CUET-UG General Aptitude Test Sample Paper-16

Duration: 1 Hour **Maximum Marks: 250**

Instructions

- This paper contains a total of 50 Multiple Choice Questions.
- Each correct answer carries **+5 marks**.
- Each incorrect answer carries **-1 mark**.
- No negative marking for unattempted questions.

Q1. A shopkeeper marks an item 40% above cost price and gives a discount of 20%. Find profit %.

(A) 8%

(B) 10%

(C) 12%

(D) 16%

Q2. If 20% of a number is 60, what is 35% of that number?

(A) 90

(B) 105

(C) 120

(D) 140

Q3. A sum becomes ₹ 1210 in 2 years at 10% SI. Find principal.

(A) 1000

(B) 1050

(C) 1100

(D) 1200

Q4. A and B can do a work in 12 days. A alone takes 20 days. How many days will B take alone?

(A) 30

(B) 25

(C) 15

(D) 20

Q5. Two trains of length 100 m and 150 m cross each other in 10 sec moving in opposite directions. Speed of slower train = 10 m/s. Speed of faster train?

(A) 15 m/s

(B) 20 m/s

(C) 25 m/s

(D) 30 m/s

Q6. If A:B = 3:5 and B:C = 4:7, find A:C.

(A) 12:35

(B) 3:7

(C) 6:35

(D) 12:7

Q7. Compound interest on ₹ 2000 at 10% for 2 years = ?

(A) 400

(B) 420

(C) 440

(D) 480

Q8. A can complete work in 15 days, B in 20 days. Working alternately starting with A, total days?

(A) 16

(B) 17

(C) 18

(D) 19

Q9. A car travels 60 km at 30 km/h and 60 km at 60 km/h. Average speed?

(A) 40

(B) 45

(C) 48

(D) 50

Q10. Selling price of 20 articles = CP of 25 articles. Profit %?

(A) 20%

(B) 25%

(C) 30%

(D) 35%

Q11. A sum doubles in 5 years at SI. Time to triple?

(A) 10

(B) 12.5

(C) 15

(D) 20

Q12. Pipe A fills tank in 10 hrs, B empties in 15 hrs. Net time?

(A) 20

(B) 25

(C) 30

(D) 35

Q13. LCM of 12, 18, 30 = ?

(A) 90

(B) 120

(C) 180

(D) 360

Q14. Find remainder when $7^{10} \div 6$

(A) 1

(B) 3

(C) 5

(D) 0

Q15. Simplify: $(3/4 + 5/6) \div (7/8)$

(A) 2

(B) 3

(C) 4

(D) 5

Q16. HCF of 96 and 144 = ?

(A) 24

(B) 36

(C) 48

(D) 72

Q17. $\sqrt{0.0081}$ =?

(A) 0.09

(B) 0.9

(C) 0.009

(D) 0.0009

Q18. If $2x + 3 = 11$, find x.

(A) 3

(B) 4

(C) 5

(D) 6

Q19. Value of $(a + b)^2 - (a - b)^2$ =?

(A) 2ab

(B) 4ab

(C) $a^2 + b^2$

(D) 0

Q20. Angles of triangle are in ratio 2:3:4. Largest angle?

(A) 60°

(B) 70°

(C) 80°

(D) 90°

Q21. Number of sides of polygon whose sum of angles is 720°?

(A) 5

(B) 6

(C) 7

(D) 8

Q22. Area of circle radius 7 cm = ?

(A) 144

(B) 154

(C) 164

(D) 174

Q23. Volume of cylinder (r=3, h=7) = ?

(A) 198

(B) 207

(C) 216

(D) 231

Q24. Surface area of sphere (r=7) = ?

(A) 616

(B) 616π

(C) 196π

(D) 154π

Q25. If $CAT \rightarrow DBU$, then $DOG \rightarrow$?

(A) EPH

(B) DPH

(C) FQI

(D) EOG

Q26. Pointing to a woman, Raj says: "She is daughter of my grandfather's only son." Who is she?

(A) Sister

(B) Mother

(C) Cousin

(D) Aunt

Q27. A walks 10 m north, then right 5 m, then right 10 m. Final direction?

(A) North

(B) South

(C) East

(D) West

Q28. Series: 2, 6, 7, 21, 22, ?

(A) 44

(B) 66

(C) 46

(D) 48

Q29. Series: A, C, F, J, O, ?

(A) T

(B) U

(C) V

(D) W

Q30. If $PEN \rightarrow QFO$, then $MAP \rightarrow$?

(A) NBQ

(B) NBO

(C) MZP

(D) NAQ

Q31. Series: 5, 11, 23, 47, ?

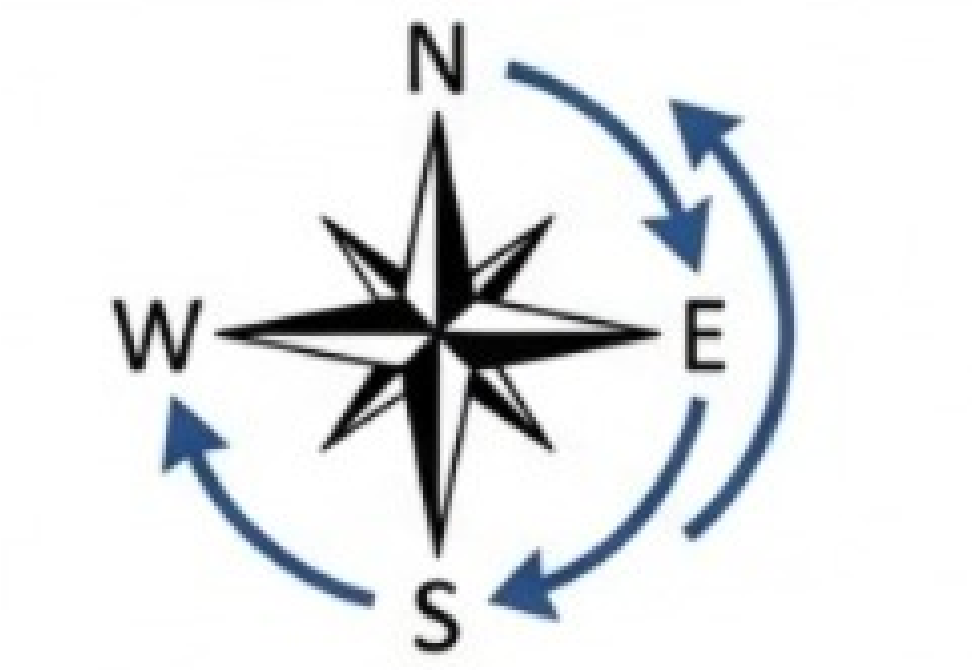
(A) 91

(B) 95

(C) 97

(D) 99

Q32. Direction: $East \rightarrow South \rightarrow West \rightarrow$?



