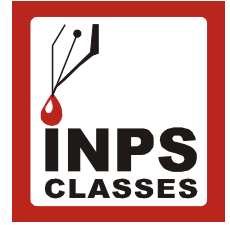




CUET – 2022



01. From among the four options given, choose the correct sequence of the four phrases give blow, to make a meaningful sentence:
- A. Lower our guard and our masks B. Repeatedly weather the pandemic might finally
C. Be over, many of use are willing to D. Having asked ourselves
- (a) A, C, B, D (b) D, B, C, A (c) C, D, A, B (d) B, A, D, C
02. Which of the following is one-word substitute for ‘the quality of having a ready insight into things’?
- (a) Felicity (b) Tenacity (c) Perspicacity (d) Chromaticity
03. Identify the correct indirect narration for the following sentence:
The lady said to the servant, “If you don’t wash the clothes properly, I will dismiss you”.
- (a) The lady warned the servant that she would dismiss her if she didn’t wash the clothes properly.
(b) The lady told the servant that she would dismiss her on the event of bad work.
(c) The lady cautioned the servant that she must wash the clothes properly
(d) The lady advised the servant to wash the clothes properly
04. Pick the plural from of ‘matrix’
- (a) Matrixes (b) Matrices (c) Matries (d) Matrii
05. Which of the following options will be correct choice for the blank?
I’m not sure where he is. He _____ out for a walk.
- (a) gone (b) may have gone (c) has gone (d) is going
06. Match List I with List II:
- | List I
(Animals) | List II
(Sound) |
|---------------------|--------------------|
| A. Apes | I. Howl |
| B. Wolves | II. Gibber |
| C. Lambs | III. Squel |
| D. pigs | IV. Bleat |
- Choose the correct answer from the options given below:
- (a) A – II; B – I; C – IV; D – III (b) A – III; B – IV; C – II; D – I
(c) A – IV; B – II; C – III; D – I (d) A – II; B – III; C – IV; D – I
07. From among the four options given, choose the one which is a grammatically correct sentence.
- (a) Frequent entertain or equality time in home calling out for comfort seating.
(b) Frequent entertaining or quality time at home calls out for comfortable seating.
(c) Comfort seat calling out for frequent entertaining or quality time at home.
(d) Frequent entertaining calls out for comfortable seating or quality time at home.

08. From among the four options given, choose the one in which the word has been spelt correctly.

- (a) Vituperative (b) Vetuperative (c) Vituparative (d) Vituperetive

09. Choose the correct option to make a meaning full sentence.

Shena is _____ in the art of cooking.

- (a) Adept (b) Adopt (c) Adapt (d) Admit

10. Choose the correct preposition to complete the following sentence:

Ramanujan is good _____ mathematics.

- (a) at (b) in (c) for (d) into

11. Reversing Roe is a documentary film centered on:

- (a) Civil Rights Movement (b) Debate on Abortion Rights
(c) Women's Right to Study Medicine (d) Voting Rights for the Blacks

12. Match List I with List II:

List I
(Noble Prize Winners)

- A. Md. Yunus
B. Abdus Salam
C. Venkatraman Ramakrishna
D. Marie Ressa

List II
(Area/Subject)

- I. Chemistry
II. Peace
III. Economics
IV. Physics

Choose the correct answer from the options given below:

- (a) A – I; B – II; C – III; D – IV (b) A – III; B – IV; C – I; D – II
(c) A – II; B – III; C – IV; D – I (d) A – IV; B – I; C – II; D – III

13. Match List I with List II:

List I
(FM Radio)

- A. Radio Mirchi
B. My FM
C. Big FM
D. Ratio One

List II
(Tag line)

- I. Dhoon badal ke toh Dekho
II. International Indians
III. Jio Dil Se
IV. Sunnewale always Khush

Choose the correct answer from the options given below:

- (a) A – I; B – II; C – III; D – IV (b) A – III; B – IV; C – II; D – I
(c) A – IV; B – III; C – I; D – II (d) A – II; B – I; C – IV; D – III

14. Match List I with List II:

List I
(Author)

- A. Salman Rushdie
B. Arundhati Roy
C. Kiran Desai
D. Arvind Adiga

List II
(Title of the book)

