance with the WIPO Mediation Rules. The place of mediation shall be Brussels. The language to be used in the mediation shall be English.
- 14.2 If, and to the extent that, any such dispute, controversy or claim has not been settled pursuant to the mediation within 90 days of the commencement of the mediation, it shall, upon the filing of a Request for Arbitration by either Party, be referred to and finally determined by arbitration in accordance with the WIPO Expedited Arbitration Rules. Alternatively, if, before the expiration of the said period of days, either Party fails to participate or to continue to participate in the mediation, the dispute, controversy or claim shall, upon the filing of a Request for Arbitration by the other Party, be referred to and finally determined by arbitration in accordance with the WIPO Expedited Arbitration Rules. The arbitral tribunal shall consist of three arbitrators appointed by the parties. The place of arbitration shall be Brussels. The language to be used in the arbitral proceedings shall be English. The dispute, controversy or claim referred to arbitration shall be decided in accordance with the law of Belgium.

### **ARTICLE 15 Miscellaneous**

- 15.1 This Agreement, including the Annexes attached hereto, is the entire Agreement among the Parties relating to the subject matter hereof and may only be modified by a written amendment signed by the authorised representatives of each Party.
- 15.2 The invalidity of a provision of this Agreement is not fundamental to its performance, the validity and enforceability of the remaining provisions hereof shall not in any way be affected thereby, it shall not relieve any of the Parties of its obligations and shall not deprive any of the Parties of benefits under the remaining provisions under this Agreement.

### **ARTICLE 16 - Administrative provisions**

- 16.1 Any communication with reference to the performance of this Agreement, all notifications and any relevant correspondence shall be made in writing and addressed to the following addresses:

For the EUROPEAN COMMISSION:

For administrative matters:

European Commission, JRC  
Directorate A – Programmes and Stakeholder Relations  
Unit Intellectual Property and Technology Transfer  
SDME 10/53  
B-1049 Brussels  
To the attention of the Head of Unit

For technical matters:

European Commission  
Directorate-General for Industry and Entrepreneurship  
Unit F2 EU satellite navigation programmes: infrastructure

.....  
.....

To the attention of the Head of Unit

For the LICENSEE:

.....  
.....  
.....

16.2 The Agreement reference is n° JRC.BXL.EA.xxxxxx-xxxx. It shall be quoted in all correspondence with the European Union.

#### **ARTICLE 17 - Annexes**

The following are appended to and are an integral part of this Agreement:

Annex D1: List of OS SIS ICD-related Intellectual Property Rights

Annex D2: Licensee's Research and Development Plan

Done in Brussels,  
In two originals in the  
English language

For the LICENSEE

xxxxxxxxxxxxxxxx  
xxxxxxxxxxxxxxxx  
xxxxxxxxxxxxxxxx

For the EUROPEAN COMMISSION

Mr Roland Schenkel  
Director-General  
Joint Research Centre

## Annex D1 to the Agreement n° JRC.BXL.EA.XXXXXX-XXXX - List of OS SIS ICD Intellectual Property Rights

IPR	Name of IPR	Patent/ Trademark number	Date of filing	Date of publication	Applicant	Owner	Application number	Type of applicant	File reference	Territorial coverage
1	Patent Multi-band antenna for satellite positioning system	WO2007006773	10/07/2006	18/01/2007	GJU	EU	PCT/EP2006/064067	International / European	P-2744	Australia Canada Norway USA S.Korea Brazil China India Japan Russia
2	Patent Method for providing assistance data to a mobile station of a satellite positioning system	WO2007054493	07/11/2006	18/05/2007	GJU	EU	PCT/EP2006/068177	International / European	P-2745	Australia Canada Europe USA S.Korea Brazil China India Japan Russia
3	Patent Method and generator for generating a spread-spectrum signal (initially referred to as Use of antiphase CBOC (6.1) modulation to improve ranging accuracy in satellite navigation signals)	1783509	20/04/2007	09/05/2007	GSA	EU	11738006	USA	P-2764/US	USA
4	Patent Chaotic spreading codes and their generation	WO2008065191	30/11/2007	05/06/2008	GSA	EU	PCT/EP2007/063080	International / European	P-2784	<b>Not yet selected</b>
5	Copyright co-ownership with ESA OS SIS ICD	NA	NA	NA	EU and ESA	NA	NA	NA	NA	Worldwide