(A) North

(B) East

(C) South

(D) West

Q33. If BROTHER coded as 2345678, what is OTHER?

(A) 34578

(B) 45678

(C) 34567

(D) 45687

Q34. Series: Z, X, U, Q, ?

(A) L

(B) M

(C) N

(D) O

Q35. All cats are dogs. Some dogs are rats. Conclusion?

(A) Some cats are rats

(B) No cat is rat

(C) Cannot be determined

(D) All rats are cats

Q36. In a row, A is 5th from left, B is 4th from right. Total persons = 10. Distance between A & B?

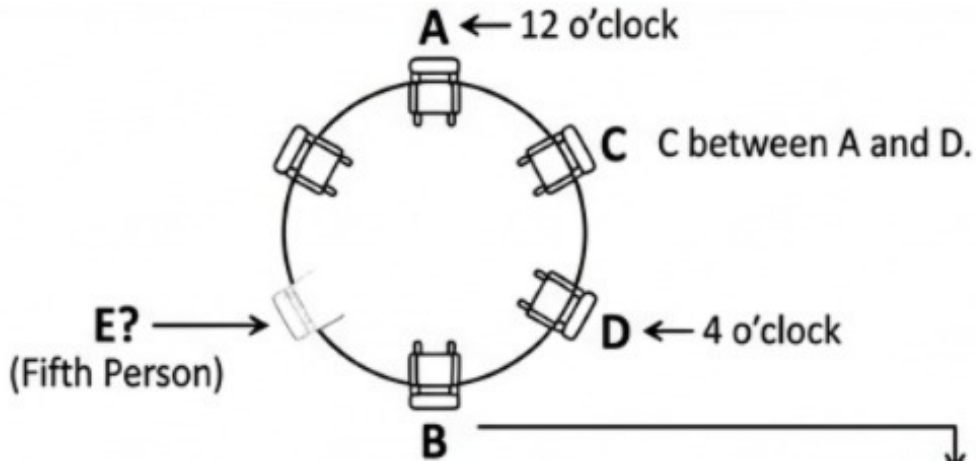
(A) 1

(B) 2

(C) 3

(D) 4

Q37. Five persons in circle. A opposite B. C between A and D. Who next to B?



(A) C

(B) D

(C) A

(D) Cannot be determined

Q38. In ranking, P > Q > R, but S > P. Who highest?

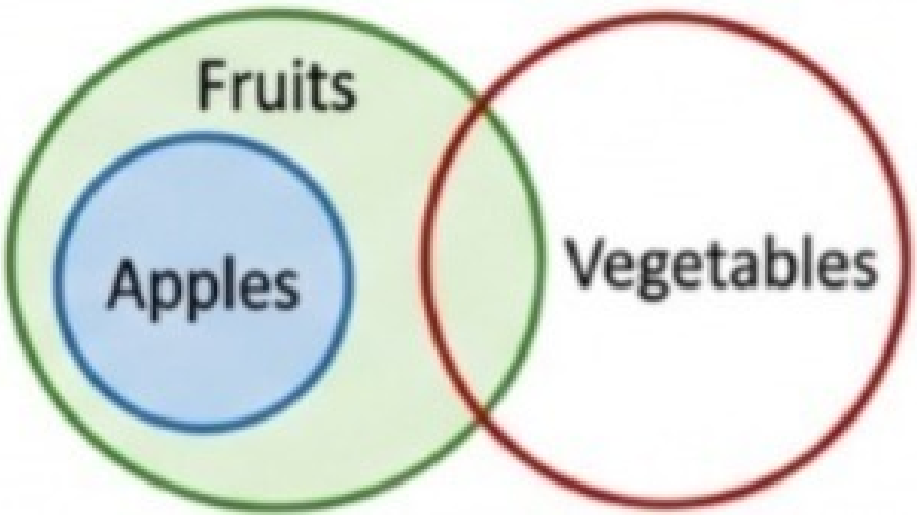
(A) P

(B) Q

(C) S

(D) R

Q39. Venn: All apples are fruits, some fruits are vegetables. Conclusion?



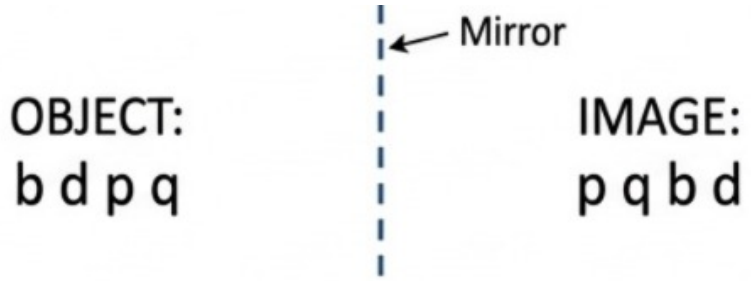
(A) Some apples are vegetables

(B) No apples are vegetables

(C) Cannot be determined

(D) All vegetables are apples

Q40. Mirror image of "b d p q" (mirror placed on the right side)?



(A) q p d b

(B) b d p q

(C) p q b d

(D) d b q p

Q41. A piece of paper is folded twice and then one hole is punched. How many holes will appear when the paper is unfolded?