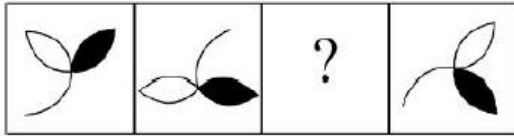
- I. The Inheritance of Loss
II. The White Tiger
III. The God of Small Things
IV. Midnight's Children

Choose the correct answer from the options given below:

- (a) A – I; B – II; C – IV; D – III
(b) A – III; B – I; C – II; D – IV
(c) A – II; B – IV; C – III; D – I
(d) A – IV; B – III; C – I; D – II

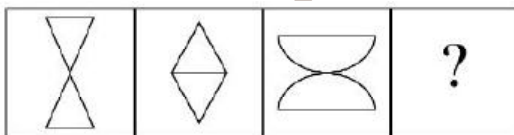
15. Which company manufactured the Ambassador car?
(a) Tata Motors Ltd. (b) Mahindra and Mahindra (c) Ashok Leyland Ltd. (d) Hindustan Motors Ltd.
16. Pointing towards a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl?
(a) Brother (b) Uncle (c) Son-in-law (d) Nephew
17. If $A + B$ means A is the mother of B; $A - B$ means A is the brother of B; $A \% B$ means A is the father of B and $A \times B$ means A is the sister of B, which of the following shows that P is the maternal uncle of Q?
(a) $Q - N + M \times P$ (b) $P + S \times N - Q$ (c) $P - M + N \times Q$ (d) $Q - S \% P$
18. If $Z = 52$ and $ACT = 48$, then RAT will be equal to
(a) 72 (b) 78 (c) 92 (d) 64
19. There are equation that have become wrong due to incorrect order of signs. From the four alternatives, given below, find out the correct order of signs. So that equation becomes right.
 $8 \div 9 = 9 - 81$
(a) $-, -, +$ (b) $+, -, \div$ (c) $=, +, -$ (d) $\times, +, =$
20. If $+$ means $*$, $/$ means $-$, $*$ means $/$, and $-$ means $+$, what will be the value of $4 + 11 / 5 - 55 = ?$
(a) -48.5 (b) -11 (c) 79 (d) None of these
21. If $(25)^{7.5} \times (5)^{2.5} \div (125)^{1.5} = 5x$ then $x = ?$
(a) 13 (b) 8.5 (c) 16 (d) 17.5
22. Half of a large Pizza is cut into 4 equal-sized pieces, and the other half is cut into 6 equal-equal sized pieces. If a person were to eat 1 of the large pieces and 2 of the smaller pieces, what fraction of the pizza would remain uneaten?
(a) $\frac{5}{12}$ (b) $\frac{17}{24}$ (c) $\frac{7}{12}$ (d) $\frac{13}{24}$
23. In a business, A and C invested amounts in the ratio 2 : 1, whereas the ratio between amounts invested by A and B was 3 : 2. If Rs. 1,57,300 was their profit, how much amount did B receive?
(a) Rs. 24,200 (b) Rs. 72,600 (c) Rs. 36,300 (d) Rs. 48,400
24. Company A produces toy trucks at a cost of Rs. 50.00 each for the first 100 trucks and Rs. 35.00 for each additional truck. If 500 toy trucks were produced by Company A and sold for Rs. 100.00 each, what was Company A's gross profit?
(a) Rs. 31,000 (b) Rs. 15,000 (c) Rs. 21,000 (d) Rs. 13,000
25. A shopkeeper fixes the marked price of an item 35% above its cost price. The percentage of discount allowed to gain 5% is.
(a) 43% (b) 27% (c) 20% (d) 31%

26. Choose the odd one out:
 (a) Mohammed Rafi (b) K. L. Saigal (c) Naushad (d) Adnan Sami
27. Which of the following options is the correct alphabetical order of the four words given as:
Rumbustious, Rumanian, Rumour, Rurple
 (a) Rumanian, Rurple, Rumour, Rumbustious (b) Rumour, Rumbustious, Rurple, Rumanian
 (c) Rumanian, Rumbustious, Rumour, Rurple (d) Rurple, Rumour, Rumbustious, Rumanian
28. If 'ORANGE' is coded as 'MTYPEG' in a certain language, then how will 'CHILLY' be coded in that language?
 (a) AJGNNW (b) AJGNJA (c) AJKNNW (d) AJGOOW
29. Choose the odd one out from the following
 (a) Morarji Desai (b) V. P. Singh (c) Narendra Modi (d) Sardal Patel
30. Which will be the missing patten in the series? Redraw figure