IPR	Name of IPR	Patent/ Trademark number	Date of filing	Date of publication	Applicant	Owner	Application number	Type of applicant	File reference	Territorial coverage
6	Patent  Spreading codes for a satellite navigation system (concerning memory codes)	WO2006063613	17/12/2004	22/06/2006	ESA	ESA	PCT/EP2004/014488	International	ESA/GAL/PAT/003	Canada Europe USA Brazil China Hong Kong India Japan Russia
7	Patent  Spreading codes for a satellite navigation system (concerning secondary Codes)	WO2007003213	01/07/2005	11/01/2007	ESA	ESA	PCT/EP2005/007235	International	ESA/GAL/PAT/004	Canada Europe USA Brazil China Hong Kong India Japan Russia

## **Annex D2 to the Agreement n° JRC.BXL.EA.xxxxxx-xxxx - Licensee's Research and Development Plan**



## 10. Annex E - Licence Agreement For Commercial Use

Licence Contract

between

The European Community

and

XXXXXXXXXXXXXX

N°.BXL.xxxxxx-xxxx

The European Union, represented by the European Commission, represented for the purpose of signing this Agreement by Mr Roland Schenkel, Director-General of the Joint Research Centre (hereinafter referred to as "the JRC"),

on the one part,

xxxxxxxxxxxxxx, having its seat at xxxxxx, xxxx, xxxxx (xxxx), xxxxx, registered under the number xxxxxx at xxxxxx, represented for the purpose of signing this Agreement by xxxxxx, xxxxxx and legal representative, in his official capacity (hereinafter referred to as "xxxxxx" or "the Licensee")

on the other part,

EUROPEAN UNION and XXXXXX individually referred to as the "Party" and collectively as the "Parties"

WHEREAS

Pursuant to European Commission Decision of 12<sup>th</sup> September 2001 SEC (2001)1397 Article 13 the European Union has the mandate to exploit technologies resulting from the programmes and activities under its responsibility, grant licences thereto and promote technology transfer.

According to article 8 of Regulation (EC) No 683/2008 of the European Parliament and the Council of 9<sup>th</sup> July 2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo (GNSS Regulation)), the "*Community shall be the owner of all tangible and intangible assets created or developed under the programmes, to which effect agreements shall be concluded with third parties, wherever appropriate, with regard to existing ownership rights*".

According to article 12 of the GNSS Regulation the Commission shall be responsible for the EGNOS and Galileo Programmes.

As part of its management tasks, the Commission is entrusted with the definition of the terms and conditions upon which third parties shall have access to the OS SIS ICD (Open Service Signal In Space Interface Control Document) related IPRs.

The aim of the Community is to promote the take up and the wide spread diffusion of the GNSS technology and related applications as well as to foster its use for commercial purposes.

On such basis the European Commission is interested to grant a license for the use of OS SIS ICD related IPRs, which it owns or has the right to sublicense, for the purposes of:

- manufacturing and commercialisation of GNSS related devices;
- Provision of added value services

according to the terms and conditions specified here below.

The Licensee is interested in get the license for the use of OS SIS ICD for the purposes and according to the terms and conditions of the present license agreement and the terms of use and disclaimer of the OS SIS ICD document which he declares to have understood and accepted in full.

