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Participant ID	
Participant Name	
Test Center Name	
Test Date	05/11/2019
Test Time	8:30 AM - 10:30 AM
Subject	JUNIOR ENGINEER CIVIL

Section : Mental Ability

Q.1 In a certain code, the following language is used:

"Playing like a real" is coded as "tik mik pik aik"
"Football world Playing" is coded as "fik gik aik"
"Football Playing stadium" is coded as "aik fik nik"

What will be the code for 'Stadium World' in the same language?

- Ans 1. Nik gik
 2. Fik aik
 3. Tik pik
 4. Pik nik

Question ID : 54592777979

Q.2 Select the related word from the given alternatives.

Sympathy : Indifference :: Practical : ?

- Ans 1. Active
 2. Theoretical
 3. Pragmatic
 4. Real

Question ID : 54592777977

Q.3 Four pair of words are given and three of them share a certain similarity. Choose the pair which is different from the other three.

- Ans 1. House : Garden
 2. Wall : House
 3. Paper : Book
 4. Tyre : Car

Question ID : 54592777976

Q.4 Select the correct combination of mathematical signs to replace * signs and to balance the given equation.

$$28 * 4 * 9 * 16$$

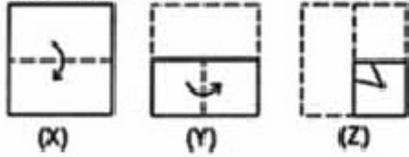
- Ans 1. - × +

- 2. ÷ ÷ =
- 3. - = ×
- 4. + ÷ =

Question ID : 54592777986

Q.5 If a square sheet of paper is folded as shown in the question figure(x) and (y) and cuts are made as shown in the question figure(z) how will it appear when it is opened?

Question Figure:



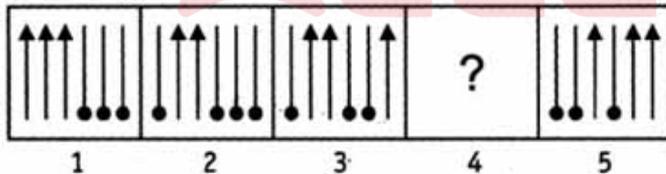
Ans

- 1.
- 2.
- 3.
- 4.

Question ID : 54592777992

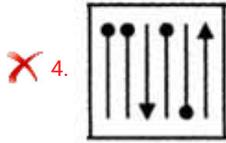
Q.6 Find the missing figure in the series from the given answer figures.

Question figure:



Ans

- 1.
- 2.
- 3.



Question ID : 54592777988

Q.7 If 'fake' means 'time', 'time' means 'sim', 'sim' means 'boss', 'boss' means 'work', 'work' means 'lazy', then what is used to call someone from the phone?

- Ans
- 1. Time
 - 2. Sim
 - 3. Boss
 - 4. Fake

Question ID : 54592777980

Q.8 For the Assertion (A) and Reason (R) given below, choose the correct alternative from the following:

Assertion (A): Plants are always at the bottom of the food chain.
Reason (R): Plants prepare their own food.

- Ans
- 1. Both (A) and (R) are true and (R) is the correct explanation of (A)
 - 2. Both (A) and (R) are true, but (R) is not the correct explanation of (A)
 - 3. (A) is true, but (R) is false
 - 4. (A) is false, but (R) is true

Question ID : 54592777983

Q.9 Ram, Rinku, Rahul and Rohit play different sports among Cricket, Badminton, Football and Tennis. Rahul does not play Cricket or Football. Rohit does not play Tennis or Badminton. Ram plays Badminton and Rinku plays Cricket. Who among the four friends play Football?

- Ans
- 1. Rahul
 - 2. Rohit
 - 3. Ram
 - 4. Rinku

Question ID : 54592777981

Q.10 In the question below is given a statement followed by two courses of action numbered I and II. You have to assume everything in the statement to be true and on the basis of the information given in the statement, decide which of the suggested courses of action logically follow(s) for pursuing.

Statement:
A minister of the state lied about some facts on live TV for protecting government.

Course of actions:
I. Legal actions should be taken against him.
II. Ministers have privilege to lie.

- Ans
- 1. Either I or II follows
 - 2. Only II follows
 - 3. Neither I nor II follows
 - 4. Only I follows

Question ID : 54592777984

Q.11 Select the related word pair from the given alternatives.

Afghanistan : Kandahar :: ?

- Ans
- 1. Bhutan : Chittagong
 - 2. Ireland : Cork
 - 3. South Africa : Rio de Janeiro
 - 4. New Zealand : Montreal

Question ID : 54592777978

Q.12 A cube is painted and cut into 729 smaller and identical cubes by making the minimum possible number of cuts. How many smaller cubes have exactly two painted faces?

- Ans
- 1. 24
 - 2. 36
 - 3. 32
 - 4. 84

Question ID : 54592777991

Q.13 Select the term that will come next in the following series.

DH, KN, QS, VW, ?

- Ans
- 1. ZZ
 - 2. ZX
 - 3. ZY
 - 4. ZC

Question ID : 54592777974

Q.14 In the following question, select the related letter/word/number from the given alternatives.

- Ans
- 1. 70
 - 2. 5
 - 3. 9
 - 4. 60

Question ID : 54592777985

Q.15 There are five friends P, Q, R, S and T. S is shorter than T but taller than P. R is the tallest. Q is a little shorter than T but little taller than S. If they stand in the order of their heights who will be the shortest?

- Ans
- 1. S
 - 2. Q
 - 3. P
 - 4. T

Question ID : 54592777982

Q.16 If in 'COLONY' vowels are replaced with its previous letter and Consonant are replaced with

its next letter then how many vowel are still there in the words?

- Ans
1. Three
 2. None
 3. One
 4. Two

Question ID : 54592777973

Q.17 Which one of the following figures represents the relationship among sentence, word, and letter?

- Ans
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592777987

Q.18 Four words have been given out of which three are alike in some manner, while one is different. Choose the odd one.

- Ans
1. Doe
 2. Duck
 3. Boar
 4. Rooster

Question ID : 54592777975

Q.19 In this question given below which of the four option figures should come after the question figures, if the sequence were continued?

- Ans
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592777989

Q.20 In the following question an unfolded dice is given. From the given alternatives which of the following will be opposite of D?

- Ans
1. C
 2. A
 3. B
 4. E

Question ID : 54592777990

Section : General Awareness

Q.1 In which type of unemployment people are apparently working but all of them are made to work less than their potential?

- Ans**
1. Disguised unemployment
 2. Seasonal Unemployment
 3. Open Unemployment
 4. Educated Unemployment

Question ID : 54592777995

Q.2 In how many days the Indian Constitution was prepared?

- Ans**
1. 165 days
 2. 195 days
 3. 180 days
 4. 150 days

Question ID : 54592778007

Q.3 Which type of soils are found in Terai?

- Ans**
1. Black Soil
 2. Forest Soils
 3. Arid Soils
 4. Alluvial Soils

Question ID : 54592778000

Q.4 According to Economic Survey 2018-19 what is the annual Population Growth Rate (in per cent) for India in the year 2011-2021?

- Ans**
1. 1.12
 2. 0.75
 3. 1.75
 4. 2.54

Question ID : 54592777996

Q.5 Atolls are _____.

- Ans**
1. It is a flat topped seamount
 2. Gently sloping areas of the ocean basins
 3. Low islands found in the tropical oceans consisting of coral reefs
 4. It is composed of two chains of mountains separated by a large depression

Question ID : 54592777999

Q.6 Saliva breaks down which of the following during the process of digestion?

- Ans**
1. Protein
 2. Amino acid
 3. Fat
 4. Starch

Question ID : 54592777997

Q.7 Which of the following microbe causes sleeping sickness?

- Ans**
1. Leishmania
 2. SARS viruses
 3. Staphylococci
 4. Trypanosoma

Question ID : 54592777998

Q.8 Where is the Kamakhya temple situated?

- Ans**
1. Udaipur
 2. Guwahati
 3. Nashik
 4. Lucknow

Question ID : 54592777993

Q.9 In which state of India Kiran Utsav is celebrated?

- Ans**
1. Bihar
 2. Madhya Pradesh
 3. Maharashtra
 4. Punjab

Question ID : 54592777994

Q.10 Which of the following book is written by Satya Nadella?