- (a)  (b)  (c)  (d) 

31. If 'MANGO' is coded as 'KCLIM' in a certain language then how will 'SWEETY' be coded in that language?
 (a) QYCGRA (b) QYCCRA (c) QYGCRA (d) YQCGRA
32. Which among the following words comes first in a dictionary?
Shrub, Shudder, Shroud, Shuttle
 (a) Shrum (b) Shudder (c) Shroud (d) Shudder
33. Which of the following options is the correct alphabetical order of the four words given below?
 Sport, Squash, Sporadic, Sprout
 (a) Sport, Sprout, Sporadic, Squash (b) Sporadic, Sport, Sprout, Squash
 (c) Sporadic, Sport, Squash, Sprout (d) Squash, Sprout, Sport, Sporadic
34. What will be the Next Pattern in the series?



- (a)  (b)  (c)  (d) 

35. Complete the series by filling the missing number
2, 5, 14, 57, 284, ?
(a) 1420 (b) 1421 (c) 1704 (d) 1705
36. If $A = \begin{bmatrix} \cos B & -\sin B \\ \sin B & \cos B \end{bmatrix}$ then $A + A^T = I$ for B equals to _____.
(a) $\frac{\pi}{3}$ (b) $\frac{\pi}{6}$ (c) π (d) $\frac{3\pi}{2}$
37. The number of 7-digit numbers whose sum of the digits equals to 10 and which is formed by using the digit 1, 2 and 3 only
(a) 55 (b) 66 (c) 77 (d) 77
38. If from each of the three boxes containing 3 white and 1 black, 2 white and 2 black, 1 white and 3 black balls, one ball is drawn at random, then the probability that 2 white and 1 black balls will be drawn is
(a) $\frac{13}{32}$ (b) $\frac{1}{4}$ (c) $\frac{1}{32}$ (d) $\frac{3}{16}$
39. Let $f(x) = ||x| - 1|$, then point(s) where $f(x)$ is not differentiable is (are):
(a) $0, \pm 1$ (b) ± 1 (c) 0 (d) 1
40. Let $f : [2, \infty) \rightarrow \mathbb{R}$ be the function defined by $f(x) = x^2 - 4x + 5$, then the range of f
(a) \mathbb{R} (b) $[1, \infty)$ (c) $[4, \infty)$ (d) $(-\infty, 0]$
41. The function $f(x) = \frac{[\ln(1+ax) - \ln(1-bx)]}{x}$ is not defined at $x = 0$. What value may be assigned to f at $x = 0$, so that it is continuous?
(a) $a + b$ (b) $a - b$ (c) $b - a$ (d) $\ln a + \ln b$
42. The area enclosed between the graphs of $y = x^3$ and the lines $x = 0, y = 1, y = 8$ is
(a) 7 (b) 12 (c) $\frac{45}{4}$ (d) $\frac{21}{8}$
43. If the vertices of a triangles are $O(0, 0), A(a, 0)$ and $B(0, a)$. Then, the distance between its circumcenter and orthocenter is:
(a) $\frac{a}{2}$ (b) $\frac{a}{\sqrt{2}}$ (c) $\sqrt{2}a$ (d) $\frac{a}{4}$
44. The straight line $x + y = 0, 3x + y - 4 = 0$ and $x + 3y - 4 = 0$ form a triangle which is
(a) Right angled (b) Equilateral (c) Isoscales (d) Isoscales and right angled
45. If one of the lines of $ax^2 + 2hxy + by^2 = 0$ bisects the angle between the axes in the first quadrant, then
(a) $h^2 - ab = 0$ (b) $h^2 + ab = 0$ (c) $(a + b)^2 = h^2$ (d) $(a + b)^2 = 4h^2$