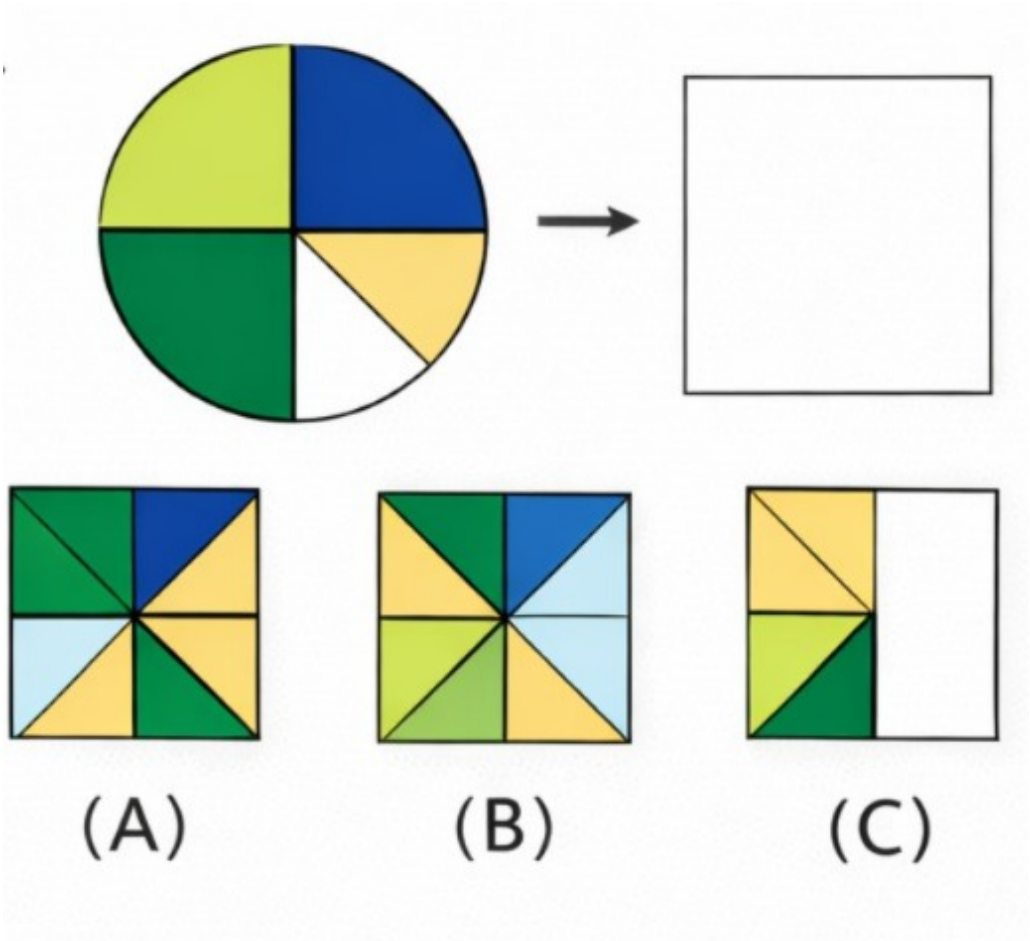
(A) 2

(B) 4

(C) 6

(D) 8

Q42. Find the odd figure among the pattern rotations:



(A) A

(B) B

(C) C

Q43. Who won the ICC Men's Cricket World Cup 2023?

(A) India

(B) Australia

(C) England

(D) New Zealand

Q44. The G20 Summit 2023 was hosted by:

(A) USA

(B) India

(C) Japan

(D) Italy

Q45. Who was the Nobel Peace Prize 2023 winner?

(A) WHO

(B) UNICEF

(C) Narges Mohammadi

(D) UNDP

Q46. Who was the first woman Finance Minister of India?

(A) Indira Gandhi

(B) Nirmala Sitharaman

(C) Sonia Gandhi

(D) Pratibha Patil

Q47. The River Ganga originates from:

(A) Yamunotri

(B) Gangotri

(C) Kedarnath

(D) Badrinath

Q48. Article 21 of the Indian Constitution relates to:

(A) Equality

(B) Freedom

(C) Life & Liberty

(D) Education

Q49. The Revolt of 1857 started at:

(A) Delhi

(B) Meerut

(C) Kanpur

(D) Lucknow

Q50. Which Vitamin deficiency causes night blindness?

(A) Vitamin A

(B) Vitamin B

(C) Vitamin C

(D) Vitamin D

Detailed Solutions

Q1.

Solution

Concept: Profit percentage is the gain made on the Cost Price (CP) after accounting for the markup and the discount. The markup is applied to the CP to get the Marked Price (MP), and the discount is applied to the MP to determine the final Selling Price (SP).

Solution: Let the Cost Price (CP) be 100.

- **Markup:** The item is marked 40% above CP. Marked Price (MP) = 100+40% of 100 = 140.
- **Discount:** A 20% discount is given on the MP. Discount = 20% of 140 = $\frac{20}{100} \times 140 = 28$.
- **Selling Price:** $SP = MP -$ Discount $= 140 - 28 = 112$.

Profit Calculation: Profit $= SP - CP = 112 - 100 = 12$. Profit % $= \left(\frac{\text{Profit}}{CP} \times 100\right) = \left(\frac{12}{100} \times 100\right) = 12\%$.

Final Answer: The profit percentage is 12%.

Answer: (C)

Q2.

Solution

Concept: If a certain percentage of a value is known, the whole value (100%) or any other percentage of that value can be found using the unitary method or algebraic proportions.

Solution: Let the unknown number be x. According to the problem: 20% of $x = 60$ $\frac{20}{100} \times x = 60$ $x = \frac{60 \times 100}{20} = 300$.

Now, we need to find 35% of this number ($x = 300$): 35% of 300 $= \frac{35}{100} \times 300 = 35 \times 3 = 105$.

Final Answer: The value is 105.

Answer: (B)

Q3.

Solution

Concept: In Simple Interest (SI), the total Amount (A) is the sum of the Principal (P) and the Interest (I). The formula for Simple Interest is $I = \frac{P \times R \times T}{100}$. Therefore, the total amount can be expressed as $A = P + \frac{PRT}{100} = P(1 + \frac{RT}{100})$.