- Ans**
1. A wasted hour
 2. Hit Refresh
 3. Open
 4. Fault Lines

Question ID : 54592778006

Q.11 Ustad Bismillah Khan Yuva Puruskar is not given in which of the following field?

- Ans**
1. Sports
 2. Music
 3. Theatre
 4. Dance

Question ID : 54592778004

Q.12 From which river the name India is derived from?

- Ans**
1. Beas
 2. Indus
 3. Brahmaputra
 4. Ganga

Question ID : 54592778001

Q.13 Razmnama is a Persian translation of which of the following Sanskrit text?

- Ans**
1. Upanishad

2. Ramayana
3. Mahabharata
4. Rig Veda

Question ID : 54592778002

Q.14 In which year first amendment was made in indian constitution?

- Ans
1. 1954
 2. 1952
 3. 1951
 4. 1953

Question ID : 54592778008

Q.15 Which of the following game is known as winning and losing carambole game?

- Ans
1. Rugby
 2. Golf
 3. Tennis
 4. English billiards

Question ID : 54592778012

Q.16 Who among the following is an Indian professional Sprinter?

- Ans
1. Saina Nehwal
 2. Dutee Chand
 3. Mary Kom
 4. Geeta phogat

Question ID : 54592778010

Q.17 Wood's Dispatch is associated to which of the following?

- Ans
1. Education
 2. Print media
 3. Sports
 4. Political Reforms

Question ID : 54592778003

Q.18 'Archery' is national sport of which of the following country?

- Ans
1. Sri Lanka
 2. Myanmar
 3. Japan
 4. Bhutan

Question ID : 54592778011

Q.19 Article 79 of Indian Constitution is about which of the following?

- Ans
1. Constitution of Parliament
 2. Attorney-General for India

- 3. Composition of the House of the People
- 4. Duties of Prime Minister

Question ID : 54592778009

Q.20 'Sudarsan Pattnaik' is associated with which of the following?

- Ans**
- 1. Theatre
 - 2. Sand Art
 - 3. Painting
 - 4. Calligraphy

Question ID : 54592778005

Section : Arithmetic Ability

Q.1 A motorcar can finish a certain journey in 9 hours at a speed of 20 m/sec. In order to cover the same distance in 8 hours, the speed of the motorcar (km/h) must be increased by:

- Ans**
- 1. 18
 - 2. 9
 - 3. 27
 - 4. 36

Question ID : 54592778024

Q.2 Value of a car depreciates by 10 percent per annum. If it costs Rs.30,00,00 three years ago, what is the present value of the car?

- Ans**
- 1. Rs. 2,42,000
 - 2. Rs. 2,40,000
 - 3. Rs. 2,72,000
 - 4. Rs. 2,18,700

Question ID : 54592778023

Q.3 Simplify the following expression.

- Ans**
- 1. 81
 - 2. 83
 - 3. 3080
 - 4. 1540

Question ID : 54592778014

Q.4 The average age of all the 16 professors of LK University is 52 years. After four years what will be the average age of all the 16 professors if there is no retirement or recruitment?

- Ans**
- 1. 58 years
 - 2. 68 years
 - 3. 56 years
 - 4. 54 years

Question ID : 54592778017

Q.5 Which of the following Fractions is the largest?

- Ans
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592778013

Q.6 A person buys a bicycle for Rs. 3500. For how much should he sell it to get gain 12 percent?

- Ans
1. 3720
 2. 3920
 3. 3820
 4. 3620

Question ID : 54592778020

Q.7 Ravi's present age is twice the age of Virat's age 2 year ago. What is, the sum of their present ages (in years), if the ratio of the ,sum of their present ages to the difference of their present ages is 29 : 7?

- Ans
1. 21
 2. 24
 3. 29
 4. 34

Question ID : 54592778022

Q.8 The following line graph shows the annual percent profit of a company during the period 2000-2005. Study the line graph and answer the question that is based on it.

If the income in 2003 was Rs. 264 crores. What was the expenditure in 2003?

- Ans
1. Rs.104 crores
 2. Rs.140 crores
 3. Rs.160 crores
 4. Rs.170 crores

Question ID : 54592778031

Q.9 The monthly income of Ram increased by 26 percent., His expenditure which is 70 percent of his monthly income increased by 20 percent. His savings must have increased by:

- Ans
1. 25 percent
 2. 40 percent
 3. 30 percent
 4. 50 percent

Question ID : 54592778018

Q.10 The following graph shows the marks of a student in 5 different subjects.

If he got 25 marks in Hindi then how many marks did he score in mathematics?

- Ans
1. 55
 2. 45
 3. 35
 4. 25

Question ID : 54592778030

Q.11 A retailer buys 20 copies at the marked price of 18 copies from a wholesaler. If he sells these copies giving a discount of 2 percent, what is the profit percent?

- Ans
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592778016

Q.12 There is a pyramid on a base which is a regular hexagon of side $2a$. If every slant edge of this pyramid is of length $5a/2$, then the volume of this pyramid is:

- Ans
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592778028

Q.13 What should come in place of the question mark (?) in the following question?

- Ans
1. 0.25
 2. 4
 3. 0.5
 4. 2

Question ID : 54592778015

Q.14 Study the following graph carefully to answer the question.

The following Line graph shows the percentage of students studying in different classes of a primary school and table shows the respective ratio of Boys and Girls.
Total Number of Students = 1000

The number of girls studying in the Class 1 is what percent of the total number of students from all the Classes together?

- Ans
1. 4 percent
 2. 5 percent
 3. 6 percent
 4. 7 percent

Question ID : 54592778032

Q.15 If the number of boys and girls are in the ratio of 3:4. If the Difference between boys and

girls are 15, then the sum of the boys and girls are:

- Ans
1. 85
 2. 125
 3. 115
 4. 105

Question ID : 54592778021

Q.16 X takes 5 days more than Y and 9 days more than Z to finish a piece of work. X and Y can do a piece of work together in the same time in which the Z alone can do the work. In how many days X finishes the work?

- Ans
1. 20
 2. 16
 3. 10
 4. 15

Question ID : 54592778026

Q.17 Given below is a table, showing the number of students of different classes of modern public school. Study the table carefully and answer the question.

In how many of the given classes girls are not less than boys?

- Ans
1. 3
 2. 2
 3. 1
 4. 4

Question ID : 54592778029

Q.18 A can do a piece of work in 10 days while B can do the same work in 20 days. They start together but A leaves after three days. How many days will B take to complete the remaining work?

- Ans
1. 11 days
 - 2.
 3. 14 days
 - 4.

Question ID : 54592778027

Q.19 When 50 percent more of a number(natural number) is subtracted from 10 percent of square of itself, then it is equal to $\frac{5}{2}$ times of itself. What is the 45 percent of the number?

- Ans
1. 40
 2. 18
 3. 30
 4. 25

Question ID : 54592778019

Q.20 A motorboat, travelling at the same speed, can cover 25 km upstream and 39 km downstream in 8 hrs. At the same speed, it can travel 35 km upstream and 52 km downstream in 11 hrs. The speed of the stream is:

- Ans
1. 9 km/h

- 2. 7 km/h
- 3. 5 km/h
- 4. 4 km/h

Question ID : 54592778025

Section : General English

Q.1 Choose the word which is opposite in meaning to the given word.

PACIFY

- Ans
- 1. Tranquillize
 - 2. Soothe
 - 3. Provoke
 - 4. Calm

Question ID : 54592778042

Q.2 Rearrange the following sentences in their correct order to form a meaningful paragraph.

- P. The young Hindu boy sat astride old Arun's trunk.
- Q. Little by little the lad climbed to the tip of it.
- R. With a sudden flip, the elephant threw Rishi into the air.
- S. The boy neatly executed a somersault and landed on Arun's back.

- Ans
- 1. PQRS
 - 2. PSRQ
 - 3. SPRQ
 - 4. SRPQ

Question ID : 54592778041

Q.3 Select the most appropriate option to fill in the blank.

All those who regard _____ as progressives must stand firm in the face of this new politics.

- Ans
- 1. themselves
 - 2. itself
 - 3. oneself
 - 4. ourselves

Question ID : 54592778038

Q.4 Find out which part of the sentence has an error. If there is no error, mark your answer as 'No error'.