46. What is the value of: $[\tan^2(90 - \theta) - \sin^2(90 - \theta)] \operatorname{cosec}^2(90 - \theta) \cot^2(90 - \theta)$
- (a) 0 (b) 1 (c) -1 (d) 2
47. If $A + B = 45^\circ$, then $(1 + \tan A)(1 + \tan B)$ is equal to
- (a) 4 (b) 2 (c) 3 (d) 1
48. If \vec{a} and \vec{b} are two unit vectors such that $\vec{a} + 2\vec{b}$ and $5\vec{a} - 4\vec{b}$ are perpendicular to each other, then the angle between \vec{a} and \vec{b} is:
- (a) 45° (b) 60° (c) $\cos^{-1}\left(\frac{1}{3}\right)$ (d) $\cos^{-1}\left(\frac{2}{7}\right)$
49. Let $a = \hat{i} - \hat{j}$ and $b = \hat{i} + \hat{j} + \hat{k}$ and c be a vector such that $(a \times c) + b = 0$ and $a \cdot c = 4$, then $|c|^2$ equal to:
- (a) 8 (b) $\frac{19}{2}$ (c) 9 (d) $\frac{17}{2}$
50. If $\vec{a}, \vec{b}, \vec{c}$ and \vec{d} are the unit vectors such that $(\vec{a} \times \vec{b}) \cdot (\vec{c} \times \vec{d}) = 1$ and $(\vec{a} \cdot \vec{c}) = \frac{1}{2}$, then
- (a) only $\vec{a}, \vec{b}, \vec{c}$ are non-coplanar (b) only $\vec{a}, \vec{b}, \vec{d}$ are non-coplanar
- (c) Both $\vec{a}, \vec{b}, \vec{c}$ and $\vec{a}, \vec{b}, \vec{d}$ are non-coplanar (d) Both $\vec{a}, \vec{b}, \vec{c}$ and $\vec{a}, \vec{b}, \vec{d}$ are coplanar
51. Let $A = \{1, 2, 3\}$ and consider the relation $R = \{(1, 1), (2, 2), (3, 3), (1, 2), (1, 3)\}$ then R is
- (a) Reflexive but not symmetric (b) Reflexive but no transitive
- (c) Symmetric and transitive (d) Equivalence relation
52. A spring is being moved up and down. An object is attached to the end of the spring that undergoes a vertical displacement. The displacement is given by the equation $y = 3.50 \sin t + 1.20 \sin 2t$. Find the first two values of t (in seconds) for which $y = 0$.
- (a) $t = 0, \frac{\pi}{4}$ (b) $t = 0, \frac{\pi}{2}$ (c) $t = 0, \pi$ (d) $t = 0, \frac{\pi}{6}$
53. A ball is thrown off the edge of a building at an angle of 60° and with the initial velocity of 5 meters per second. The equation that represents the horizontal distance of the ball x is $x = v_0 (\cos \theta) t$, where v_0 is the initial velocity, θ is the angle at which it is thrown and t is the time in seconds. About how far will the ball travel in 10 seconds?
- (a) $25\sqrt{3}m$ (b) $50\sqrt{2}m$ (c) 25 m (d) $\frac{25}{\sqrt{3}}m$
54. Let b be a positive integer and $R = \{(a, b) \in \mathbb{Z} \times \mathbb{Z} \mid a - b = nm \text{ for some } m \neq 0 \in \mathbb{Z}\}$
- (a) Reflexive on \mathbb{Z} (b) Symmetric (c) Transitive (d) Equivalence relation of \mathbb{Z}

55. The a, b, c and d are in GP and are in ascending order such that $a + d = 112$ and $b + c = 48$. If the GP is continued with a as the first term, then the sum of the first six terms is
- (a) 1156 (b) 1256 (c) 1356 (d) 1456

56. Given below are two statements:

Statement I: If $A \subset B$; then B can be expressed as $B = A \cup (\bar{A} \cap B)$ and $P(A) > P(B)$.

Statement II: If A and B are independent events, then $(A$ and $\bar{B})$, $(\bar{A}$ and $B)$ and $(\bar{A}$ and $\bar{B})$ are also independent.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both Statement I and Statement II are true (b) Both Statement I and Statement II are false
(c) Statement I is true but Statement II is false (d) Statement I is false but Statement II are true

57. Given the following truth table:

A	B	X
0	0	1
0	1	0
1	0	0
1	1	0

Which of the following Boolean functions does it represent?

