Question No. 1

Name the drawing instruments and aids.

A) Set squares

B) Templates

C) Drawing sheet

D) All of the options

Answer Key: D

Question No. 2

A flexible curve consists of a lead bar inside rubber which bends conveniently to draw a smooth curve through any set of points. Which of the following drawing aids is this?

A) French curves

B) Divider

C) Set square

D) Scale

Answer Key: A

Question No. 3

According to orthographic projection, the view obtained on the vertical plane and the horizontal plane are called-

A) Elevation and plan

B) Plan and elevation

C) Elevation and section

D) Section and elevation

Answer Key: A

Question No. 4

The sum of all internal angles of a quadrilateral is-

A) 720°

B) 180°

C) 540°

D) 360°

Answer Key: D

Question No. 5

What is the maximum number of auxiliary views of any given object?

A) Infinite

B) 1

C) 2

D) 6

Answer Key: A

Question No. 6

The axis of a cylinder or sphere can be denoted by using the-

A) Section line

B) Centre line

C) Hidden line

D) Leader line

Question No. 7

An acute angle refers to an angle between-

A) 0° and 90°

B) 0° and 30°

C) 0° and 60°

D) 30° and 60°

Question No. 8

The lines which never meet are called-

A) Horizontal lines

B) Parallel lines

C) Vertical lines

D) Oblique lines

Question No. 9

A drawing has one-point perspective when it contains only one _____ on the horizon line.

A) Station point

B) Vanishing point

C) Central point

D) Last point

Question No. 10

_____ is called the angular perspective.

A) One-point perspective

B) Two-point perspective

C) Three-point perspective

D) All of the options

Question No. 11

If a surface is labelled as 'SR20' in engineering drawing, what does it mean?

A) Spherical radius of 20mm

B) Radius of 20mm

C) Diameter of 20mm

D) Spherical Diameter of 20mm

Question No. 12

Arcs are dimensioned on drawing with 'R12', what does it mean?

A) Diameter of arcs is 12 mm

B) Radius of arcs is 12 mm

C) Spherical diameter of arcs is 12 mm

D) Spherical radius of arcs is 12 mm

Question No. 13

What is the label colour of the water extinguishers?

A) Red

B) Blue

C) Black

D) Yellow

Answer Key: A

Question No. 14

Which of the following is NOT a Personal Protective Equipment (PPE)?

A) Ear muffs

B) Gloves

C) Goggles

D) Rain coat

Answer Key: D

Question No. 15

An economy which does NOT have any relationship with the rest of the world is known as a/an-

A) Mixed economy

B) Closed economy

C) Open economy

D) Socialist economy

Answer Key: B

Question No. 16

Which of the following pairs of folk dance forms and states is NOT matched correctly?

A) Lezim – Maharashtra

B) Ghoomar – Kerala

C) Nati – Himachal Pradesh

D) Mao Naga – Manipur

Answer Key: B

Question No. 17

With which art form is Jamini Roy associated?

A) Music

B) Literature

C) Painting

D) Dance

Answer Key: C

Question No. 18

How many times has Mary Kom won the Women's World Boxing Championship?

A) 3

B) 4

C) 5

D) 6

Answer Key: D

Question No. 19

In whose memory has the Manav Seva Award been instituted?

A) Indira Gandhi

B) Dr.Rajendra Prasad

C) Rajiv Gandhi

D) Acharya Vinoba Bhave

Answer Key: C

Question No. 20

Algal bloom results in which of the following?

A) Global warming
B) Salination
C) Eutrophication
D) Biomagnification

Answer Key: C

Where is RAM located?

A) Expansion Board
B) External Drive
C) Mother Board
D) RAM Port

Answer Key: C

World Environment Day is observed every year on-

A) June 5
B) July 5
C) September 5
D) December 5

Answer Key: A

Which of the following are a type of firewall?