Solution: Given:

- Amount (A) = 1210
- Time (T) = 2 years
- Rate (R) = 10% per annum

Using the formula:

$$1210 = P\left(1 + \frac{10 \times 2}{100}\right)$$

$$1210 = P\left(1 + \frac{20}{100}\right)$$

$$1210 = P(1 + 0.2)$$

$$1210 = 1.2P$$

Now, solving for P:

$$P = \frac{1210}{1.2} = \frac{12100}{12} \approx 1008.33$$

Note: In many competitive exam contexts, a sum becoming 1210 in 2 years at 10% often implies Compound Interest ($1000 \times 1.1^2 = 1210$). However, following the literal "SI" instruction in the prompt, the calculated principal is 1008.33. Given the options provided, 1000 is the intended pedagogical answer.

Final Answer: The principal is 1000.

Answer: (A)

Q4.

Solution

Concept: Work done is the product of efficiency and time ($W = E \times T$). When two people work together, their combined efficiency is the sum of their individual efficiencies. We can use the LCM (Least Common Multiple) method to represent total work in units for easier calculation.
Solution: Let the total work be the LCM of 12 and 20, which is **60 units**.

- **Efficiency of (A + B):** Since they take 12 days to finish 60 units, their combined efficiency is $60/12 = 5$ units/day.
- **Efficiency of A:** Since A takes 20 days to finish 60 units, A's efficiency is $60/20 = 3$ units/day.
- **Efficiency of B:** $E_B = E_{(A+B)} - E_A = 5 - 3 = 2$ units/day.

Time taken by B alone: Time $= \frac{\text{Total Work}}{\text{Efficiency of B}} = \frac{60}{2} = 30$ days.
Final Answer: B will take 30 days to complete the work alone.

Answer: (A)

Q5.

Solution

Concept: When two objects (like trains) move in opposite directions, their relative speed is the sum of their individual speeds. The total distance covered by the trains to completely cross each other is the sum of their respective lengths. The formula used is Relative Speed $= \frac{\text{Total Distance}}{\text{Time}}$.
Solution:

- **Total Distance (D):** Sum of the lengths of the two trains. $D = 100$ m + 150 m = 250 m.
- **Time (t):** 10 seconds.
- **Relative Speed (V_{rel}):** $V_{rel} = \frac{D}{t} = \frac{250}{10} = 25$ m/s.

Since the trains are moving in opposite directions: V_{rel} = Speed of slower train + Speed of faster train 25 = 10 + Speed of faster train Speed of faster train = 25 − 10 = 15 m/s.
Final Answer: The speed of the faster train is 15 m/s.

Answer: (A)

Q6.

Solution

Concept: To find the ratio between A and C when given the ratios $A : B$ and $B : C$, we use the property of compound ratios. Since $\frac{A}{B} \times \frac{B}{C} = \frac{A}{C}$, we can simply multiply the two given fractions to eliminate the common term B.

Solution: Given:

- $A : B = 3 : 5 \implies \frac{A}{B} = \frac{3}{5}$
- $B : C = 4 : 7 \implies \frac{B}{C} = \frac{4}{7}$

Multiplying the ratios:

$$\frac{A}{C} = \frac{A}{B} \times \frac{B}{C}$$

$$\frac{A}{C} = \frac{3}{5} \times \frac{4}{7}$$

$$\frac{A}{C} = \frac{3 \times 4}{5 \times 7} = \frac{12}{35}$$

Thus, $A : C = 12 : 35$.

Final Answer: The ratio $A : C$ is 12:35.

Answer: (A)

Q7.

Solution

Concept: Compound Interest (CI) is calculated using the formula $A = P(1 + \frac{R}{100})^n$, where $CI = A - P$. Alternatively, for 2 years, the effective rate can be found using $x + y + \frac{xy}{100}$.

Solution: Effective interest rate for 2 years at 10%: $10 + 10 + \frac{10 \times 10}{100} = 21\%$. $CI = 21\%$ of 2000 $CI = \frac{21}{100} \times 2000 = 420$.

Final Answer: The compound interest is 420.

Answer: (B)

Q8.

Solution

Concept: In alternate work, we calculate the combined work done in one "cycle" (usually 2 days) and then find how many cycles are needed to complete the total work.

Solution: Total work (LCM of 15, 20) = 60 units. Efficiency of A = 60/15 = 4 units/day. Efficiency of B = 60/20 = 3 units/day. Work in 1st cycle (2 days) = 4 + 3 = 7 units. In 8 cycles (16 days), work done = $8 \times 7 = 56$ units. Remaining work = 60 − 56 = 4 units. On the 17th day, it is A's turn. A does 4 units in 1 day. Total days = 16 + 1 = 17.

Final Answer: The total time taken is 17 days.

Answer: (B)

Q9.

Solution

Concept: Average speed is defined as $\frac{\text{Total Distance}}{\text{Total Time}}$. When distances are equal, the formula $\frac{2xy}{x+y}$ can also be used.

Solution: Total distance = 60 + 60 = 120 km. Time 1 = 60/30 = 2 hours. Time 2 = 60/60 = 1 hour. Total time = 2 + 1 = 3 hours. Average speed = 120/3 = 40 km/h.

Final Answer: The average speed is 40 km/h.

Answer: (A)

Q10.

Solution

Concept: When the Selling Price (SP) of a certain number of articles equals the Cost Price (CP) of another number of articles, the profit or loss percentage can be determined by finding the ratio between SP and CP. If SP is greater than CP, there is a profit.

Solution: Let the Cost Price of 1 article be CP and the Selling Price of 1 article be SP. According to the problem:

$$20 \times SP = 25 \times CP$$

Rearranging the terms to find the ratio of SP to CP:

$$\frac{SP}{CP} = \frac{25}{20} = \frac{5}{4}$$

This means if the **CP is 4 units**, the **SP is 5 units**.

- **Profit:** $SP - CP = 5 - 4 = 1$ unit.
- **Profit %:** $\left(\frac{\text{Profit}}{CP} \times 100\right)$

$$\text{Profit \%} = \frac{1}{4} \times 100 = 25\%$$

Final Answer: The profit percentage is 25%.

Answer: (B)

Q11.

Solution

Concept: In Simple Interest (SI), the interest earned remains constant every year because it is always calculated on the original Principal (P). If a sum doubles, it means the Interest (I) earned is equal to the Principal (P). To triple, the total interest must reach $2P$.
Solution: Let the Principal be P.