- (a) OR (b) XOR (c) NOR (d) XNOR

58. If \vec{a}, \vec{b} and \vec{c} are unit vectors, then $|\vec{a} - \vec{b}|^2 + |\vec{b} - \vec{c}|^2 + |\vec{c} - \vec{a}|^2$ does not exceed:

- (a) 4 (b) 9 (c) 8 (d) 6

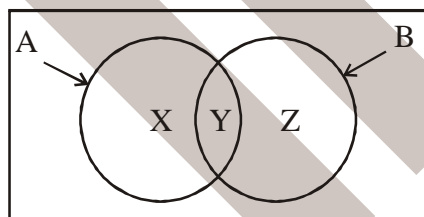
59. The product of two four bit positive binary numbers 1011 and 0011 is _____

- (a) 1000011 (b) 100001 (c) 100101 (d) 100111

60. If $\vec{a} = \hat{i} + \hat{j} + \hat{k}$, $\vec{a} \cdot \vec{b} = 1$ and $\vec{a} \times \vec{b} = \hat{j} - \hat{k}$ then \vec{b} is equal to:

- (a) $\hat{i} - \hat{j} + \hat{k}$ (b) $2\hat{j} - \hat{k}$ (c) \hat{i} (d) $2\hat{i}$

61. Consider the diagram given below and the following two statements:



Statement I: Events A and B can be expressed as:

$$A = (A \cap \bar{B}) \cup Y$$

$$B = (A \cap B) \cup Z$$

Statement II: Events A and B can be expressed as:

$$A = X - Y$$

$$B = Y + Z$$

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both Statement I and Statement II are true (b) Both Statement I and Statement II are false
(c) Statement I is true but Statement II is false (b) Statement I is false Statement II are true

62. The simplified form of Boolean expression " $AB + AB'$ " is _____.
- (a) A (b) B (c) $1 + A$ (d) $1 + B'$
63. Representation of -11 in sign – and magnitude is
- (a) 11011 (b) 010111 (c) 10011 (d) 01110
64. 1001 is 2's complement representation of _____.
- (a) -7 (b) $+9$ (c) $+6$ (d) -6
65. Match List I with List II

List I	List II
A. $(x + y)'$	I. 1
B. $x + 1$	II. $x' + y'$
C. $(xy)'$	III. $x' \cdot y'$
D. $x + 0$	IV. x

Choose the correct answer from the options given below:

- (a) A – II; B – I; C – III; D – IV (b) A – II; B – IV; C – I; D – III
- (c) A – III; B – I; C – IV; D – II (d) A – III; B – I; C – II; D – IV
66. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.
- Assertion A:** Carbon Monoxide when inhaled causes death.
- Reason R:** Carbon Monoxide combines with haemoglobin.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- (a) Both A and R are true and R is the correct explanation of A
- (b) Both A and R are true and R is not the correct explanation of A
- (c) A is true but R is not false.
- (d) A is false but R is true.
67. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.
- Assertion A:** In a class of 40 students, 22 drink sprite, 10 drink Sprite but not Pepsi. Then the number of student who drink both Sprite and Pepsi is 15.
- Reason R:** For any two finite sets A and B, $n(A) = n(A - B) + n(A \cap B)$
- In the light of the above statements, choose the most appropriate answer from the options given below:
- (a) Both A and R are true and R is the correct explanation of A
- (b) Both A and R are true and R is not the correct explanation of A
- (c) A is true but R is not false.
- (d) A is false but R is true.

68. Universities in India are preferring traditional attire during convocations.

- (A) Indian Universities are against western dresses.
 (B) Indian Universities wants to promote traditional dresses.
 (C) Indians love to celebrate occasions traditionally.
 (D) Indian traditional dresses are better than western wear.
 (E) Western wear is banned by government.

Choose the correct answer from the options given below.

- (a) B and C only (b) A, B and C only (c) A, B and D only (d) D and E only

69. Match List I with List II

List I

- A. If 4th term of a G.P. is square of its second term, and its first term is 3, then common ratio is _____.
- B. The first term of an AP is 5, the last term is 45 and the sum of the terms is 400. The number of term is _____.
- C. The sum of three numbers which are in AP is 27 and sum of their squares is 293. Then the common difference is _____.
- D. The fourth and 54th terms of an AP are, respectively 64 and -61. The common difference is _____.