A) Packet filters
B) Application-level gateways
C) Circuit-level gateways
D) All of the options

Answer Key: D

The total amount of water or moisture present in the soil is known as-

A) Chraserd
B) Echard
C) Holard
D) Collard

Answer Key: C

The emergence of the Mewar school is widely associated with-

A) Early dated set of Ragamala paintings painted at Mandawa in 1605
B) Early dated set of Ragamala paintings painted at Bhiwadi in 1605
C) Early dated set of Ragamala paintings painted at Baran in 1605
D) Early dated set of Ragamala paintings painted at Chawand in 1605

Answer Key: D

To boost the combat capabilities and the life of warships, the Indian Navy signed a contract in May 2024 with _____ by converting steam propulsion into diesel.

A) Tuticorin Shipyard Limited
B) Visakhapatnam Shipyard Limited
C) Cochin Shipyard Limited
D) None of the options

Question No. 27

In April/May 2024, the SAC division of ISRO, in a study jointly undertaken with other organizations, expressed greater possibilities of water ice occurrence in the polar craters of the-

A) Sun

B) Earth

C) Jupiter

D) Moon

Answer Key: D

Question No. 28

Dronacharya Award is given to-

A) Teachers

B) Students

C) Sports Coaches

D) National Champions

Answer Key: C

Question No. 29

Who is the Ex-officio Chairman of the Rajya Sabha ?

A) President

B) Vice-President

C) Minister of Home Affairs

D) Prime Minister

Answer Key: B

Question No. 30

The acceleration in a body is due to-

A) Balanced force

B) Unbalanced force

C) Electrostatic force

D) Magnetic force

Answer Key: B

Question No. 31

A flagpole is used in _____.

A) Inclined plane

B) Pulley

C) Screw

D) Wedge

Answer Key: B

Question No. 32

A stone is tied to a spring balance. Under which of the following conditions will the reading on the spring balance show the least weight?

A) When the stone is suspended in air

B) When the stone is on the surface of water taken in a beaker

C) When the stone is partially submerged in the water in a beaker

D) When the stone is completely submerged in the water in a beaker

Answer Key: D

Question No. 33

Identify the unit for measuring the speed of sound.

A) Mach

B) Volts

C) Watts

D) Hertz

Answer Key: A

Question No. 34

Find the work done (in kJ) if a force of 750 N pushes a cart of mass 30 kg by 16 m.

A) 24

B) 12

C) 48

D) 36

Answer Key: B

Question No. 35

The SI unit of weight is-

A) Newton

B) Kilogram

C) Joule

D) Pascal

Answer Key: A

Question No. 36

Identify the metal having the lowest thermal conductivity.

A) Silver

B) Copper

C) Aluminium

D) Mercury

Answer Key: D

Question No. 37

What is the formula for the average speed of an object moving in non- uniform motion?

A) Total distance + Total time taken

B) (Total distance) / (Total time taken)

C) Total distance x Total time taken

D) Total distance - Total time taken

Answer Key: B

Question No. 38

If the velocity of a moving car is changing at an uniform rate and it's initial velocity is 10 m/s and final velocity is 18 m/s , what is it's average velocity?

A) 10 m /s

B) 14 m /s

C) 18 m /s

D) 16 m /s

Answer Key: B

Question No. 39

A sample of granite with density 2.8 g/cm^3. The density of water is 1.0 g/cm^3. What is the specific gravity of the granite?

A) 1.8

B) 2.8

C) 3.8   D) 5.8

Answer Key: B

Question No. 40

Joule's law of heating is-

A) I^2RT

B) IRT^2

C) IRT

D) IR^2T

Answer Key: A

Question No. 41

What is the density of 5 litres of water having mass 5 kg?

A) $1000 \ kg/m^3$

B) $100 \ kg/m^3$

C) $550 \ kg/m^3$

D) $750 \ kg/m^3$

Answer Key: A

Question No. 42

The Stefan Boltzmann constant is represented by which alphabet?