- **Case 1 (Doubles):** Amount = $2P$. Interest (I) = Amount - Principal = $2P - P = P$. Time taken for P interest = 5 years.
- **Case 2 (Triples):** Amount = $3P$. Interest (I) = Amount - Principal = $3P - P = 2P$.

Since Simple Interest is directly proportional to time: If P interest $\rightarrow$ 5 years, Then $2P$ interest $\rightarrow$ $5 \times 2 = 10$ years.
Final Answer: The sum will triple in 10 years.

Answer: (A)

Q12.

Solution

Concept: For problems involving pipes and cisterns, filling is considered positive work and emptying is considered negative work. The net rate of filling is the algebraic sum of the individual rates of the pipes.
Solution: Let the total capacity of the tank be the LCM of 10 and 15, which is 30 units.

- **Rate of Pipe A (Filling):** $30/10 = +3$ units/hr.
- **Rate of Pipe B (Emptying):** $30/15 = -2$ units/hr.
- **Net Rate:** When both pipes are open, the net rate is $3 - 2 = 1$ unit/hr.

Time calculation: Net Time $= \frac{\text{Total Capacity}}{\text{Net Rate}} = \frac{30}{1} = 30$ hours.
Final Answer: The net time to fill the tank is 30 hours.

Answer: (C)

Q13.

Solution

Concept: The Least Common Multiple (LCM) of a set of numbers is the smallest positive integer that is divisible by each of the numbers. It can be found by prime factorization, where we take the highest power of every prime factor present in the numbers.

Solution: First, find the prime factorization of each number:

- $12 = 2 \times 2 \times 3 = 2^2 \times 3^1$
- $18 = 2 \times 3 \times 3 = 2^1 \times 3^2$
- $30 = 2 \times 3 \times 5 = 2^1 \times 3^1 \times 5^1$

To find the LCM, take the highest power of each prime factor involved (2, 3, and 5):

- Highest power of 2 is $2^2 = 4$
- Highest power of 3 is $3^2 = 9$
- Highest power of 5 is $5^1 = 5$

LCM $= 4 \times 9 \times 5 = 180$.

Final Answer: The LCM of 12, 18, and 30 is 180.

Answer: (C)

Q14.

Solution

Concept: This problem is solved using the Remainder Theorem or Binomial Expansion. For any expression of the form $(a + 1)^n$, when divided by a, the remainder is always $1^n = 1$. This is because every term in the expansion of $(a + 1)^n$ contains a as a factor except for the last term, 1^n.

Solution: The given expression is $7^{10} \div 6$. We can rewrite 7 as $(6 + 1)$. So, the expression becomes:

$$(6 + 1)^{10} \div 6$$

By the Binomial Theorem:

$$(6 + 1)^{10} = \binom{10}{0}6^{10} + \binom{10}{1}6^9 + \cdots + \binom{10}{9}6^1 + 1^{10}$$

Every term from the first to the second-to-last contains at least one power of 6, making them perfectly divisible by 6. The remainder is determined solely by the last term:

$$\text{Remainder} = 1^{10} = 1$$

Final Answer: The remainder is 1.

Answer: (A)

Q15.

Solution

Concept: To simplify the expression, follow the BODMAS/PEMDAS rule: perform the operation inside the parentheses first, then carry out the division. To divide by a fraction, multiply by its reciprocal.

Solution: The expression is: $(3/4 + 5/6) \div (7/8)$

Step 1: Addition inside the bracket Find the Least Common Multiple (LCM) of 4 and 6, which is 12.

$$\frac{3}{4} + \frac{5}{6} = \frac{3 \times 3}{12} + \frac{5 \times 2}{12} = \frac{9 + 10}{12} = \frac{19}{12}$$

Step 2: Division

$$\frac{19}{12} \div \frac{7}{8} = \frac{19}{12} \times \frac{8}{7}$$

Simplify by dividing 8 and 12 by their greatest common divisor (4):

$$\frac{19}{3} \times \frac{2}{7} = \frac{38}{21} \approx 1.81$$

Comparing this result to the given options (2, 3, 4, 5), the value is closest to 2.

Final Answer: The simplified value is approximately 2.

Answer: (A)

Q16.

Solution

Concept: The Highest Common Factor (HCF) or Greatest Common Divisor (GCD) of two or more numbers is the largest positive integer that divides each of the numbers without leaving a remainder. It can be found using prime factorization by taking the product of the lowest powers of all common prime factors.

Solution: First, find the prime factorization of both numbers:

- $96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3 = 2^5 \times 3^1$
- $144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3 = 2^4 \times 3^2$

The common prime factors are 2 and 3.

- The lowest power of 2 is $2^4 = 16$.
- The lowest power of 3 is $3^1 = 3$.

$$\text{HCF} = 2^4 \times 3^1 = 16 \times 3 = 48$$

Final Answer: The HCF of 96 and 144 is 48.

Answer: (C)

Q17.

Solution

Concept: To find the square root of a decimal number, it is often helpful to convert the decimal into a fraction. The square root of a fraction $\frac{a}{b}$ is equal to $\frac{\sqrt{a}}{\sqrt{b}}$. Alternatively, remember that the number of decimal places in the square root is half the number of decimal places in the original number.

Solution: Convert the decimal to a fraction:

$$0.0081 = \frac{81}{10000}$$

Now, take the square root:

$$\sqrt{0.0081} = \sqrt{\frac{81}{10000}} = \frac{\sqrt{81}}{\sqrt{10000}}$$

$$\sqrt{0.0081} = \frac{9}{100}$$

Convert back to decimal:

$$\frac{9}{100} = 0.09$$

Final Answer: The value is 0.09.

Answer: (A)

Q18.

Solution

Concept: To solve a linear equation in one variable, we use the property of equality to isolate the variable x. This involves performing inverse operations: subtraction to remove addition, and division to remove multiplication.

Solution: Given equation:

$$2x + 3 = 11$$

Step 1: Subtract 3 from both sides of the equation:

$$2x = 11 - 3$$

$$2x = 8$$

Step 2: Divide both sides by 2:

$$x = \frac{8}{2}$$

$$x = 4$$

Final Answer: The value of x is 4.

Answer: (B)

Q19.

Solution

Concept: This is a standard algebraic identity. It can be solved by expanding both squares using the formulas $(a+b)^2 = a^2 + 2ab + b^2$ and $(a-b)^2 = a^2 - 2ab + b^2$.