Now therefore, the Parties agrees as follows

## **ARTICLE 1 - Definitions**

- 1.1 **Copyright** – shall mean any and all copyrighted works mentioned in Annex E1.
- 1.2 **Development Plan** – the efforts and the strategy of the Licensee to exploit the Licensee Products, to be described by the Licensee and attached in Annex E2 to this Agreement for information purposes.
- 1.3 **Developments and Derivative Works** – shall mean research and development activities based on or related to the licensed OS SIS ICD IPRs.
- 1.4 **Effective date** – date of signature of the Licence Agreement by the last Party.
- 1.5 **Export Controls** – shall mean any international or national Export Control law or regulation applicable to the Licesee's activities under the OS SIS ICD IPRs, that regulates, embargoes or sanctions the export of products, information and/or technology in any way.
- 1.6 **The Field of Use** – shall mean the manufacturing, distribution, commercialisation sale and supply of Licensee Products and any Licensee internal activity required or functional to these purposes.
- 1.7 **GNSS Systems** – shall mean Global Navigation Satellite Systems.
- 1.8 **Improvements** – means all improvements, enhancements, alterations, modifications or adaptations to any part of the OS IPRs.
- 1.9 **The Information** – the information exchanged between the Commission and the Licensee during the execution of this Agreement, including but not limited to the Development Plan, Improvements, Developments and Derivative Works, Intellectual Property Rights.
- 1.10 **Infrastructure Developed Under the Galileo Programme** – shall mean the system of satellite and ground segments, comprised of hardware and software, designed and operated to provide the Open Service, the Public Regulated Service, the Safety of Life Service, the Commercial Service and the Search and Rescue service as defined in the Galileo Mission Requirement Document (MRD).

- 1.11 **Licensee Background** – shall mean all the Licensee information and knowledge whether or not they can be protected as intellectual property rights, which are needed for exploiting the OS SIS ICD IPRs.
- 1.12 **Licensee Products** – shall mean electronic devices (e.g. chipsets and receivers) and Value Added Services developed – directly or indirectly – by the Licensee by using the OS SIS ICD IPRs granted through this license.
- 1.13 **OS Signal** – the Open Signal broadcasted by the infrastructure developed under the Programme Galileo.
- 1.14 **OS SIS ICD** – the Open Service Signal in Space Interface Control Document in its latest version.
- 1.15 **OS SIS ICD IPRs** – shall mean any and all Intellectual Property Rights contained in the OS SIS ICD and mentioned in Annex E1.
- 1.16 **Patent** – shall mean any and all patents and/or patent applications mentioned in Annex E1, including the inventions described and claimed therein as well as any divisions, continuations, continuous-in-part and reissues thereof.
- 1.17 **The Territory** – shall mean the territories subject to this Agreement and specified for each Intellectual Property Right in Annex E1.
- 1.18 **Valid Claim** – shall mean a claim of an issued and subsisting patent or of a published patent application in the Patents which claim has not been finally held to be invalid or unenforceable in the proceedings from which no further appeal may be taken within the time limit for taking that appeal.
- 1.19 **Value Added Services** – any service developed on the basis or by using the OS and delivering different or additional capabilities with respect to the OS.

## **ARTICLE 2 - Subject of the Agreement**

The Community hereby grants the Licensee a non-exclusive royalty-free licence, limited to the Territory and Field of Use on the OS SIS ICD IPRs. The Licensee shall not be entitled to grant sublicenses of its rights under this Agreement.

## **ARTICLE 3 – Licensee's Rights and Obligations**

- 3.1 The Licensee shall exploit the OS SIS ICD IPRs in the Field of Use in a manner so as not to harm:
  - i) the intellectual property rights of the European Union;
  - ii) the security interests of the European Union, as set forth under articles 13(4) and 17(1) of Regulation (EC) No 683/2008 of the European Parliament and of the Council of 9<sup>th</sup> July 2008 on the further implementation of the European satellite navigation programmes (EGNOS and Galileo).
- 3.2 The EU, as co-owner of the Galileo OS SIS ICD copyright, grants the Licensee the following user rights with reference to the Copyright pursuant to this Agreement:
  - i) the right to integrate and incorporate into any Licensee Products;
  - ii) the right to make Improvements and/or create Developments and Derivative Works from the Copyright;
  - iii) the right to store the Copyright on any suitable medium.