List II

I. 5

II. $-\frac{5}{2}$

III. 16

IV. 3

Choose the correct answer from the options given below:

- (a) A – IV; B – III; C – I; D – II (b) A – III; B – II; C – I; D – IV
 (c) A – II; B – III; C – I; D – IV (d) A – II; B – I; C – III; D – IV

70. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: The system of equations $x + y + z = 4$, $2x - y + 2z = 5$, $x - 2y - z = -3$ has unique solution.

Reason R: If A is 3×3 matrix and B is a 3×1 non-zero column matrix, then the equation $AX = B$ has unique solution if A is non-singular.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both A and R are correct and R is the correct explanation of A
 (b) Both A and R are correct and R is not the correct explanation of A
 (c) A is correct but R is not correct.
 (d) A is correct but R is correct.

71. Given below are two statements:

Statement I: 011010 is 2's complement representation of -37 .

Statement II: $111_{(8)}$ is octal representation of 73.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both Statement I and Statement II are true (b) Both Statement I and Statement II are false
(c) Statement I is true but Statement II is false (d) Statement I is false Statement II are true

72. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

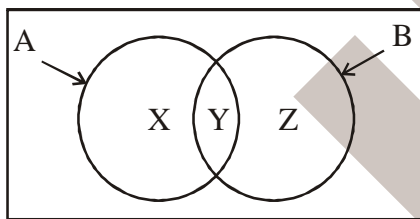
Assertion A: Binary information is represented in digital in terms of 'zeros' and 'ones'.

Reason R: Digital computers are electronic devices, which operate using electrical voltages.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both A and R are correct and R is the correct explanation of A
(b) Both A and R are correct and R is not the correct explanation of A
(c) A is correct but R is not correct.
(d) A is correct but R is correct.

73. Consider the diagram given below and the following two statements:



Statement I: Regions X, Y and Z can be expressed as $A \cap \bar{B}$, $A \cap B$ and $\bar{A} \cap B$ respectively.

Statement II: $P(Y) = P(A) - P(X) = P(B) - P(Z)$.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both Statement I and Statement II are true (b) Both Statement I and Statement II are false
(c) Statement I is true but Statement II is false (d) Statement I is false Statement II are true

74. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Goitre is a common disease in mountainous regions.

Reason R: The diet of the people in mountains lacks Iodine content.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both A and R are correct and R is the correct explanation of A
(b) Both A and R are correct and R is not the correct explanation of A
(c) A is correct but R is not correct.
(d) A is correct but R is correct.

75. Which of the following storage hardware can be used as a back-up device?

- (A) HDD (B) ROM (C) RAM (D) Cache (E) Magnetic Tape

Choose the correct answer from the options given below:

- (a) only A, B and C (b) only B, C and D (c) only A and E (d) only A, C and E

76. In a class there are 400 students, the following table shows the number of students studying one or more of the subjects:

Subject	Number of students
Mathematics	250
Physics	150
Chemistry	100
Mathematics and Physics	100
Mathematics and Chemistry	60
Physics and Chemistry	40
Mathematics, Physics and Chemistry	30

- A. The number of students who study only Mathematics is 100.
B. The number of students who study only Physics is 40.
C. The number of students who study only Chemistry is 40.
D. The number of students who do not study Mathematics, Physics and Chemistry is 70.

Choose the correct answer from the options given below.

- (a) B and D only (b) A and B only (c) A only (d) C only

77. The arithmetic means of two observations is 125 and their geometric means is 60. Find the harmonic mean of the two observations.

- (a) 4.17 (b) 8.34 (c) 28.8 (d) 57.6

78. The arithmetic mean and standard deviation of series of 20 items were calculated by a student as 20 cm and 5 cm respectively. But while calculating them an item 15 was misread as 30. Find the correct standard deviation.

- (a) 4.10 (b) 4.40 (c) 4.54 (d) 4.66

79. In a processor, while executing an instruction _____

- A. Programme Counter is used to hold the address of next instruction.
B. Instruction register holds the instruction for execution.
C. Memory Address Register is used to perform address translation.
D. Memory Data Register is used to perform data operation.
E. Clock generates control signals.

Choose the correct answer from the options given below.