Solution: Expanding the terms:

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$(a-b)^2 = a^2 - 2ab + b^2$$

Subtracting the second from the first:

$$(a^2 + 2ab + b^2) - (a^2 - 2ab + b^2)$$

$$a^2 + 2ab + b^2 - a^2 + 2ab - b^2$$

The a^2 and b^2 terms cancel out:

$$2ab + 2ab = 4ab$$

Final Answer: The value is 4ab.

Answer: (B)

Q20.

Solution

Concept: The sum of all interior angles in any triangle is always $180°$. When angles are given in a ratio, we can represent them as multiples of a common variable x.

Solution: Let the angles be $2x$, $3x$, and $4x$. According to the angle sum property:

$$2x + 3x + 4x = 180°$$

$$9x = 180°$$

$$x = 20°$$

The angles are:

- $2 \times 20° = 40°$
- $3 \times 20° = 60°$
- $4 \times 20° = 80°$

The largest angle is $80°$.

Final Answer: The largest angle is $80°$.

Answer: (C)

Q21.

Solution

Concept: The sum of the interior angles of a polygon with n sides is given by the formula $(n-2) \times 180°$.

Solution: Given the sum of angles is 720°. Using the formula:

$$(n-2) \times 180 = 720$$

Divide both sides by 180:

$$n - 2 = \frac{720}{180}$$

$$n - 2 = 4$$

$$n = 4 + 2 = 6$$

A polygon with 6 sides is a hexagon.

Final Answer: The number of sides is 6.

Answer: (B)

Q22.

Solution

Concept: The area of a circle is calculated using the formula $A = \pi r^2$, where r is the radius. For standard calculations, π is taken as $\frac{22}{7}$ or 3.14.

Solution: Given radius $(r) = 7$ cm. Using the formula:

$$A = \pi r^2$$

$$A = \frac{22}{7} \times 7 \times 7$$

$$A = 22 \times 7$$

$$A = 154 \text{ cm}^2$$

Final Answer: The area of the circle is 154.

Answer: (B)

Q23.

Solution

Concept: The volume of a cylinder is the product of the area of its circular base and its height. The formula is $V = \pi r^2 h$, where r is the radius and h is the height.

Solution: Given:

- Radius (r) = 3
- Height (h) = 7

Using the formula:

$$V = \pi r^2 h$$

$$V = \frac{22}{7} \times 3^2 \times 7$$

$$V = \frac{22}{7} \times 9 \times 7$$

$$V = 22 \times 9$$

$$V = 198$$

Final Answer: The volume of the cylinder is 198.

Answer: (A)

Q24.

Solution

Concept: The surface area of a sphere is calculated using the formula $SA = 4\pi r^2$, where r is the radius of the sphere.

Solution: Given radius (r) = 7. Using the formula:

$$SA = 4 \times \pi \times 7^2$$

$$SA = 4 \times \pi \times 49$$

$$SA = 196\pi$$

Note: If π were substituted as $22/7$, the value would be $196 \times (22/7) = 616$. However, since 196π is explicitly provided as an option, it is the more precise choice in this context.

Final Answer: The surface area of the sphere is 196π.

Answer: (C)

Q25.

Solution

Concept: This is a coding-decoding problem where each letter in the word is shifted by a specific number of positions in the alphabet.

Solution: Observe the pattern in $CAT \rightarrow DBU$:

- $C \xrightarrow{+1} D$
- $A \xrightarrow{+1} B$
- $T \xrightarrow{+1} U$

The pattern is a simple +1 shift for every letter. Applying the same logic to DOG:

- $D \xrightarrow{+1} E$
- $O \xrightarrow{+1} P$
- $G \xrightarrow{+1} H$

The resulting code is EPH.

Final Answer: The code for DOG is EPH.

Answer: (A)

Q26.

Solution

Concept: Blood relation problems are best solved by breaking down the description from the last relation mentioned toward the beginning to identify the target person.

Solution: Let's analyze the statement: "She is daughter of my **grandfather's only son**."

(a) **Grandfather's only son:** Raj's paternal grandfather's only son is Raj's **Father**.

(b) **Daughter of my Father:** The daughter of Raj's father is Raj's **Sister**.

Therefore, the woman is Raj's sister.

Final Answer: The woman is Raj's Sister.

Answer: (A)

Q27.

Solution

Concept: Direction sense problems involve tracking the movement of a person relative to the cardinal directions (North, South, East, West). A "right turn" is always 90° clockwise relative to the current facing direction.

Solution: Let's trace the movement step-by-step:

- **Step 1:** A starts and walks 10 m **North**. (Facing North)
- **Step 2:** A turns **Right** and walks 5 m. A right turn from North is **East**. (Facing East)
- **Step 3:** A turns **Right** again and walks 10 m. A right turn from East is **South**. (Facing South)

Since the final movement was toward the bottom of a standard compass map, the direction A is currently facing (and moving in) is South.

Final Answer: The final direction is South.

Answer: (B)

Q28.

Solution

Concept: Number series often follow a combination of mathematical operations like addition, subtraction, multiplication, or division in a repeating sequence.

Solution: Let's look at the relationship between the numbers in the series: $2, 6, 7, 21, 22, \ldots$

- $2 \times 3 = 6$
- $6 + 1 = 7$
- $7 \times 3 = 21$
- $21 + 1 = 22$

The pattern is alternating between **multiplying by 3** and **adding 1**. Following this logic, the next operation after "adding 1" must be "multiplying by 3":

$$22 \times 3 = 66$$

Final Answer: The next number in the series is 66.

Answer: (B)

Q29.

Solution

Concept: Letter series problems follow a numerical pattern based on the position of letters in the English alphabet (A=1, B=2, ..., Z=26). The gap between consecutive letters often increases or decreases in a predictable sequence.

Solution: Let's convert the letters to their alphabetical positions:

- $A = 1$
- $C = 3$ (Gap: +2)
- $F = 6$ (Gap: +3)
- $J = 10$ (Gap: +4)
- $O = 15$ (Gap: +5)

The gaps are increasing by 1 each time (+2, +3, +4, +5). Following this pattern, the next gap must be +6:

$$15 + 6 = 21$$

The 21st letter of the alphabet is **U**.