- 3.3 Subject to the foregoing, Licensee shall have the right to select distributors and otherwise determine the commercial strategy, including all channels of distribution, regarding the distribution and sale of the Licensed Product in the Territory.
- 3.4 The Licensee shall be solely responsible for:
- i) exercising his rights hereunder strictly in compliance with all laws and regulations of each of the countries in which such exercise takes place;
  - ii) compliance with all Export Controls.
- 3.5 The Licensee shall continue to update the Development Plan for the whole duration of the Agreement as per Annex E2 and provide the Commission with information on its progress each year without requiring an amendment to the Agreement. The European Commission undertakes to keep the information contained in the Development Plan confidential and not to disclose it to any third parties.
- 3.6 The Licensee shall mark all the Licensee Products with a clearly visible reference "*developed under a Licence of the European Union*".  
The Licensee shall also mark the Licensee Products with the relevant patent or patent application numbers of the Patents to satisfy the laws of each of the countries in which the Licensee Products are sold or supplied and in which they are covered by a Valid Claim.
- 3.7 The Licensee shall swiftly and without delay inform the European Commission in writing of any possible Development and Improvement made to the OS SIS ICD IPRs.  
Once informed, the European Commission shall assess whether such Developments or Improvements are essential for the deployment and operation of the infrastructure developed under the Galileo Programme and for OS Signal provision and, in such case enter into negotiations with the Licensee in order to obtain ownership of such Developments or Improvements in the name and on behalf of the European Union on fair and reasonable commercial terms. Any dispute around the terms and conditions for the above mentioned transfer of ownership shall be settled in accordance with art.14.  
The Licensee shall assist and provide the European Commission with all necessary documentation and technical information for the sake of:
- i) protecting the above mentioned Improvements and
  - ii) ensure their interoperability with other existing GNSS Systems.
- 3.8 Should the European Commission decide not to assume ownership of the Improvements in question, the Licensee undertakes to make available to any interested party all information related thereto, according to modalities defined by the European Commission, for the sake of ensuring the interoperability of such improvements with other existing GNSS Systems.  
No disclosure to the public concerning such Developments or Improvements shall take place without explicit consent from the Commission.
- 3.9 The Licensee shall furthermore grant to the European Commission, and to the interested third parties, access to the Licensee Background, on fair and reasonable commercial terms, when such access is needed for deployment and

operation of the Infrastructure Developed Under the Galileo Programme and for OS Signal provision.

#### **ARTICLE 4 – Commission Obligations**

- 4.1 If in the course of the Agreement, the European Union assumes ownership of other OS related intellectual property rights (included but not limited to Developments and Improvements) than those listed in Annex E1 the European Commission is entitled – but not obliged – to update Annex E1 accordingly.
- 4.2 In case the above mentioned intellectual property rights are included in Annex E1, they shall be considered as licensed under the present Agreement, without the need to amend the Agreement.

#### **ARTICLE 5 - Maintaining the Patent in force**

The European Commission, and/or ESA, shall not be obliged to maintain the OS SIS ICD related Patents in force. If the European Commission decides not to maintain the OS SIS ICD related Patents (or part of it) in force, it shall promptly inform the Licensee in writing.

#### **ARTICLE 6 - Duration, Renewal and Termination**

- 6.1 The duration of the present Agreement shall be 10 years from the date of signature by the last Party. It may be renewed by mutual written agreement upon written request by registered letter by the Licensee six months before the expiry date of the Agreement.
- 6.2 Upon appropriate justified reasons, the Licensee may terminate this Agreement by serving six months' written notice by registered letter to the other Party. This Agreement may also be terminated at any time by written mutual agreement between the Parties.
- 6.3 In the event of termination of this Agreement in accordance with Article 6(2) and without prejudice to any other measures provided for in the Agreement, the Licensee shall:
  - a) discontinue the use of the Licensee Product or any other activity covered under Article 2 and
  - b) take all appropriate measures to minimize costs, prevent damage, and cancel his commitments.
- 6.4 In the event of non-performance by the Licensee of any of his obligations arising out of this Agreement (and in particular, but not exclusively, Article 3 and 7) and irrespective of the consequences provided under the law applicable to this Agreement, the Commission may automatically terminate the Agreement without any legal formality, upon notice by registered letter to the Licensee at the address mentioned in Article 16. The consequences of such termination shall be those specified in Article 6.3(a) and 6.3(b).

#### **ARTICLE 7 - Confidentiality obligation**

- 7.1 The access of the European Commission and the Licensee to the Information shall be limited to the scope of the present Agreement.