Each of these categories (a) / require further analysis and thorough (b) / understanding of principles at work.(c) / No error (d)

- Ans
- 1. No error
 - 2. require further analysis and thorough
 - 3. Each of these categories
 - 4. understanding of principles at work.

Question ID : 54592778034

Q.5 Select the most appropriate option to substitute the underlined segment in the given sentence.

Vithal is the most meticulous man that I meet.

- Ans
1. that I had met
 2. that I have ever met
 3. that I had ever met
 4. that I met

Question ID : 54592778035

Q.6 What is the meaning of the idiom 'Curiosity killed the cat'?

- Ans
1. Being curious can get you into trouble.
 2. Overfeeding kills a cat.
 3. Excessive curiosity about ferocious animals is natural.
 4. Being curious will always bring excellent results.

Question ID : 54592778045

Q.7 What is the meaning of the idiomatic expression 'To take the law into one's hand' in the sentence given below?

Her mother took the law into her own hands when she heard that her child had been abused.

- Ans
1. None of the above
 2. to wear the clothes of the judge
 3. to do something illegal in order to punish someone
 4. to lift something heavy

Question ID : 54592778046

Q.8 Out of the given four words only one is not spelt correctly. Find the word that is not correctly spelt.

- Ans
1. library
 2. lightning
 3. luxurious
 4. lagitiimate

Question ID : 54592778043

Q.9 Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select option No substitution required.

With only two weeks before the party, the last place I would wanted to be was in the hospital recovering from surgery.

- Ans
1. would wanted to be
 2. would want myself to be
 3. wanted to be
 4. No substitution required

Question ID : 54592778036

Q.10 Select the most appropriate option to fill in the blank.

It was the British who suffered the worst single incident _____ the end of the war.

- Ans
1. to
 2. in
 3. for
 4. since

Question ID : 54592778037

Q.11 Identify the incorrect sentence or sentences.

- a. The need is for a health education in India.
- b. In other words, healthcare professionals are demanded.
- c. They give patients more individual attention.
- d. They propagate awareness and promote health Management.

- Ans
1. a and c
 2. b, c and d
 3. a, b and d
 4. b and c

Question ID : 54592778033

Q.12 Out of the four alternatives, choose the one which can be substituted for the given words/sentence.

An instrument used for measuring atmospheric pressure

- Ans
1. Stethoscope
 2. Barometer
 3. Siesta
 4. Equinox

Question ID : 54592778047

Q.13 Rearrange the following sentences in their correct order to form a meaningful paragraph.

P: Following a short study period, half the group were immediately given a second list to learn - while the rest were given a six-minute break before continuing.

Q: In one of their many experiments on memory consolidation, Muller and Pilzecker first asked their participants to learn a list of meaningless syllables.

R: When tested one-and-a-half-hours later, the two groups showed strikingly different patterns of recall.

S: The remarkable memory-boosting benefits of undisturbed rest were first documented in 1900 by the German psychologist Georg Elias Muller and his student Alfons Pilzecker.

- Ans
1. RSPQ
 2. PRSQ
 3. SQPR
 4. QSRP

Question ID : 54592778040

Q.14 Out of the given four words only one is spelt correctly. Find the word that is correctly spelt.

- Ans
1. Portugese
 2. Politican
 3. Chauffeur
 4. Pharoah

Question ID : 54592778044

Q.15 Select the most appropriate option to fill in the blank.

We really want to hear what people think of this and to hear _____ ideas and suggestions.

- Ans
1. ones
 2. its
 3. their
 4. there

Question ID : 54592778039

Comprehension:

Read the following passages carefully and answer the questions that follow.

The Caste System has been one of the most misrepresented, misinformed, misunderstood, misused and the most maligned aspects of Hinduism. If one wants to understand the truth, the original purpose behind the caste system, one must go to antiquity to study the evolution of the caste system. Caste System, which is said to be the mainstay of the Hindu social order, has no sanction in the Vedas. The ancient culture of India was based upon a system of social diversification according to spiritual development, not by birth, but by his karma (doings). This system became hereditary and over the course of many centuries degenerated as a result of exploitation by some priests, and other socio economic elements of society.

Caste system has enabled Hindu civilization to survive all invasions and to develop without revolutions or important changes, throughout more than four millennia, with a continuity that is unique in history. Caste system may appear rigid to our eyes because, for more than a thousand years, Hindu society withdrew itself from successive domination by Muslims and Europeans. Yet, the greatest poets and the most venerated saints, such as Sura Dasa, Kabir, Tukaram, Thiruvalluvar and Ram Dasa; came from the humblest class of society. In the words of Sarvepalli Radhakrishnan, "In spite of the divisions, there is an inner cohesion among the Hindu society from the Himalayas to the Cape Comorin."

SubQuestion No : 16

Q.16 Over the course of centuries, the caste system has degenerated due to:

- Ans
1. its misuse by religious elements of society
 2. its misuse by religious elements of society and socio-economic elements
 3. its hereditary nature
 4. socio-economic elements

Question ID : 54592778053

Comprehension:

Read the following passages carefully and answer the questions that follow.

The Caste System has been one of the most misrepresented, misinformed, misunderstood, misused and the most maligned aspects of Hinduism. If one wants to understand the truth, the original purpose behind the caste system, one must go to antiquity to study the evolution of the caste system. Caste System, which is said to be the mainstay of the Hindu social order, has no sanction in the Vedas. The ancient culture of India was based upon a system of social diversification according to spiritual development, not by birth, but by his karma (doings). This system became hereditary and over the course of many centuries degenerated as a result of exploitation by some priests, and other socio economic elements of society.

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SubQuestion No : 17

Q.17 What was the basis of social division in ancient India?

- Ans
1. Birth
 2. Karma
 3. Caste
 4. Wealth

Question ID : 54592778050

Comprehension:

Read the following passages carefully and answer the questions that follow.

The Caste System has been one of the most misrepresented, misinformed, misunderstood, misused and the most maligned aspects of Hinduism. If one wants to understand the truth, the original purpose behind the caste system, one must go to antiquity to study the evolution of the caste system. Caste System, which is said to be the mainstay of the Hindu social order, has no sanction in the Vedas. The ancient culture of India was based upon a system of social diversification according to spiritual development, not by birth, but by his karma (doings). This system became hereditary and over the course of many centuries degenerated as a result of exploitation by some priests, and other socio economic elements of society.

Caste system has enabled Hindu civilization to survive all invasions and to develop without revolutions or important changes, throughout more than four millennia, with a continuity that is unique in history. Caste system may appear rigid to our eyes because, for more than a thousand years, Hindu society withdrew itself from successive domination by Muslims and Europeans. Yet, the greatest poets and the most venerated saints, such as Sura Dasa, Kabir, Tukaram, Thiruvalluvar and Ram Dasa; came from the humblest class of society. In the words of Sarvepalli Radhakrishnan, "In spite of the divisions, there is an inner cohesion among the Hindu society from the Himalayas to the Cape Comorin."

SubQuestion No : 18

Q.18 According to the passage, the reason for Hindu civilization surviving in spite of various invasions is:

- Ans
1. Varna-ashrama
 2. Caste system
 3. Hinduism
 4. Varna-ashrama and Caste system

Question ID : 54592778052

Comprehension:

Read the following passages carefully and answer the questions that follow.

The Caste System has been one of the most misrepresented, misinformed, misunderstood, misused and the most maligned aspects of Hinduism. If one wants to understand the truth, the original purpose behind the caste system, one must go to antiquity to study the evolution of the caste system. Caste System, which is said to be the mainstay of the Hindu social order, has no sanction in the Vedas. The ancient culture of India was based upon a system of social diversification according to spiritual development, not by birth, but by his karma (doings). This system became hereditary and over the course of many centuries degenerated as a result of exploitation by some priests, and other socio economic elements of society.

Caste system has enabled Hindu civilization to survive all invasions and to develop without revolutions or important changes, throughout more than four millennia, with a continuity that is unique in history. Caste system may appear rigid to our eyes because, for more than a thousand years, Hindu society withdrew itself from successive domination by Muslims and Europeans. Yet, the greatest poets and the most venerated saints, such as Sura Dasa, Kabir, Tukaram, Thiruvalluvar and Ram Dasa; came from the humblest class of society. In the words of Sarvepalli Radhakrishnan, "In spite of the divisions, there is an inner cohesion among the Hindu society from the Himalayas to the Cape Comorin."