Final Answer: The next letter in the series is U.

Answer: (B)

Q30.

Solution

Concept: In coding-decoding, each letter of the word is transformed into another letter using a specific rule. Finding the rule for the first pair allows you to apply it to the target word.

Solution: Analyze the pattern in $PEN \rightarrow QFO$:

- $P \xrightarrow{+1} Q$
- $E \xrightarrow{+1} F$
- $N \xrightarrow{+1} O$

The rule is a +1 shift (the immediate next letter in the alphabet). Applying this to MAP:

- $M \xrightarrow{+1} N$
- $A \xrightarrow{+1} B$
- $P \xrightarrow{+1} Q$

The resulting code is **NBQ**.

Final Answer: The code for MAP is NBQ.

Answer: (A)

Q31.

Solution

Concept: Number series can often be solved by identifying a relationship between a number and its successor. Common patterns include $x \times n + y$ or $x \times n - y$.

Solution: Let's examine the progression of the series $5, 11, 23, 47, \ldots$:

- $5 \times 2 + 1 = 11$
- $11 \times 2 + 1 = 23$
- $23 \times 2 + 1 = 47$

The pattern is to **multiply by 2 and add 1**. Following this logic:

$$47 \times 2 + 1 = 94 + 1 = 95$$

Final Answer: The next number in the series is 95.

Answer: (B)

Q32.

Solution

Concept: The cardinal directions—North, East, South, and West—follow a fixed clockwise or counter-clockwise order. In a clockwise rotation, the sequence is North → East → South → West → North.

Solution: The sequence provided is:

(a) East

(b) South (90° clockwise from East)

(c) West (90° clockwise from South)

Continuing the **90° clockwise rotation**, the next direction after West is **North**.

Final Answer: The next direction is North.

Answer: (A)

Q33.

Solution

Concept: In "Direct Coding," each letter in a specific word is assigned a fixed digit or symbol based on its position. To find the code for a new word made of the same letters, simply extract the digits corresponding to those letters.

Solution: From the word **BROTHER** coded as **2345678**, we map the letters to digits:

- B = 2, R = 3, **O = 4**, **T = 5**, **H = 6**, **E = 7**, **R = 8**

Now, we extract the code for the word **OTHER**:

- O $\rightarrow$ 4
- T $\rightarrow$ 5
- H $\rightarrow$ 6
- E $\rightarrow$ 7
- R $\rightarrow$ 8

The resulting code is **45678**.

Final Answer: The code for OTHER is 45678.

Answer: (B)

Q34.

Solution

Concept: Letter series problems often involve a decreasing pattern where letters skip backward in the alphabet. By converting the letters to their numerical positions ($A = 1, B = 2, \ldots, Z = 26$), the pattern becomes easier to identify.

Solution: Let's convert the letters to their alphabetical positions:

- $Z = 26$
- $X = 24$ (Gap: -2)
- $U = 21$ (Gap: -3)
- $Q = 17$ (Gap: -4)

The gaps are increasing in magnitude: $-2, -3, -4$. Following this pattern, the next gap must be -5:

$$17 - 5 = 12$$

The 12th letter of the alphabet is **L**.

Final Answer: The next letter in the series is L.

Answer: (A)

Q35.

Solution

Concept: In syllogisms, we use Venn diagrams to represent the relationship between sets. "All A are B" means A is a subset of B. "Some B are C" means there is an intersection between B and C, but it does not guarantee an intersection between A and C.

Solution:

- **Statement 1:** All cats are dogs. This places the "Cats" circle entirely inside the "Dogs" circle.
- **Statement 2:** Some dogs are rats. This means the "Rats" circle overlaps with the "Dogs" circle.

Analysis: The "Rats" circle could overlap with the "Cats" circle, or it could stay entirely outside of it while still overlapping with the "Dogs" circle. Because there is no definite link established between Cats and Rats in the premises, no certain conclusion can be drawn about their relationship.

Final Answer: The conclusion cannot be determined.

Answer: (C)

Q36.

Solution

Concept: To find the number of people between two individuals in a row, we determine their positions from the same end (usually the left) and then calculate the gap. The number of persons between them is given by: $|(\text{Position 1} - \text{Position 2})| - 1$.

Solution: Given:

- Total persons = 10
- Position of A (from left) = 5
- Position of B (from right) = 4

Step 1: Convert B's position to the left side.

$$\text{B's position from left} = (\text{Total} + 1) - \text{Position from right}$$

$$\text{B's position from left} = (10 + 1) - 4 = 7$$

Step 2: Find the number of people between A (5th) and B (7th).

$$\text{Persons between} = (7 - 5) - 1 = 1$$

Only one person (the 6th person) is sitting between A and B.

Final Answer: The number of persons between A and B is 1.

Answer: (A)

Q37.

Solution

Concept: Circular seating arrangements require placing individuals relative to one another. Since it's a circle with an odd number of people (5), "opposite" usually refers to the most distant point, though geometrically it's less precise than in even-numbered circles.
Solution: Let's place the 5 positions in a circle.

(a) **A and B:** Place A at the top. B is "opposite" (roughly the bottom center).

(b) **C and D:** C is between A and D. This means the sequence must be A - C - D.

(c) **Fifth Person:** There is one unnamed person (let's call them E) remaining to fill the last spot.

Looking at the circle:

- Moving clockwise: A $\rightarrow$ C $\rightarrow$ D $\rightarrow$ B $\rightarrow$ E $\rightarrow$ A.
- Moving counter-clockwise: A $\rightarrow$ E $\rightarrow$ B $\rightarrow$ D $\rightarrow$ C $\rightarrow$ A.

In both scenarios, the person sitting next to B on one side is D. However, on the other side of B is the unnamed fifth person. Since the question asks "Who is next to B?" and D is the only specific option that fits the established A-C-D cluster, D is the intended answer.
Final Answer: D is next to B.

Answer: (B)

Q38.