All the information that shall consist of, but is limited to, the technical details, all business and manufacturing secrets and in particular research, development, production and market data as well as other business information and any other

information is communicated under strict confidence. Neither the European Commission nor the Licensee shall disclose to any third parties any confidential Information received by them.

- 7.2 The European Commission and the Licensee may only pass on the Information to their employees if such Information is required for evaluation. The European Commission and the Licensee must ensure that such employees having access to the Information are committed to confidentiality in the same way they have committed themselves and that they shall not divulge Information to third party even after completion of their assignment.

Licensee warrants that its employees, consultants and contractors are bound by confidentiality.

- 7.3 Any loss or damage, caused to one of the Parties of the present Agreement and arising out of the breach of this Article shall be borne exclusively by the Party responsible for such breach; the breaching Party shall be responsible for making compensation thereof and shall indemnify and hold harmless the other Party in respect of any such loss, damage or injury, including but not limited to reasonable attorneys fees.

## **ARTICLE 8 - Liability**

- 8.1 The European Commission makes no representation as to the patentability and/or breadth of the OS SIS ICD IPRs licensed under the present Agreement. Furthermore, the European Commission makes no representation as to patents now held or which other parties in the Field of Use and the Licensed Product will hold for a particular purpose. The European Commission also makes no express or implied warranties of merchantability or fitness for a particular purpose of the OS SIS ICD IPRs. The European Commission declares that it has no knowledge of any deficiencies impairing the validity of the OS SIS ICD IPRs or of any technical defects in the inventions protected by OS SIS ICD IPRs. The European Commission assumes no liability and the Licensee shall keep it harmless in respect to any infringement of any patent or other right of third parties due to the Licensee's activities under this Agreement.
- 8.2 The European Commission disclaims all warranties, expressed or implied, relating to the OS SIS ICD IPRs or the use thereof by the Licensee or by third parties. The European Commission shall not be liable to any party and the Licensee shall keep it harmless for any claim, including on product liability, loss of use, interruption of business or consequential damages of any kind, including but not limited to loss of profits, loss of contracts, goodwill or anticipated savings, even if the European Commission has been advised, knew or should have known of the possibility of such damages.
- 8.3 The Licensee shall, at all times, hold harmless, indemnify and keep indemnified the European Space Agency (ESA) against any and all costs, claims, damages or expenses incurred by the ESA or for which the ESA may become liable with respect to any infringement of any patent or other intellectual property right of third parties due to the Licensee's activities in breach of this Agreement and for product liability or other claim relating to the Licensee Products supplied or put into use by the Licensee and all third party claims arising from the Licensee's exploitation of the OS SIS ICD IPRs and/or the manufacture, keeping, importing, use, sale, or supply of the Licensee Products.

## **ARTICLE 9 - Infringements by third parties**

The Parties hereto shall inform each other promptly of any act of infringement, passing-off, unfair competition or the like, or suspected or threatened such act, any challenge or any allegation or complaint by a third party in relation to use or intended use of the OS SIS ICD IPRs in the Territory which are subject to this Agreement.

The European Commission shall have the possibility to decide whether or not to bring an action for infringement against the infringer. In the event the European Commission decides not to bring an action for infringement against the infringer, it shall, within one month of becoming aware of the infringement, notify the Licensee, who will be entitled to do so directly.

## **ARTICLE 10 - Action for infringement brought by third parties**

- 10.1 If actions for infringement are brought against the Licensee as a result of the exploitation of the OS SIS ICD IPRs, the costs incurred for its defence and payment of damages shall be borne by the Licensee. If an action for infringement is brought against the Licensee, he shall notify the European Commission and enable it to intervene in the action. The European Commission, at its discretion, may undertake to provide the Licensee with any assistance considered to be appropriate for its defence.
- 10.2 This Agreement and its validity shall not be influenced by the fact that one of the licensed OS SIS ICD IPRs should finally be declared invalid.

## **ARTICLE 11 - Intellectual property rights**

- 11.1 OS SIS ICD IPRs are the exclusive property of the European Union and/or ESA respectively, as indicated in Annex A.
- 11.2 The Licensee acknowledges the OS SIS ICD IPRs as described in Annex E1 to remain with the European Union and/or ESA and shall not acquire any intellectual property right on the OS SIS ICD IPRs under the present Agreement. During the time of the present Agreement, the Licensee shall not challenge the validity of OS SIS ICD IPRs, or support third parties in such a challenge.