SubQuestion No : 19

Q.19 Which of the following statements is true in the context of the passage?

- Ans
1. All the people from the lower strata of the society were always highly respected.
 2. Some of the revered saints, but not the greatest poets were from the lower social ranks.

3. All of the above.
4. Some of the greatest poets were from the lower social ranks.

Question ID : 54592778051

Comprehension:

Read the following passages carefully and answer the questions that follow.

The Caste System has been one of the most misrepresented, misinformed, misunderstood, misused and the most maligned aspects of Hinduism. If one wants to understand the truth, the original purpose behind the caste system, one must go to antiquity to study the evolution of the caste system. Caste System, which is said to be the mainstay of the Hindu social order, has no sanction in the Vedas. The ancient culture of India was based upon a system of social diversification according to spiritual development, not by birth, but by his karma (doings). This system became hereditary and over the course of many centuries degenerated as a result of exploitation by some priests, and other socio economic elements of society.

Caste system has enabled Hindu civilization to survive all invasions and to develop without revolutions or important changes, throughout more than four millennia, with a continuity that is unique in history. Caste system may appear rigid to our eyes because, for more than a thousand years, Hindu society withdrew itself from successive domination by Muslims and Europeans. Yet, the greatest poets and the most venerated saints, such as Sura Dasa, Kabir, Tukaram, Thiruvalluvar and Ram Dasa; came from the humblest class of society. In the words of Sarvepalli Radhakrishnan, "In spite of the divisions, there is an inner cohesion among the Hindu society from the Himalayas to the Cape Comorin."

SubQuestion No : 20

Q.20 Which of the following words can be replaced by the word cohesion in the passage, without changing the meaning of the sentence?

- Ans
1. organization
 2. consistency
 3. argument
 4. unity

Question ID : 54592778049

Section : General Hindi

Q.1 दिए गए वाक्य के लिए एक शब्द का चयन कीजिए-

'अधिकार में आया हुआ'

- Ans
1. अनिरुद्ध
 2. अप्सरा
 3. अक्षरशः
 4. अधिकृत

Question ID : 54592778059

Q.2 लोकोक्ति 'कमली ओढ़ने से फकीर नहीं होता' का अर्थ है-

- Ans
1. बहुत कम वस्तु से आवश्यकता की पूर्ति नहीं होती।
 2. बूढ़ा और बेकार आदमी दूसरे पर बोझ हो जाता है।
 3. उल्टी बात कहना
 4. ऊपरी वेशभूषा से किसी के अवगुण नहीं छिप जाते।

Question ID : 54592778065

Q.3 गुणवाचक विशेषण के साथ यदि सा, सी का संयोग हो, तो उनके बीच किस चिन्ह का प्रयोग किया जाता है?

- Ans
1. पाद चिन्ह
 2. विवरण चिन्ह
 3. तुल्यतासूचक चिन्ह
 4. योजक चिन्ह

Question ID : 54592778066

Q.4 'समाप्ति' का पर्यायवाची शब्द है-

- Ans
1. इति
 2. हानि
 3. सूची
 4. हार

Question ID : 54592778060

Q.5 वाक्य के शुद्ध रूप का चयन कीजिए-

- Ans
1. देश भर में बात फैल गयी।
 2. पूरे देश भर में बात फैल गयी।
 3. संपूर्ण देश भर में बात फैल गयी।
 4. तमाम देश भर में बात फैल गयी।

Question ID : 54592778063

Q.6 जिस वाक्य में क्रिया का संबंध कर्म से हो वह क्या कहलाता है?

- Ans
1. अकर्तृवाच्य
 2. कर्मवाच्य
 3. भाववाच्य
 4. कर्तृवाच्य

Question ID : 54592778062

Q.7 दिए गए विकल्पों में से तद्भव शब्द का चयन कीजिए-

- Ans
1. भगत
 2. उपवास
 3. भाग्नेय
 4. पक्ष

Question ID : 54592778055

Q.8 वचन से संबंधित कौन-सा वाक्य शुद्ध है?

- Ans
1. रोड़ बीस फीट चोड़ी है।
 2. वकला ने शान्ति मार्च निकाला।
 3. राजू के भोपाल में तीन मकानात है।
 4. मेरे पास अनेक महत्वपूर्ण कागज हैं।

Question ID : 54592778064

Q.9 दिए गए विकल्पों में से किस वाक्य में विराम चिह्नों का सही प्रयोग किया गया है?

- Ans**
1. उसने अपने माल को बचाने के लिए अनेक उपाए किए परन्तु वे सब निष्फल हुए!
 2. हे भगवान- दया करो
 3. आज ऐसा लग रहा है मैं घर पहुंच, गया हूँ
 4. 2 अक्टूबर, सन् 1869 ईसवी को गाँधी जी का जन्म हुआ।

Question ID : 54592778068

Q.10 अशुद्ध वर्तनी वाले शब्द का चयन कीजिए-

- Ans**
1. आकार
 2. आधीन
 3. अनायास
 4. आधार

Question ID : 54592778061

Q.11 शब्द 'स्वागत' में कौन-सी संधि है?

- Ans**
1. गुण संधि
 2. यण संधि
 3. व्यंजन संधि
 4. अयादि संधि

Question ID : 54592778054

Q.12 सर्वनाम कितने प्रकार के होते हैं?

- Ans**
1. सात
 2. छः
 3. चार
 4. दस

Question ID : 54592778056

Q.13 मुहावरा 'आकाश कुसुम होना' का अर्थ है-

- Ans**
1. उपद्रव मचाना
 2. अत्यन्त प्रिय मित्रता
 3. दुर्लभ होना
 4. हृदय में बसना

Question ID : 54592778067

Q.14 शब्द-युग्म के सही अर्थ-भेद का चयन कीजिए-

'अन्तर-अनन्तर'

- Ans**
1. बाद में - भिन्नता
 2. भिन्नता-कान
 3. चढ़ाई-घमण्ड
 4. भिन्नता-बाद में

Question ID : 54592778058

Q.15 'बोध' का विलोम शब्द है-

- Ans 1. प्रबोध
2. सुबोध
3. अबोध
4. निबोध

Question ID : 54592778057

Comprehension:

दिये गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।

बेशक यह मुद्दा आज बहस के केंद्र में है, लेकिन विगत में 1952, 1957, 1962, 1967 में ऐसा हो चुका है, जब लोकसभा और राज्यों की विधानसभाओं के चुनाव साथ-साथ करवाए गए थे। यह क्रम तब टूटा जब वर्ष 1968-69 में कुछ राज्यों की विधानसभाएँ विभिन्न कारणों से समय से पहले भंग कर दी गईं। वर्ष 1971 में पहली बार लोकसभा चुनाव भी समय से पहले हो गए थे। ऐसे में यह प्रश्न उठाना स्वाभाविक है कि जब इस प्रकार चुनाव पहले भी करवाए जा चुके हैं तो अब क्या समस्या है?

चुनावों को लोकतंत्र का सबसे बड़ा उत्सव माना जाता है। अगर हम देश में होने वाले चुनावों पर नज़र डालें तो पाते हैं कि हर वर्ष किसी-न-किसी राज्य में चुनाव होते रहते हैं। चुनावों की इस निरंतरता के कारण देश लगातार चुनावी मोड में बना रहता है। इससे न केवल प्रशासनिक और नीतिगत निर्णय प्रभावित होते हैं बल्कि देश के खजाने पर भी भारी बोझ पड़ता है। हाल ही में हुए 17वीं लोकसभा के चुनाव में एक अनुमान के अनुसार, 60 हज़ार करोड़ रुपये से अधिक का खर्च आया और लगभग तीन महीने तक देश चुनावी मोड में रहा।

निश्चित ही ऐसी परिस्थितियों में 'एक देश-एक चुनाव' विचार पहली नज़र में अच्छा प्रतीत होता है, पर यह व्यावहारिक है या नहीं, इस पर विशेषज्ञों की अलग-अलग राय है। बेशक बार-बार होने वाले चुनावों के बजाय एक स्थायित्व वाली सरकार बेहतर होती है, लेकिन इसके लिये सबसे ज़रूरी है आम सहमति का होना और यह कार्य बेहद मुश्किल है। राजनीतिक सर्वसम्मति के अभाव में संविधान में आवश्यक संशोधन करना संभव नहीं होगा, क्योंकि इसके लिये दो-तिहाई बहुमत की ज़रूरत पड़ेगी, जो कि बिना आम सहमति के नहीं किया जा सकता।

SubQuestion No : 16

Q.16 उपरोक्त गद्यांश के अनुसार लोकसभा और राज्यों की विधानसभाओं के चुनाव के संदर्भ में किस वर्ष में चुनाव एक साथ नहीं हुए थे?