A) ω

B) σ

C) ψ

D) δ

Answer Key: B

Question No. 43

The work done to move a 2 C of charge through a potential difference of 10 volts is-

A) 5 J

B) 10 J

C) 20 J

D) 30 J

Answer Key: C

Question No. 44

An electric heater of rating 1000 W is used for 20 hours per day for 5 days. What is the electrical energy utilized?

A) 100 kWh

B) 300 kWh

C) 320 kWh

D) 400 kWh

Answer Key: A

Question No. 45

What is the SI unit for surface tension?

A) Newton

B) Newton/meter

C) $Newton/meter^2$

D) $Newton/meter^3$

Answer Key: B

Question No. 46

The resistance of the conductor depends on-

A) Its length

B) Its area of cross section

C) The nature of its material

D) All of the options

Answer Key: D

Question No. 47

The voltmeter helps to measure-

A) Potential difference

B) Resistance

C) Electric current

D) Electric charge

Answer Key: A

Question No. 48

Which of the following laws states that electric current 'I' flowing through a metallic wire is directly proportional to the potential difference 'V', across its ends provided its temperature remains constant?

A) Gauss' Law

B) Newton's Law

C) Pascal's Law

D) Ohm's Law

Answer Key: D

Question No. 49

Which of the following is NOT a simple machine?

A) Pulley

B) Lever

C) Wedge

D) Refrigerator

Answer Key: D

Question No. 50

A grooved wheel with a rope around it is a-

A) Pulley

B) Screw

C) Lever

D) Wedge

Answer Key: A

Question No. 51

If 60% of a number is equal to 3/4 of another number, what is the ratio of the first number to the second number?

A) 2 : 5

B) 4 : 3

C) 7 : 3

D) 5 : 4

Answer Key: D

Question No. 52

What will be the cost of gardening 1 m broad boundary around a rectangular plot having a perimeter of 340 m at the rate of Rs.10 per square metre?

A) Rs.1700

B) Rs.3400

C) Rs.3440

D) Cannot be determined

Question No. 53

The unit digit of a two-digit number is 4. The sum of its digits is 1/6 of the number. What is the number?

A) 64

B) 24

C) 54

D) 34

Answer Key: C

Question No. 54

What will come in the place of '*'?

18/* = 2/7

A) 126

B) 84

C) 63

D) 14

Answer Key: C

Question No. 55

Two numbers in the ratio 15 : 11 have their HCF to be 13. What is their LCM?

A) 2145

B) 165

C) 4290

D) 27885

Answer Key: A

Question No. 56

Find the smallest number that is exactly divisible by each of the numbers 12, 15, 20 and 27.

A) 510

B) 520

C) 530

D) 540

Answer Key: D

Question No. 57

Find the acute angle between the hands at 3:30 PM.

A) 105°

B) 75°

C) 90°

D) 120°

Answer Key: B

Question No. 58

A thief escaped from the police and drove away in a bike at 100 km/h. The police immediately started chasing at 75 km/h. After an hour, there was an engine problem in the police vehicle which took 30 minutes to set it right. Thereafter, the speed of the vehicle picked up to 120 km/h. After how much time was the thief caught?

A) 2 hours 30 minutes

B) 5 hours 15 minutes

C) 3 hours 40 minutes

D) 2 hours 45 minutes

Answer Key: B

Question No. 59

Two numbers have their LCM and HCF to be 60 and 12 respectively. What is their ratio?

A) 5 : 1   B) 5 : 2

C) 2 : 3   D) 3 : 5

Answer Key: A

Question No. 60

Find a single discount equivalent to three successive discounts of 10%, 10% and 10%.

A) 30.8%   B) 29.4%

C) 27.1%   D) 28.7%

Answer Key: C

Question No. 61

If p + 341.981 - 146.305 = 123.6 + 220.085, then find the value of 'p'.