- (a) Only A and B are true (b) Only C and D are true
(c) Only A, B and E are true (d) Only B, C and D are true

80. Given the marks of 25 students in the class as $\{m_1, m_2, \dots, m_{25}\}$. Marks lie in the range of $[1 - 100]$ and \bar{m} is the mean. Which of the following quantity has the value zero?
- (a) $\sum_{i=1}^{25} |m_i - \bar{m}|$ (b) $\sum_{i=1}^{25} (m_i - \bar{m})$ (c) $\sum_{i=1}^{25} (m_i - \bar{m})^2$ (d) $\sum_{i=1}^{25} \frac{m_i}{\bar{m}}$
81. India has been continuously experiencing military threats from its neighboring countries.
- Statement I:** India should engage into an all out war to stop the nagging threats.
- Statement II:** India should get the neighbors into a serious dialogue to reduce the tension at its border.
- In the light of the above statements, choose the most appropriate answer from the options given below:
- (a) Both Statement I and Statement II are correct (b) Both Statement I and Statement II are incorrect
(c) Statement I is correct but Statement II is incorrect (b) Statement I is incorrect Statement II are correct
82. $A + B$ means A is daughter of B
 $A \times B$ means A is son of B
 $A - B$ means A is the wife of B
 $P \times Q - S$ means
- Statement I:** S is father of P.
Statement II: P is daughter of Q.
- (a) Both Statement I and Statement II are true (b) Both Statement II and Statement II are false
(c) Statement I is true but Statement II is false (d) Statement I is false but Statement II is true.
83. The terms $1, \log_y(x), \log_z(y)$ and $-15 \log_x(z)$ are in AP. Based on this information answer the following questions.
- The common difference of AP is:
- (a) 2 (b) -2 (c) 1/2 (d) -1/2
84. The terms $1, \log_y(x), \log_z(y)$ and $-15 \log_x(z)$ are in AP. Based on this information answer the following questions.
- The value of xy is:
- (a) 1 (b) -1 (c) z^2 (d) z^3
85. The terms $1, \log_y(x), \log_z(y)$ and $-15 \log_x(z)$ are in AP. Based on this information answer the following questions.
- yz is equal to
- (a) x (b) x^2 (c) z^{-2} (d) z^{-3}
86. Consider n events E_1, E_2, \dots, E_n , with respective probabilities p_1, p_2, \dots, p_n . If $P(E_1, E_2, \dots, E_n) = \prod_{i=1}^n p_i$ then:
- (a) The events are mutually exclusive (b) The events are independent
(c) The events are dependent (d) The events are mutually exclusive and independent

87. Given a set of events E_1, \dots, E_n , defined on the sample space S such that:

(i) $\forall i$ and $j, i \neq j, E_i \cap E_j = \phi$

(ii) $\bigcup_{i=1}^n E_i = S$

(iii) $P(E_i) > 0, \forall i = 1, n$

Then the events are:

- (a) Pairwise disjoint and exhaustive (b) Pairwise disjoint and independent
(c) Dependent and mutually exclusive (d) Independent and mutually exclusive

88. Given the following statement and five possible conclusions.

All Scientists working in America and talented. Some Indian scientists are working in America.

- A. None of Indian scientists are talented.
B. Some talented Indian scientists have migrated to America.
C. All talented scientists are Indians.
D. Some Indian scientists are talented.
E. Scientists working in India are not talented.

Choose the correct answer from the options given below.

- (a) Conclusions A and D only are correct. (b) Conclusions B and D only are correct.
(c) Conclusions A and E only are correct. (d) Conclusions B and E only are correct.

89. Ministers arrived at the public function in their cars. Consider the following statements.

- A. All ministers are rich.
B. Minister have official cars in general.
C. Minister usually participate in public functions.
D. Only rich Ministers arrive in cars.
E. Person with cars can only be a Minister.

Choose the correct answer from the options given below.

- (a) A and B only (b) B and D only (c) B and C only (d) C and E only

90. The simplified form of Boolean Expression:

$\bar{A}BC + ABC$ is _____.

- (a) AC (b) AB (c) BC (d) 0

91. 4 Indians, 3 Americans and 2 Britishers are to be arranged around a round table.

Answer the following Questions.

The number of ways of arranging them is

- (a) 9! (b) 9!/2 (c) 8! (d) 8!/2

92. 4 Indians, 3 Americans and 2 Britishers are to be arranged around a round table.