## **ARTICLE 12 - Indemnification**

- 12.1 Subject to Article 12(2), the Licensee shall defend at its own expense any claim, suit or proceeding brought against the Licensee, insofar as it arises from the Licensee's use of the OS SIS ICD IPRs and shall indemnify and hold the European Union harmless for all claims, damages, costs and expenses awarded to the Licensee or third parties against the European Union arising from any such claim, suit or proceeding.
- 12.2 In the event any claim, suit or proceeding is brought against the Licensee based on a claim that any portion of the OS SIS ICD IPRs constitutes an infringement of patent or copyright, or other intellectual property rights of any third party arising under the applicable law, the European Commission shall have the right, at its option, to assume the defence of such action. In such event, the European Commission shall pay all damages, costs and expenses finally awarded to the third parties against the Licensee but shall not be responsible for any compromise made without its consent.

The European Commission shall have, in addition to any other remedies available to it, the right to injunctive relief to enjoin breaches of this Agreement.

- 12.3 The Licensee shall use due diligence in order to prevent the infringement of any intellectual property rights during its marketing and distribution activities. In the event that the distribution activities of the Licensee lead to an infringement of the intellectual property rights, the Licensee shall be fully liable to the European Union for any damages resulting from such infringement.

## **ARTICLE 13 - Permits**

The necessary steps for obtaining all permits and licences required for the implementation of this Agreement, under the laws and regulations in force at the place where the commercial activities of the Licensee are to be provided, shall be the exclusive responsibility of the Licensee.

## **ARTICLE 14 - Applicable Law and Arbitration**

- 14.1 This Agreement shall be governed by and construed in accordance with Belgian law.
- 14.2 Any dispute, controversy or claim arising under, out of or relating to this contract and any subsequent amendments of this contract, including, without limitation, its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims, shall be submitted to mediation in accordance with the WIPO Mediation Rules. The place of mediation shall be Brussels. The language to be used in the mediation shall be English.

If, and to the extent that, any such dispute, controversy or claim has not been settled pursuant to the mediation within 90 days of the commencement of the mediation, it shall, upon the filing of a Request for Arbitration by either Party, be referred to and finally determined by arbitration in accordance with the WIPO Expedited Arbitration Rules. Alternatively, if, before the expiration of the said period of days, either Party fails to participate or to continue to participate in the mediation, the dispute, controversy or claim shall, upon the filing of a Request for Arbitration by the other Party, be referred to and finally determined by arbitration in accordance with the WIPO Expedited Arbitration Rules. The arbitral tribunal shall consist of three arbitrators appointed by the parties. The place of arbitration shall be Brussels. The language to be used in the arbitral proceedings shall be English. The dispute, controversy or claim referred to arbitration shall be decided in accordance with the law of Belgium.

## **ARTICLE 15 - Miscellaneous**

- 15.1 This Agreement, including the Annexes attached hereto, is the entire Agreement among the Parties relating to the subject matter hereof and may only be modified by a written amendment signed by the authorised representatives of each Party.
- 15.2 The invalidity of a provision of this Agreement is not fundamental to its performance, the validity and enforceability of the remaining provisions hereof shall not in any way be affected thereby, it shall not relieve any of the Parties of its obligations and shall not deprive any of the Parties of benefits under the remaining provisions under this Agreement.

## **ARTICLE 16 - Administrative provisions**

- 16.1 Any communication with reference to the performance of this Agreement, all notifications and any relevant correspondence shall be made in writing and addressed to the following addresses:

For the EUROPEAN UNION:

**For administrative matters:**

European Commission, JRC  
DirectorateA - Programmes and Stakeholder Relations  
Unit Intellectual Property and Technology Transfer  
SDME 10/53  
B-1049 Brussels

To the attention of the Head of Unit

**For technical matters:**

European Commission  
Directorate-General for Industry and Entrepreneurship  
Unit F2 — EU satellite navigation programmes: infrastructure

.....  
.....  
.....  
To the attention of the Head of Unit

For the LICENSEE:

.....  
.....  
.....