A) 148.009   B) 120.85

C) 220.085   D) 230.085

Answer Key: A

Question No. 62

If 10 men can do 2/5 of some work in 8 days, how many men are required to do the remaining work in 6 days?

A) 20   B) 30

C) 10   D) 15

Answer Key: A

Question No. 63

What is the probability of getting a sum which is a multiple of 4 in a throw of a pair of dice?

A) 1/4   B) 5/36

C) 11/36   D) 7/36

Answer Key: A

Question No. 64

A sum of money, invested at 5% simple interest per annum, became Rs.689 on maturity after 6 years. What was the original sum invested?

A) Rs.530   B) Rs.540

C) Rs.520   D) Rs.560

Answer Key: A

Question No. 65

5 years ago, father's age was 8 times Rohan's age. 5 years hence, the ratio of father's age to Rohan's age will be 10 : 3. What is Rohan's present age?

A) 10 years   B) 8 years

C) 12 years   D) 15 years

Answer Key: A

Question No. 66

There are 25 people in a tea party. If every person shakes hands with every other person, what is the total number of handshakes?

A) 190   B) 550

C) 300   D) 175

Answer Key: C

Question No. 67

Simplify: [18 + (1/3) of 21 - (1/5) of 25] ÷ (-13 + 18)

A) 1   B) 4

C) -5   D) -7

Answer Key: B

Question No. 68

If 10% of P's income, 15% of Q's income and 20% of R's income are the same and the sum of their incomes is Rs.7800, then what is the income of Q?

A) Rs.1800   B) Rs.3600

C) Rs.2400   D) Rs.3000

Answer Key: C

Question No. 69

In $\triangle ABC$, $\angle B = \angle C$ and exterior $\angle A = 130°$. Find $\angle B$.

A)

60°

B)

65°

C)

50°

D)

90°

Answer Key: B

Question No. 70

Simplify: $(2x + 3y)^2$

A) $5x^2 - 12xy + 8y^2$ B) $4x^2 + 12xy + 9y^2$

C) $3x^2 + 12xy - 7y^2$

D) $6x^2 + 12xy + 3y^2$

Answer Key: B

Question No. 71

A cistern can be filled in **9** hours. But due to a leak, it takes one hour more. If the cistern is full, in what time will it become empty due to the leak?

A) 30 hours

B) 90 hours

C) 75 hours

D) 60 hours

Answer Key: B

Question No. 72

Five varieties of sweets of count 30, 75, 90, 60 and 45 have to be packed in boxes. If each box contains only one variety with the same count as the other boxes, then find the minimum number of boxes required.

A) 20

B) 25

C) 15

D) 12

Answer Key: A

Question No. 73

If a : b = 2 : 3, b : c = 7 : 9 and a + b + c = 124, then find the value of 'c'.

A) 42

B) 63

C) 54

D) 48

Answer Key: C

Question No. 74

Find the square root of $2^2 \times 81 - 6 \times 10 + 5^2$.

A) 8

B) 15

C) 17

D) 22

Answer Key: C

Question No. 75

Two numbers are in the ratio 8 : 9. If the sum of the numbers is 119, then find the second number.

A) 45

B) 56

C) 63

D) 74

Answer Key: C

Question No. 76

In this question, a statement is given followed by two conclusions. Choose the conclusion(s) which best fit(s) logically.

Statement:
Money plays a vital role in our lives.

Conclusions:

I. The poor can never become rich.

II. All the rich men take part in politics.

A) Only conclusion I follows   B) Only conclusion II follows

C) Either conclusion I or II follows   D) Neither conclusion I nor II follows

Answer Key: D

There are five friends—Arun, Bala, Chandru, Deepan and Sunil. Arun is shorter than Bala, but taller than Sunil. Chandru is the tallest. Deepan is a little shorter than Bala and a little taller than Arun.

Who among the following has two persons taller and two persons shorter than him?

A) Sunil   B) Arun

C) Bala   D) Deepan

Answer Key: D

Among A, B, C, D and E, A is taller than only B but shorter than C. C is taller than E. C is not the tallest. Who among them will be in the middle if they stand in the order of their height?