Answer the following questions.

The number of ways arranging them so that the two Britishers should never come together is:

- (a) $7! \times 2!$ (b) $6! \times 2!$ (c) $7!$ (d) $6! {}^6P_2$

93. 4 Indians, 3 Americans and 2 Britishers are to be arranged around a round table.

Answer the following questions.

The number of ways of arranging them so that the three Americans should sit together is:

- (a) $7! \times 3!$ (b) $6! \times 3!$ (c) $6! {}^6P_3$ (d) $6! {}^7P_3$

94. Match List I with List II

List I

- A. The story of my Experiments with Truth
B. Glimpses of Word History
C. India Wins Freedom
D. Exam Warrior

List II

- I. Maulana Abul Kalam Azad
II. Narndra Modi
III. Pandit Jawaharlal Nehru
IV. M. K. Gandhi

Choose the correct answer from the options given below:

- (a) A – IV; B – III; C – I; D – II (b) A – III; B – IV; C – II; D – I
(c) A – IV; B – II; C – III; D – I (d) A – IV; B – III; C – II; D – I

95. Match List I with List II

List I

- A. Austria
B. Iran
C. Norway
D. Sweden

List II

- I. Oslo
II. Stockholm
III. Vienna
IV. Tehran

Choose the correct answer from the options given below:

- (a) A – III; B – I; C – IV; D – II (b) A – III; B – IV; C – II; D – I
(c) A – III; B – IV; C – I; D – II (d) A – I; B – II; C – III; D – IV

96. Given three identical boxes B_1 , B_2 and B_3 each containing two balls. B_1 contains two golden balls, B_2 contains two silver balls and B_3 contains one silver and one golden ball. Conditional probabilities that the golden ball is drawn from B_1 , B_2 , B_3 are _____ respectively.

- (a) 0, 1, 1/2 (b) 1/2, 0, 1 (c) 1, 0, 1/2 (d) 1, 1/2, 0

97. Match List I with List II

List I	List II
A. In a GP, the third term is 24 and 6 th term is 192. The common ratio is _____	I. 78
B. Let S_n denote the sum of the first n terms of an AP. If $S_{2n} = 3n$, then S_{3n}/S_n equals to _____.	II. 6
C. The sum of the first 3 terms of a GP is 13/12 and their product is -1. The first term is _____.	III. -1
D. The least value of n for which the sum $3 + 6 + 9 \dots + n$ is greater than 1000 is	IV. 2

Choose the correct answer from the options given below:

- (a) A – III; B – I; C – II; D – IV (b) A – III; B – IV; C – I; D – II
(c) A – IV; B – II; C – III; D – I (d) A – IV; B – III; C – II; D – I

98. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Military service should be made compulsory in our country.

Reason R: Every citizen should protect his country.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (a) Both A and R are correct and R is the correct explanation of A
(b) Both A and R are correct and R is not the correct explanation of A
(c) A is correct but R is not correct.
(d) A is correct but R is correct.

99. Match List I with List II

$w \neq 1$ is a cube root of unity.

List I	List II
A. The value of $\frac{1}{9}(1-w)(1-w^2)(1-w^4)(1-w^8)$ is	I. 0
B. $w(1+w-w^2)^7$ _____ is equal to	II. 1
C. The least positive integer n such that $(1+w^2)^n = (1+w^4)^n$ is	III. -128
D. $(1+w+w^2)$ is equal to	IV. 3

Choose the correct answer from the options given below:

- (a) A – II; B – III; C – I; D – IV (b) A – II; B – III; C – IV; D – I
(c) A – III; B – II; C – IV; D – I (d) A – III; B – II; C – I; D – IV

100. Match List I with List II

List I	List II
A. $\log_4(\log_3 81) =$	I. 0
B. $3^4 \log_9^7 = 7^k$, then $k =$	II. 3
C. $2^{\log_3 5} - 5^{\log_3 2} =$	III. 1
D. $\log_2[\log_2(256)] =$	IV. 2

Choose the correct answer from the options given below:

(a) A – I; B – III; C – II; D – IV

(b) A – I; B – III; C – IV; D – II

(c) A – III; B – IV; C – II; D – I

(d) A – III; B – IV; C – I; D – II