- Ans 1. 2009
2. 1962
3. 1952
4. 1967

Question ID : 54592778070

Comprehension:

दिये गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।

बेशक यह मुद्दा आज बहस के केंद्र में है, लेकिन विगत में 1952, 1957, 1962, 1967 में ऐसा हो चुका है, जब लोकसभा और राज्यों की विधानसभाओं के चुनाव साथ-साथ करवाए गए थे। यह क्रम तब टूटा जब वर्ष 1968-69 में कुछ राज्यों की विधानसभाएँ विभिन्न कारणों से समय से पहले भंग कर दी गईं। वर्ष 1971 में पहली बार लोकसभा चुनाव भी समय से पहले हो गए थे। ऐसे में यह प्रश्न उठाना स्वाभाविक है कि जब इस प्रकार चुनाव पहले भी करवाए जा चुके हैं तो अब क्या समस्या है?

चुनावों को लोकतंत्र का सबसे बड़ा उत्सव माना जाता है। अगर हम देश में होने वाले चुनावों पर नज़र डालें तो पाते हैं कि हर वर्ष किसी-न-किसी राज्य में चुनाव होते रहते हैं। चुनावों की इस निरंतरता के कारण देश लगातार चुनावी मोड में बना रहता है। इससे न केवल प्रशासनिक और नीतिगत निर्णय प्रभावित होते हैं बल्कि देश के खजाने पर भी भारी बोझ पड़ता है। हाल ही में हुए 17वीं लोकसभा के चुनाव में एक अनुमान के अनुसार, 60 हज़ार करोड़ रुपये से अधिक का खर्च आया और लगभग तीन महीने तक देश चुनावी मोड में रहा।

निश्चित ही ऐसी परिस्थितियों में 'एक देश-एक चुनाव' विचार पहली नज़र में अच्छा प्रतीत होता है, पर यह व्यावहारिक है या नहीं, इस पर विशेषज्ञों की अलग-अलग राय है। बेशक बार-बार होने वाले चुनावों के बजाय एक स्थायित्व वाली सरकार बेहतर होती है, लेकिन इसके लिये सबसे ज़रूरी है आम सहमति का होना और यह कार्य बेहद मुश्किल है। राजनीतिक सर्वसम्मति के अभाव में संविधान में आवश्यक संशोधन करना संभव नहीं होगा, क्योंकि इसके लिये दो-तिहाई बहुमत की ज़रूरत पड़ेगी, जो कि बिना आम सहमति के नहीं किया जा सकता।

SubQuestion No : 17

Q.17 उपरोक्त गद्यांश के अनुसार हाल ही में कौन-सी लोकसभा के चुनाव संपन्न हुए हैं?

- Ans 1. 17 वीं

2. 11 वीं
3. 19 वीं
4. 15 वीं

Question ID : 54592778074

Comprehension:

दिये गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।

बेशक यह मुद्दा आज बहस के केंद्र में है, लेकिन विगत में 1952, 1957, 1962, 1967 में ऐसा हो चुका है, जब लोकसभा और राज्यों की विधानसभाओं के चुनाव साथ-साथ करवाए गए थे। यह क्रम तब टूटा जब वर्ष 1968-69 में कुछ राज्यों की विधानसभाएँ विभिन्न कारणों से समय से पहले भंग कर दी गईं। वर्ष 1971 में पहली बार लोकसभा चुनाव भी समय से पहले हो गए थे। ऐसे में यह प्रश्न उठना स्वाभाविक है कि जब इस प्रकार चुनाव पहले भी करवाए जा चुके हैं तो अब क्या समस्या है?

चुनावों को लोकतंत्र का सबसे बड़ा उत्सव माना जाता है। अगर हम देश में होने वाले चुनावों पर नज़र डालें तो पाते हैं कि हर वर्ष किसी-न-किसी राज्य में चुनाव होते रहते हैं। चुनावों की इस निरंतरता के कारण देश लगातार चुनावी मोड में बना रहता है। इससे न केवल प्रशासनिक और नीतिगत निर्णय प्रभावित होते हैं बल्कि देश के खजाने पर भी भारी बोझ पड़ता है। हाल ही में हुए 17वीं लोकसभा के चुनाव में एक अनुमान के अनुसार, 60 हज़ार करोड़ रुपए से अधिक का खर्च आया और लगभग तीन महीने तक देश चुनावी मोड में रहा।

निश्चित ही ऐसी परिस्थितियों में 'एक देश-एक चुनाव' विचार पहली नज़र में अच्छा प्रतीत होता है, पर यह व्यावहारिक है या नहीं, इस पर विशेषज्ञों की अलग-अलग राय है। बेशक बार-बार होने वाले चुनावों के बजाय एक स्थायित्व वाली सरकार बेहतर होती है, लेकिन इसके लिये सबसे ज़रूरी है आम सहमति का होना और यह कार्य बेहद मुश्किल है। राजनीतिक सर्वसम्मति के अभाव में संविधान में आवश्यक संशोधन करना संभव नहीं होगा, क्योंकि इसके लिये दो-तिहाई बहुमत की ज़रूरत पड़ेगी, जो कि बिना आम सहमति के नहीं किया जा सकता।

SubQuestion No : 18

Q.18 उपरोक्त गद्यांश के अनुसार किस वर्ष में पहली बार लोकसभा चुनाव समय से पहले हो गए थे?

- Ans**
1. 1952
 2. 1971
 3. 1957
 4. 1967

Question ID : 54592778073

Comprehension:

दिये गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।

बेशक यह मुद्दा आज बहस के केंद्र में है, लेकिन विगत में 1952, 1957, 1962, 1967 में ऐसा हो चुका है, जब लोकसभा और राज्यों की विधानसभाओं के चुनाव साथ-साथ करवाए गए थे। यह क्रम तब टूटा जब वर्ष 1968-69 में कुछ राज्यों की विधानसभाएँ विभिन्न कारणों से समय से पहले भंग कर दी गईं। वर्ष 1971 में पहली बार लोकसभा चुनाव भी समय से पहले हो गए थे। ऐसे में यह प्रश्न उठना स्वाभाविक है कि जब इस प्रकार चुनाव पहले भी करवाए जा चुके हैं तो अब क्या समस्या है?

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निश्चित ही ऐसी परिस्थितियों में 'एक देश-एक चुनाव' विचार पहली नज़र में अच्छा प्रतीत होता है, पर यह व्यावहारिक है या नहीं, इस पर विशेषज्ञों की अलग-अलग राय है। बेशक बार-बार होने वाले चुनावों के बजाय एक स्थायित्व वाली सरकार बेहतर होती है, लेकिन इसके लिये सबसे ज़रूरी है आम सहमति का होना और यह कार्य बेहद मुश्किल है। राजनीतिक सर्वसम्मति के अभाव में संविधान में आवश्यक संशोधन करना संभव नहीं होगा, क्योंकि इसके लिये दो-तिहाई बहुमत की ज़रूरत पड़ेगी, जो कि बिना आम सहमति के नहीं किया जा सकता।

SubQuestion No : 19

Q.19 उपरोक्त गद्यांश का उचित शीर्षक है-

- Ans**
1. विधानसभा चुनाव
 2. एक देश-एक चुनाव
 3. 17वीं लोकसभा के चुनाव
 4. चुनावों पर अत्यधिक खर्च

Question ID : 54592778072

Comprehension:

दिये गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।

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SubQuestion No : 20

Q.20 उपरोक्त गद्यांश के अनुसार 'एक देश-एक चुनाव' की सर्वसम्मति के लिए कितने बहुमत की आवश्यकता होती है?