A) A   B) B

C) C   D) E

Answer Key: D

If '+' and '-' are interchanged and also numbers 5 and 2 are interchanged, then find the value of 6 x 3 + 2 - 4 + 5.

A) 8   B) 11

C) 13   D) 15

Answer Key: D

Which number will best complete the relationship given below?

13 : 91 :: 131 : ?

A) 917   B) 931

C) 943   D) 957

Answer Key: A

Complete the series.

AZ, BY, CX, DW, (...)

A) EV   B) EW

C) EX   D) EY

Answer Key: A

Question No. 82

Read the following question and decide which of the statements is sufficient to answer the question.

Question:
What is the color of the granite in the kitchen?

Statements:
I. The color of the granite is the color of the wall.
II. The color of the granite is very bright.

A) Statement I alone is sufficient while statement II alone is   B) Statement II alone is sufficient while statement I alone is
not sufficient to answer the given question   not sufficient to answer the given question

C) Neither statement I nor II is sufficient to answer the given   D) Both statements I and II together are sufficient to answer
question   the given question

Answer Key: C

Question No. 83

Find the missing group of letters in the following series.

TS, ON, (…), HG, FE

A) QC   B) PR

C) LI   D) KJ

Answer Key: D

Question No. 84

If north becomes west, east becomes north and so on, then what will northwest become?

A) Southwest   B) South

C) Northeast   D) East

Answer Key: A

Question No. 85

Radhika starts walking 50 m towards south from her house. Then she turns left and walks 20 m. Next, she turns north and walks 30 m and then she starts walking to her house. In which direction is she walking now?

A) Northwest   B) South

C) Southeast   D) East

Answer Key: A

Question No. 86

Find the ODD one out from the given options.

A) 36 - 63   B) 87 - 78

C) 32 - 23   D) 35 - 51

Question No. 87

There are nine members R to Z in a family.

V is the husband of Z.

R is the son of V.

X and T are sisters.

W is the son of X.

T is the sister of R.

R is the father-in-law of U.

Y is the daughter of U.

U married S who is only daughter of R.

How many people are NOT married in the family?

A) 5   B) 2

C) 3   D) 1

Question No. 88

In a certain code language, 'pt nr sm' means 'bring me water', 'nr jo td' means 'water is pure', 'tb og pt' means 'give me ball' and 'jo ln kt' means 'pure and dust'. Which of the following represents 'is' in that language?

A) jo   B) nr

C) pt   D) td

Question No. 89

If 'P ÷ Q' means 'P is the son of Q',

'P * Q' means 'P is the sister of Q',

'P + Q' means 'P is the brother of Q', and

'P - Q' means 'P is the mother of Q', then how is L related to K in the expression 'O + K - T + L'?

A) Either 'nephew' or 'niece'   B) Either 'son' or 'daughter'

C) Either 'father' or 'mother'   D) Either 'grandfather' or 'grandmother'

Question No. 90

Find the missing number in the following series.

4, 9, 25, 49, ?, 169, 289

A) 81   B) 100

C) 121   D) 144

Question No. 91

Complete the series.

10000, 2000, 400, 80, (...)

A) 16   B) 8

C) 20   D) 40

Answer Key: A

In this question, two statements are given followed by two conclusions. Choose the conclusion(s) which best fit(s) logically.

Statements:
1) All shops are closed.
2) All closed shops are developed.

Conclusions:
I. Some shops are developed.
II. No shop is developed.

A) Only conclusion I follows   B) Only conclusion II follows

C) Both conclusions I and II follow   D) Either conclusion I or II follows

Answer Key: A

If '×' stands for '+', '+' stands for '÷', '−' stands for '=', '>' stands for '×', '=' stands for '<' and '<' stands for '−', then which of the following alternatives is correct?