16.2 The Agreement reference is n° JRC.BXL.EA.xxxxxx-xxxx. It shall be quoted in all correspondence with the European Union.

**ARTICLE 17 - Annexes**

The following are appended to and are an integral part of this Agreement:

- Annex E1: List of OS SIS ICD-related Intellectual Property Rights  
Annex E2: Licensee's Development Plan

Done in Brussels,  
In two originals in the  
English language

For the LICENSEE

xxxxxxxxxxxxxx  
xxxxxxxxxxxxxx  
xxxxxxxxxxxxxx

For the EUROPEAN COMMISSION

Mr Roland Schenkel  
Director-General  
Joint Research Centre

## Annex E1 to the Agreement n° JRC.BXL.EA.XXXXXX-XXXX - List of OS SIS ICD-related Intellectual Property Rights

IPR	Name of IPR	Patent/ Trademark number	Date of filing	Date of publication	Applicant	Owner	Application number	Type of applicant	File reference	Territorial coverage
1 Patent	Multi-band antenna for satellite positioning system	WO2007006773	10/07/2006	18/01/2007	GJU	EU	PCT/EP2006/064067	International / European	P-2744	Australia Canada Norway USA S.Korea Brazil China India Japan Russia
2 Patent	Method for providing assistance data to a mobile station of a satellite positioning system	WO2007054493	07/11/2006	18/05/2007	GJU	EU	PCT/EP2006/068177	International / European	P-2745	Australia Canada Europe USA S.Korea Brazil China India Japan Russia
3 Patent	Method and generator for generating a spread-spectrum signal (initially referred to as Use of antiphase CBOC (6.1) modulation to improve ranging accuracy in satellite navigation signals)	1783509	20/04/2007	09/05/2007	GSA	EU	11738006	USA	P-2764/US	USA
4 Patent	Chaotic spreading codes and their generation	WO2008065191	30/11/2007	05/06/2008	GSA	EU	PCT/EP2007/063080	International / European	P-2784	<b>Not yet selected</b>
5 Copyright co-ownership with ESA	OS SIS ICD	NA	NA	NA	EU and ESA	NA	NA	NA	Worldwide	

IPR	Name of IPR	Patent/ Trademark number	Date of filing	Date of publication	Applicant	Owner	Application number	Type of applicant	File reference	Territorial coverage
6	Patent  Spreading codes for a satellite navigation system (concerning memory codes)	WO2006063613	17/12/2004	22/06/2006	ESA	ESA	PCT/EP2004/014488	International	ESA/GAL/PAT/003	Canada Europe USA Brazil China Hong Kong India Japan Russia
7	Patent  Spreading codes for a satellite navigation system (concerning secondary Codes)	WO2007003213	01/07/2005	11/01/2007	ESA	ESA	PCT/EP2005/007235	International	ESA/GAL/PAT/004	Canada Europe USA Brazil China Hong Kong India Japan Russia

## **Annex E2 to the Agreement n° JRC.BXL.EA.xxxxxx-xxxx - Licensee's Development Plan**



## **European Union**

Luxembourg: Publications Office of the European Union

2009 — 216. — cm 21 x 29,7

ISBN 978-92-79-13759-4

doi:10.2768/1968

### ***How to obtain EU publications***

#### **Free publications:**

- via EU Bookshop (<http://bookshop.europa.eu>);
- at the European Commission's representations or delegations.  
You can obtain their contact details by linking <http://ec.europa.eu> or by sending a fax to +352 2929-42758.

#### **Publications for sale:**

- via EU Bookshop (<http://bookshop.europa.eu>);
- Priced subscriptions (Official Journal of the EU, Legal cases of the Court of Justice as well as certain periodicals edited by the European Commission) can be ordered from one of our sales agents.  
You can obtain their contact details by linking <http://bookshop.europa.eu>, or by sending a fax to +352 2929-42758.



ISBN 978-92-79-13759-4

A standard linear barcode representing the ISBN number 9789279137594.

9 789279 137594