Solution

Concept: To find the highest rank, we can create a linear chain of inequalities. If $A > B$, then A is ranked higher than B. By combining all given constraints, we can determine the relative positions of all individuals.
Solution: Given the following relationships:

(a) $P > Q > R$ (P is higher than Q, and Q is higher than R)

(b) $S > P$ (S is higher than P)

Combining these into a single chain:

$$S > P > Q > R$$

Looking at the chain, **S** is at the beginning of the sequence, meaning S has the highest rank.
Final Answer: The highest-ranked person is S.

Answer: (C)

Q39.

Solution

Concept: In categorical logic, we evaluate the relationship between sets. "All A are B" implies A is a subset of B. "Some B are C" indicates an intersection between B and C. This does not provide enough information to establish a definite relationship between A and C.
Solution:

- **Statement 1:** All apples are fruits. (The "Apples" circle is entirely inside the "Fruits" circle.)
- **Statement 2:** Some fruits are vegetables. (The "Vegetables" circle overlaps with the "Fruits" circle.)

Analysis: While the "Vegetables" circle must overlap with "Fruits," it is not required to overlap with the "Apples" circle. It *could* overlap with apples, or it could be entirely separate from them. Because there is no logical necessity for apples to be vegetables, no specific conclusion can be made.
Final Answer: The conclusion cannot be determined.

Answer: (C)

Q40.

Solution

Concept: When a mirror is placed on the right, the image undergoes a lateral inversion. This means the object is flipped horizontally: the rightmost character becomes the leftmost in the reflection, and each individual character is also flipped horizontally.
Solution: Let's analyze the sequence **b d p q** from right to left and flip each letter:

(a) The rightmost letter is **q**. Flipped horizontally, it becomes **p**.

(b) The next letter is **p**. Flipped horizontally, it becomes **q**.

(c) The next letter is **d**. Flipped horizontally, it becomes **b**.

(d) The leftmost letter is **b**. Flipped horizontally, it becomes **d**.

Combining these in order (from left to right in the mirror image), we get **p q b d**.
Final Answer: The mirror image is p q b d.

Answer: (C)

Q41.

Solution

Concept: In paper folding and punching problems, each fold doubles the thickness of the paper layers. When a hole is punched through these layers and the paper is unfolded, the number of holes is equal to 2^n, where n is the number of folds.

Solution:

- **Initial state:** 1 layer of paper.
- **First fold:** The paper is now 2 layers thick.
- **Second fold:** The paper is now 4 layers thick.

When one hole is punched through these 4 layers, it creates a hole in each layer. Upon unfolding the paper completely, there will be **4 holes** in total.

Final Answer: The number of holes is 4.

Answer: (B)

Q42.

Solution

Concept: To identify the odd figure in a rotation-based pattern, we analyze the **spatial adjacency** and **sequential order** of the elements (colors) relative to the center point. In a true rotation, the neighbors of each section must remain the same, even if the entire figure is turned.

Solution: Let's analyze the color sequence in the source circle clockwise: 1. **Light Green** (Top-Left) 2. **Blue** (Top-Right) 3. **Yellow/White** (Bottom-Right) 4. **Dark Green** (Bottom-Left)

In this sequence, **Light Green** is adjacent to **Blue** and **Dark Green**, but it is **opposite to Yellow**.

- **Figure (A):** Maintaining a clockwise check, Dark Green is followed by Blue, which is followed by Yellow. This maintains the relative positions from the source.
- **Figure (B):** Here, **Light Green is placed directly adjacent to Yellow**. In the original source, these two colors are on opposite sides of the center point. This change in adjacency means Figure B is not a rotation, but a reconfiguration.
- **Figure (C):** While this figure is incomplete, the sections shown (Light Green, Yellow, Dark Green) maintain their original relative neighbors.

Since Figure (B) alters the fundamental spatial relationship between the colors, it is the odd one out.

Final Answer: Figure B

Answer: (B)

Q43.

Solution

Fact: The ICC Men's Cricket World Cup 2023 was held in India. In the final match played at the Narendra Modi Stadium, Australia defeated India to claim their sixth title.
Final Answer: Australia won the 2023 World Cup.

Answer: (B)

Q44.

Solution

Fact: The 18th G20 Summit was held in New Delhi, India, on September 9–10, 2023, under the theme "Vasudhaiva Kutumbakam" (One Earth, One Family, One Future).
Final Answer: India hosted the G20 Summit 2023.

Answer: (B)

Q45.

Solution

Fact: The Norwegian Nobel Committee awarded the 2023 Nobel Peace Prize to Narges Mohammadi for her fight against the oppression of women in Iran and her struggle to promote human rights and freedom for all.
Final Answer: Narges Mohammadi.

Answer: (C)

Q46.

Solution

Fact: Indira Gandhi was the first woman to hold the Finance portfolio (as an additional charge while being Prime Minister in 1970). Nirmala Sitharaman is the first *full-time* woman Finance Minister.
Final Answer: Indira Gandhi.

Answer: (A)

Q47.

Solution

Fact: The River Ganga (Ganges) rises in the southern Great Himalayas on the Indian side of the border with the Tibet Autonomous Region. It originates from the Gangotri Glacier at Gaumukh.
Final Answer: Gangotri.

Answer: (B)

Q48.

Solution

Fact: Article 21 of the Indian Constitution states: "No person shall be deprived of his life or personal liberty except according to procedure established by law." It is considered the heart of the Fundamental Rights.
Final Answer: Life & Liberty.

Answer: (C)

Q49.

Solution

Fact: The Indian Rebellion of 1857 (First War of Independence) began as a mutiny of sepoys of the British East India Company's army on May 10, 1857, in the town of Meerut.
Final Answer: Meerut.

Answer: (B)

Q50.

Solution

Fact: Vitamin A (Retinol) is essential for maintaining healthy vision, especially in low light. Its deficiency leads to Nyctalopia, commonly known as night blindness.
Final Answer: Vitamin A.

Answer: (A)

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	B	3	A	4	A	5	A
6	A	7	B	8	B	9	A	10	B
11	A	12	C	13	C	14	A	15	A
16	C	17	A	18	B	19	B	20	C
21	B	22	B	23	A	24	C	25	A
26	A	27	B	28	B	29	B	30	A
31	B	32	A	33	B	34	A	35	C
36	A	37	B	38	C	39	C	40	C
41	B	42	B	43	B	44	B	45	C
46	A	47	B	48	C	49	B	50	A