- Ans**
1. किसी बहुमत की आवश्यकता नहीं होती।
 2. एक चौथाई
 3. पूर्ण बहुमत
 4. दो-तिहाई

Question ID : 54592778071

Section : Discipline1

Q.1 A 10 cm diameter straight pipe is laid at a uniform downgrade and flow rate is maintained such that velocity head in the pipe is 0.5 m. If the pressure in the pipe is observed to be uniform along the length when the down slope of the pipe is 1 in 10, then what is the friction factor for the pipe?

- Ans**
1. 0.04
 2. 0.01
 3. 0.02
 4. 0.03

Question ID : 54592778088

Q.2 A fluid in which shear stress is directly proportional to the velocity gradient is called:

- Ans**
1. non-Newtonian fluid
 2. Newtonian fluid
 3. real fluid
 4. ideal fluid

Question ID : 54592778091

Q.3 If the diameter of a liquid droplet is d and surface tension is σ , then the pressure intensity p inside the droplet is:

- Ans
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592778090

Q.4 Which of the following is a NOT an error in surveying?

- Ans
1. Natural error
 2. Personal error
 3. Arbitrary error
 4. Instrumental error

Question ID : 54592778075

Q.5 The maximum permissible limit of total hardness as per CaCO_3 (mg/l) in drinking water in the absence of an alternate source, as per IS 10500-2012 is:

- Ans
1. 200
 2. 1000
 3. 600
 4. 1400

Question ID : 54592778093

Q.6 The type of wastewater that originates from the bathroom, kitchen, washing places and wash basins is called:

- Ans
1. sullage
 2. sewage
 3. garbage
 4. rubbish

Question ID : 54592778094

Q.7 The specific speed (N_s) of a water turbine is expressed by which of the following equations?

- Ans
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592778085

Q.8 A differential manometer connected to a pitot static tube used for measuring fluid velocity gives the:

- Ans
1. dynamic pressure
 2. total pressure
 3. difference between total pressure and dynamic pressure
 4. static pressure

Question ID : 54592778077

Q.9 The maximum permissible limit of turbidity (NTU) in drinking water in the absence of an alternate source, as per IS 10500-2012 is:

- Ans
1. 1
 2. 10
 3. 5
 4. 8

Question ID : 54592778092

Q.10 Resultant pressure of the liquid in case of an immersed body acts through which of the following?

- Ans
1. Centre of buoyancy
 2. Metacentre
 3. Centre of pressure
 4. Centre of gravity

Question ID : 54592778080

Q.11 From the following, select the required assumptions made in Euler's equation of motion.

1. The fluid is compressible.
2. The fluid is inviscid.
3. The fluid is incompressible and homogeneous.
4. The fluid is viscous and compressible.

- Ans
1. Only assumptions 1 and 2.
 2. Only assumptions 2 and 3.
 3. Only assumptions 3 and 4.
 4. Only assumptions 1 and 4.

Question ID : 54592778086

Q.12 The distance measured between two points A and B along the slope is 420 m. What is the horizontal distance between the points if the angle of slope between the points is 60° ?

- Ans
1. 260 m
 2. 210 m
 3. 110 m
 4. 364 m

Question ID : 54592778076

Q.13 The reading of the pressure gauge fitted on a vessel is 25 bar. The atmospheric pressure is 1.03 bar and the value of g is 9.81m/s^2 . The absolute pressure in the vessel is:

- Ans
1. 26.03 bar
 2. 34.84 bar
 3. 23.97 bar
 4. 25.00 bar

Question ID : 54592778078

Q.14 Consider the following energies associated with a Pelton turbine:

1. Mechanical energy

- 2. Kinetic energy
- 3. Potential energy

The correct sequence of energy conversion starting from entry of the fluid is:

- Ans
- 1. 2 - 3 - 1
 - 2. 3 - 2 - 1
 - 3. 1 - 3 - 2
 - 4. 1 - 2 - 3

Question ID : 54592778084

Q.15 Stability of a freely floating object is assured if its:

- Ans
- 1. centre of buoyancy lies below its centre of gravity
 - 2. centre of gravity lies below its metacentre
 - 3. centre of gravity coincides with its centre of buoyancy
 - 4. centre of buoyancy lies below its metacentre

Question ID : 54592778081

Q.16 The pressure gauge reading (in m) of the water column shown in the given figure will be:

- Ans
- 1. 3.52 m
 - 2. 3.89 m
 - 3. 1.52 m
 - 4. 2.52 m

Question ID : 54592778079

Q.17 How is the most economical hydraulic channel cross-section defined?

- Ans
- 1. The section that has the maximum area of a given flow
 - 2. The section that has the minimum wetted perimeter
 - 3. The section that has the maximum wetted area
 - 4. The section that has the minimum roughness coefficient

Question ID : 54592778087

Q.18 In a flow field, the streamlines and equipotential lines:

- Ans
- 1. cut at any angle
 - 2. are parallel
 - 3. cut orthogonally, except at the stagnation
 - 4. are orthogonal everywhere in the flow field

Question ID : 54592778082

Q.19 An open channel of symmetric right-angled triangular cross-section is conveying a discharge 'Q'. Taking 'g' as the acceleration due to gravity, what is the critical depth?

- Ans
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592778083

Q.20 What is the specific gravity of one litre of a liquid that weighs 5 N?

- Ans
1. 0.71
 2. 0.41
 3. 0.61
 4. 0.51

Question ID : 54592778089

Section : Discipline2

Q.1 Oversize of hole shall NOT exceed _____ times the nominal diameter of the bolt.

- Ans
1. 1.25
 2. 1.5
 3. 0.5
 4. 1.15

Question ID : 54592778109

Q.2 The Central Road Research Institute (CRR) was proposed by the:

- Ans
1. Nagpur Road Plan
 2. Bombay Road Plan
 3. National Transport Development Policy Committee
 4. Jayakar Committee

Question ID : 54592778106

Q.3 From the given options, which type of sewer is highly resistant to sulphides?

- Ans
1. Steel pipe sewer
 2. Vitrified pipe sewer
 3. RCC pipe
 4. Cast iron pipe sewer

Question ID : 54592778100

Q.4 Obligatory points in highway engineering are controls points governing the:

- Ans
1. load points on highway bridges
 2. locations to survey vehicles of the highway
 3. traffic survey of the highway
 4. alignment of the highway

Question ID : 54592778107

Q.5 The capacity of a sedimentation tank is calculated by the:

- Ans
1. detention period and overflow rate, shape of the tank, and inlet and outlet arrangements
 2. detention period and overflow rate

- 3. shape of the tank
- 4. inlet and outlet arrangements

Question ID : 54592778104

Q.6 What is the minimum width recommended for an urban kerbed road?

- Ans**
- 1. 5.5 m
 - 2. 3.75 m
 - 3. 7.5 m
 - 4. 7.0 m

Question ID : 54592778112

Q.7 Which of the following shapes of sewers are obsolete because of difficulty in their construction?

- Ans**
- 1. Ovoid sewer
 - 2. Semi-elliptical sewer
 - 3. Circular sewer
 - 4. U-shaped sewer

Question ID : 54592778101

Q.8 Which of the following is an advantage of a combined sewage conveyance system?

- Ans**
- 1. Likely to get choked
 - 2. Strength of sewage is reduced by dilution
 - 3. Cost of installation is low
 - 4. Storm water increases load on the treatment plant

Question ID : 54592778096

Q.9 Using Kuichling's formula, determine the fire water demand for a city with a population of 144,000?

- Ans**
- 1. 0.712 cumecs
 - 2. 0.634 cumecs
 - 3. 0.562 cumecs
 - 4. 0.786 cumecs

Question ID : 54592778103

Q.10 Select the INCORRECT sight distance in both, the geometric design of highway and traffic control.

- Ans**
- 1. Sight distance for merging two lanes
 - 2. Overtaking sight distance
 - 3. Stopping sight distance
 - 4. Sight distance for entering into uncontrolled intersections

Question ID : 54592778113

Q.11 Who constructed one of the first and oldest roads and is considered to be a pioneer in the field of road construction?

- Ans**
- 1. Egyptians

2. Persians
3. Aryans
4. Romans

Question ID : 54592778105

Q.12 The relation between the maximum and average rate of flow of sewage (Q_{\max} and Q_{avg}) for a residential area with a population 'P' can be expressed by Habitt's formula which is given as:

- Ans
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592778098

Q.13 What is the total mechanical widening required for a pavement within 7 m, having a horizontal curve of radius 250 m, if the longest wheel base of the vehicle expected on the road is 7.0 m?