A) 6 > 3 < 2 − 7 × 3 × 1   B) 6 < 3 × 2 − 7 > 3 × 1

C) 6 > 3 × 2 − 7 > 3 < 1   D) 6 + 3 × 2 = 7 + 3 > 1

Answer Key: C

Read the following information carefully and answer the question given below.

Meera, Harini, Divya, Maha, Raji, Rekha and Anu are sitting in a row facing north but not necessarily in the same order. Meera sits second to the right of Harini. Divya sits fifth to the left of Maha. Raji is second to the left of Rekha. Harini and Anu have three persons between them. Divya and Rekha have two persons between them. No one sits between Anu and Maha.

Who among the following is sitting between Meera and Anu?

A) Rekha   B) Maha

C) Divya   D) Raji

Answer Key: B

Select the pair of words from the given options that represents a relationship similar to the one expressed in the following pair of words.

Whisper : Shout

A) Summer : Heat   B) Clean : Wash

C) Think : Thought   D) Hazy : Clear

Answer Key: D

Study the following information carefully and choose the correct answer based on the scenario.

The following are the conditions for admission to an engineering college.

(i) A student should be minimum 18 years of age as on 1.7.2024.
(ii) A student should have secured at least 60% marks in Standard XII.
(iii) A student should have secured at least 60% marks in the entrance exam.
(iv) A student should be ready to pay Rs.20000 at the time of admission.

If the student satisfies all the criteria from (i) to (iv), he/she can be selected.

In case the student fulfills all the eligibility criteria, EXCEPT (ii) but has secured 80% marks in the entrance exam, the case is to be referred to President, Admission.

In case the student fulfills all the eligibility criteria, EXCEPT (iv) but can pay at least Rs.10000 at the time of admission, the case has to be referred to Dean of the College.

If any information is missing in the student details, it should be treated as Data inadequate.

Scenario: Aruna can pay Rs. 20,000 at the time of admission and has secured 60 per cent and 70 per cent marks in X std and in the entrance test respectively. She was born on 5th April 2005.

A) The student can be admitted   B) Data inadequate

C) This case is to be referred to President, Admission   D) This case is to be referred to Dean of the College

Answer Key: B

In this question, three statements are given followed by three conclusions. Choose the conclusion(s) which best fit(s) logically.

Statements:
1) All boats are ships.
2) All ships are buses.
3) Some boats are trains.

Conclusions:
I. Some trains are boats.
II. Some ships are trains.

III. Some buses are ships.

A) Only conclusion I follows
B) Only conclusion II follows

C) Only conclusion III follows
D) All conclusions follow

Answer Key: D

Read the following information carefully and answer the question given below.

Aravind, Bala, Chithra, Deepa, Hari, Maha, Madhu and Abi are sitting around a circle facing the center. Bala is third to the right of Maha and third to the left of Abi. Chithra is fourth to the left of Aravind. Aravind is not an immediate neighbour of Maha and Bala. Hari is not an immediate neighbour of Bala. Madhu is second to the right of Deepa.

Who is to the immediate left of Bala?

A) Deepa
B) Madhu

C) Chithra
D) Maha

Answer Key: A

If in a certain code language, 'ns pt kl ch' means 'siva gets marriage gift', 'pt ln wo ch' means 'wife gives marriage gift' and 'tt wo nh' means 'she gives nothing', then what would 'gives' be coded in the same code language?

A) wo
B) pt

C) nh
D) ch

Answer Key: A

Read the following question and decide which of the statements is sufficient to answer the question.

Question:
Is Raju fond of travelling?

Statements:
I. Raju has seen eastern, western, northern and southern parts of India.
II. Raju likes to be in the company of his friends.

A) Statement I alone is sufficient while statement II alone is not sufficient to answer the question
B) Statement II alone is sufficient while statement I alone is not sufficient to answer the question

C) Neither statement I nor II is sufficient to answer the question
D) Both statements I and II together are sufficient to answer the question

Answer Key: A