- Ans
1. 0.662 m
 2. 0.196 m
 3. 0.567 m
 4. 0.365 m

Question ID : 54592778114

Q.14 In a traffic survey, the traffic volume counts of classified vehicles are to be carried out on all existing roads in a region, preferably for:

- Ans
1. 24 hours per day for seven days
 2. 24 hours per day for four days
 3. 24 hours per day for five days
 4. 24 hours per day for six days

Question ID : 54592778108

Q.15 As per IRC, the recommended value of camber for cement concrete and high type bituminous surface is:

- Ans
1. 1 in 50 to 1 in 60
 2. 1 in 40 to 1 in 50
 3. 1 in 25 to 1 in 33
 4. 1 in 33 to 1 in 40

Question ID : 54592778110

Q.16 Which of the following is an advantage of a separate sewage conveyance system?

- Ans
1. Storm water increases load on the treatment plant
 2. Likely to get choked
 3. Strength of sewage is reduced by dilution
 4. Cost of installation is low

Question ID : 54592778095

Q.17 Which type of sewer collects sewage directly from houses?

- Ans**
1. Branch sewer
 2. Submain sewer
 3. Lateral sewer
 4. Separate sewer

Question ID : 54592778099

Q.18 Which of the following is a disadvantage of a trickling filter in waste water treatment?

- Ans**
1. Mechanical wear and tear is small
 2. They found to operate more efficiently in warm weather
 3. They are self-cleansing
 4. Cost of construction is high

Question ID : 54592778102

Q.19 What is the height of the crown that is to be provided for a district road 7 m wide, constructed with a cross fall of 1 in 50 bituminous pavement?

- Ans**
1. 0.06 m
 2. 0.08 m
 3. 0.07 m
 4. 0.05 m

Question ID : 54592778111

Q.20 Which of the following methods is NOT used to estimate the population forecast estimation of quantity of domestic sewage?

- Ans**
1. Ratio and correlation method
 2. Moving average method
 3. Zoning method
 4. Geometrical increase method

Question ID : 54592778097

Section : Discipline3

Q.1 In case of cables or large bars, the minimum clear spacing shall NOT be less than:

- Ans**
1. the maximum size of cable or bar
 2. 5 mm plus the maximum size of aggregate
 3. 40 mm, the maximum size of cable or bar and 5 mm plus the maximum size of aggregate
 4. 40 mm

Question ID : 54592778123

Q.2 Select the INCORRECT correction to be applied while determining the difference elevation between two points when the observations are from only one point.

- Ans**
1. Correction for sag

2. Correction axis signal
3. Correction for curvature
4. Correction for refraction

Question ID : 54592778128

Q.3 Circular support shall be treated as _____ support having the same area.

- Ans**
1. rectangular
 2. straight
 3. curve
 4. square

Question ID : 54592778121

Q.4 Which of the following is NOT a type of transition curve?

- Ans**
1. Cubic parabola
 2. Lemniscate
 3. Spiral
 4. Quadratic

Question ID : 54592778115

Q.5 Select the correct statement in case of Kaplan turbine:

- Ans**
1. a low axial flow turbine
 2. a high head mixed flow turbine
 3. an outward flow reaction turbine
 4. an impulse inward flow turbine

Question ID : 54592778133

Q.6 In triangulation, the best shape of the triangle is _____ triangle with base angle equal to _____.

- Ans**
1. Obtuse triangle, 120°
 2. Isosceles, $50^\circ 14'$
 3. Isosceles, $56^\circ 14'$
 4. equilateral, $56^\circ 14'$

Question ID : 54592778129

Q.7 A vehicle has a wheel base of 6 m. What is the off tracking while negotiating a curved path with a mean radius of 30 m?

- Ans**
1. 0.60 m
 2. 0.55 m
 3. 0.50 m
 4. 0.65 m

Question ID : 54592778117

Q.8 The length of a single unit bus with two or more axles, as shown in the given figure, is:

- Ans
1. 16.0 m
 2. 18.0 m
 3. 11.0 m
 4. 12.0 m

Question ID : 54592778116

Q.9 When it is necessary to carry levelling across a river, which type of levelling is to be used?

- Ans
1. Profile levelling
 2. Reciprocal levelling
 3. Differential levelling
 4. Precise levelling

Question ID : 54592778125

Q.10 Holes NOT fitted with rivets, bolts or pins shall be _____ the gross area to calculate the effective sectional area.

- Ans
1. deducted from
 2. multiplied to
 3. added to
 4. divided with

Question ID : 54592778122

Q.11 The condition for the stable equilibrium for a floating body is:

- Ans
1. The centre of buoyancy is below the centre of gravity
 2. The metacentre is below the centre of gravity
 3. The metacentre is above the centre of gravity
 4. The metacentre coincides with the centre of gravity

Question ID : 54592778132

Q.12 Select the incorrect statement in case of use of Piezometer for pressure measurement in pipes?

- Ans
1. The pressure difference is low
 2. The fluid in the pipe is a gas
 3. The velocity is high
 4. The fluid in the pipe is highly viscous

Question ID : 54592778130

Q.13 If in any given plane one end of a column is unrestrained, then its unsupported length 'l' shall NOT exceed:

- Ans
1. $100d^2/D$
 2. $100D/b^2$
 3. $100b^2/D$
 4. $100db^2/D$

Question ID : 54592778119

Q.14 The radius of 1° curve is equal to:

- Ans**
1. 5426.568 ft.
 2. 4729.578 ft.
 3. 6729.578 ft.
 4. 5729.578 ft.

Question ID : 54592778126

Q.15 Which of the following methods is NOT a linear method of setting out simple circular curves?

- Ans**
1. By moving average of arc radius
 2. By ordinate or offsets from the long chord
 3. By offsets from tangents
 4. By successive bisection of arcs

Question ID : 54592778127

Q.16 The unsupported length between end restrains shall NOT exceed ____ times the least lateral dimension of a column.

- Ans**
1. 55
 2. 70
 3. 50
 4. 60

Question ID : 54592778118

Q.17 The tensile reinforcement required to resist positive bending moment in any span of a deep beam shall:

- Ans**
1. extend without curtailment between support
 2. be embedded beyond the face of each support
 3. be placed with a zone of depth equal to $0.25D-0.05d$ adjacent to the tension face of the beam
 4. extend without curtailment between support, be placed with a zone of depth equal to $0.25D-0.05d$ adjacent to the tension face of the beam and be embedded beyond the face of each support

Question ID : 54592778120

Q.18 The vertical component of the hydrostatic force on a submerged curved surface is the:

- Ans**
1. force on a vertical projection of the surface
 2. weight of the liquid vertically above it
 3. product of pressure at the centroid and the surface area
 4. mass of liquid vertically above it

Question ID : 54592778131

Q.19 In the assumptions in limit state of collapse, the tensile strength of concrete is:

- Ans**
1. calculated
 2. estimated
 3. ignored
 4. commonly used

Question ID : 54592778124

Q.20 When does a hydraulic jump occur in a channel?

- Ans**
1. If the bed slope changes from steep to mild
 2. If the flow is controlled by a sluice gate
 3. Whenever the flow is supercritical
 4. If the bed slope changes from mild to steep

Question ID : 54592778134

Section : Discipline4

Q.1 What is the design period of a water supply distribution system?

- Ans**
1. 40 years
 2. 30 years
 3. 50 years
 4. 60 years

Question ID : 54592778152

Q.2 The maximum acceptable total dissolved solids in mg/l in drinking water as per IS 10500-2012 is:

- Ans**
1. 2000
 2. 1500
 3. 500
 4. 1000

Question ID : 54592778142

Q.3 The frictional head loss in a turbulent flow through a pipe varies:

- Ans**
1. inversely as the square of the internal diameter of the pipe
 2. directly as the average velocity
 3. directly as the square of the average velocity
 4. inversely as the square of the average velocity

Question ID : 54592778140

Q.4 Differential pressure head measured by mercury oil differential manometer (specific gravity of oil is 1.0) equivalent to a 600 mm difference of mercury levels will be nearly:

- Ans**
1. 8.53 m of oil
 2. 7.56 m of oil
 3. 8.24 m of oil
 4. 7.23 m of oil

Question ID : 54592778135

Q.5 Which of the following is NOT a stage of the sludge digestion process?

- Ans**
1. Acid regression

2. Incineration
3. Alkaline fermentation
4. Acid fermentation

Question ID : 54592778150

Q.6 The maximum acceptable chloride in mg/l in drinking water as per IS 10500-2012 is:

- Ans**
1. 250
 2. 750
 3. 500
 4. 1000

Question ID : 54592778143

Q.7 The design period of main sewers is taken as:

- Ans**
1. 25 years
 2. 30 years
 3. 20 years
 4. 40 years

Question ID : 54592778146

Q.8 Which type of joint sewage line is most common in plain or RCC pipes?

- Ans**
1. Flexible joint
 2. Simplex joint
 3. Bell and spigot joint
 4. Mechanical joint

Question ID : 54592778149

Q.9 Which is the source of desalinated water?

- Ans**
1. Rainwater
 2. Surface water
 3. Groundwater
 4. Reclaimed water

Question ID : 54592778151

Q.10 The radial component of the fluid acceleration at $r = R$ is:

- Ans**
- 1.
 - 2.
 - 3.
 - 4.

Question ID : 54592778136

Q.11 The velocity of a water stream is being measured by an L-shaped pilot tube and the reading is 46 cm. What is the approximate value of velocity?

- Ans**
1. 4.0 m/s

- 2. 3.0 m/s
- 3. 2.0 m/s
- 4. 5.0 m/s

Question ID : 54592778139

Q.12 The type of waste which indicates human and animal excreta is:

- Ans**
- 1. rubbish
 - 2. garbage
 - 3. sewage
 - 4. night soil

Question ID : 54592778144

Q.13 When is Bernoulli's equation applicable between any two points in a flow field?

- Ans**
- 1. The flow is unsteady, incompressible and irrotational
 - 2. The flow is steady, compressible and irrotational
 - 3. The flow is steady, incompressible and rotational
 - 4. The flow is steady, incompressible and irrotational

Question ID : 54592778137

Q.14 Removal of excess chlorine resulting from super chlorination in part or completely is called:

- Ans**
- 1. de - chlorination
 - 2. post - chlorination
 - 3. pre - chlorination
 - 4. split - chlorination

Question ID : 54592778154

Q.15 The effective size of sand used in rapid sand filters is:

- Ans**
- 1. 0.45 to 0.70 mm
 - 2. 0.71 to 0.90 mm
 - 3. 0.21 to 0.44 mm
 - 4. 0.12 to 0.20 mm

Question ID : 54592778153

Q.16 How are the velocity coefficient C_v , the discharge coefficient C_d , and the contraction coefficient C_c of an orifice related?

- Ans**
- 1. $C_v = C_c C_d$
 - 2. $C_c = C_v C_d$
 - 3. $C_c C_v C_d = 1$
 - 4. $C_d = C_c C_v$

Question ID : 54592778138

Q.17 Select the INCORRECT option with respect to vitrified pipes used for carrying wastewater.

- Ans**
- 1. They are highly impervious

2. They are good in tension
3. They are highly resistant to sulphide corrosion
4. They are hydraulically efficient

Question ID : 54592778148

Q.18 The velocity at which the soil particles will remain in suspension without settling at the bottom of a sewer is called:

- Ans**
1. scouring velocity
 2. self-cleansing velocity
 3. maximum velocity
 4. mean velocity

Question ID : 54592778147

Q.19 The flow through the sewer which consists of domestic and industrial wastewater during non-monsoon period is:

- Ans**
1. storm water flow
 2. combined flow
 3. dry whether flow
 4. storm water flow and dry whether flow

Question ID : 54592778145

Q.20 The condition for a pipeline is said to be equivalent to another, if:

- Ans**
1. both velocity and discharge are the same
 2. both discharge and frictional head loss are the same
 3. both length and discharge are the same
 4. both length and diameter are the same

Question ID : 54592778141

Section : Discipline5

Q.1 The height of single decked vehicle normal application is:

- Ans**
1. 2.50 m
 2. 3.80 m
 3. 5.00 m
 4. 4.75 m

Question ID : 54592778170

Q.2 Which of the following types of road construction is based on scientific thinking?

- Ans**
1. Tresaguet construction
 2. Macadam construction
 3. Metcalf construction
 4. Telford construction

Question ID : 54592778158

Q.3 The ratio of contact pressure to tyre pressure is called the:

- Ans
1. rigidity factor
 2. friction factor
 3. compaction factor
 4. vehicle density factor

Question ID : 54592778161

Q.4 The sway effect using notional load under gantry load case need not be considered if the ratio of height to lateral width of the building is:

- Ans
1. less than unity
 2. more than unity
 3. none of these
 4. equal to unity

Question ID : 54592778169

Q.5 Generally in practice, which of the following layouts of systems of distribution is NOT used?

- Ans
1. Stepped system
 2. Radial system
 3. Grid iron system
 4. Dead end or tree system

Question ID : 54592778156

Q.6 Which of the following is NOT an element of geometrical design of highways?

- Ans
1. Sight distance consideration
 2. Intersection element
 3. Highway alignment
 4. Cross-section element

Question ID : 54592778171

Q.7 Which of the following is NOT an urban road pattern?

- Ans
1. Grid iron
 2. Hexagonal
 3. Pentagonal
 4. Star

Question ID : 54592778160

Q.8 The absolute sum of the positive and average negative bending moment in each direction shall be taken as:

- Ans
1. $WL/2$
 2. $WL^2/2$
 3. $WL/8$
 4. $WL^2/8$

Question ID : 54592778174

Q.9 The excess fluoride in the water is removed using which of these methods?

- Ans
1. Ultrasonic rays
 2. Ultraviolet rays
 3. Activated carbons
 4. Bromine and iodine

Question ID : 54592778155

Q.10 National highway, state highway, major district road, minor district roads and village road classification was proposed by:

- Ans
1. Lucknow road plan
 2. Bombay road plan
 3. Jayakar committee
 4. Nagpur road plan

Question ID : 54592778159

Q.11 The type of valves located at the depressions and dead ends to remove the accumulated silt and sand are called:

- Ans
1. scour valves
 2. non-return valves
 3. sluice valves
 4. reflux valves

Question ID : 54592778157

Q.12 Which of the following is NOT a mountain railway alignment?

- Ans
1. Spiral alignment
 2. Valley alignment
 3. Switch-back alignment
 4. Zig-zag alignment

Question ID : 54592778164

Q.13 A compression member may be considered as short when both the slenderness ratio l/D and l/b are less than:

- Ans
1. 8
 2. 10
 3. 15
 4. 12

Question ID : 54592778173

Q.14 A vehicle moves obliquely across the path of another vehicle moving in the same direction at a relatively small angle of crossing. This is called:

- Ans
1. weaving
 2. crossing
 3. merging

4. diverging

Question ID : 54592778163

Q.15 The span length of a flexural member in a continuous frame system shall be taken as the distance between:

- Ans**
1. centre to centre of the support
 2. middle of the support
 3. between the support
 4. end of the support

Question ID : 54592778172

Q.16 Which of the following is 'defined as the load in kilograms per unit rail length required to produce one unit depression in the rail bottom'?

- Ans**
1. Track modulus
 2. Shear modulus
 3. Bulk modulus
 4. Elastic modulus

Question ID : 54592778166

Q.17 The drainage and quick disposal of water from the pavement surfaces is achieved by providing:

- Ans**
1. side drains
 2. kerb
 3. super elevation
 4. camber

Question ID : 54592778162

Q.18 The curves with convexity upward formed on a highway are called:

- Ans**
1. summit curves
 2. valley curves
 3. transition curves
 4. compound curves

Question ID : 54592778168

Q.19 On a right angled two lane road intersection with two way traffic, the total number of major conflict points are:

- Ans**
1. 44
 2. 16
 3. 32
 4. 24

Question ID : 54592778167

Q.20 The standard width of formation for a single lane broad gauge in embankment is:

- Ans**
1. 8.23 m
 2. 6.10 m

3. 5.40 m

4. 4.88 m

Question ID : 54592778165

