

PAPER 3 : QUANTITATIVE APTITUDE

1. If $A = \{a, b, c\}$, $B = \{b, c, d\}$ and $C = \{a, d, c\}$ the $(A - B) \times (B \cap C)$ is equal to
 - (a) $\{(a, d), (c, d)\}$
 - (b) $\{(a, c), (a, d)\}$
 - (c) $\{(c, a), (d, a)\}$
 - (d) $\{(a, c), (a, d) (b, d)\}$
2. In the data group Bowley's and Laspeyre's index number is as follows. Bowley's index number = 250, Laspeyre's index number = 280 then Paasche's index number is
 - (a) 220
 - (b) 230
 - (c) 265
 - (d) None of these
3. Roli is the niece of Ashok. Ashok's mother is Lakshmi. Kalyani is Lakshmi's mother. Kalyani's husband is Gopal. Parvathi is the mother-in-law of Gopal. How is Roli related to Gopal?
 - (a) Great grandson's daughter
 - (b) Gopal is Roli's father
 - (c) Roli is Gopal's great grand-daughter
 - (d) Grand niece
4. If $r = 0.28$, $\text{Cov}(x, y) = 6.6$, $V(x) = 9$ then $\sigma_y =$
 - (a) 7.85
 - (b) 9.04
 - (c) 6.25
 - (d) 2.61
5. If the relationship between two variables x and u is $u + 3x = 10$ and between two other variables y and v is $2y + 5v = 25$, and the regression coefficient of y on x is known as 0.80, what would be the regression coefficient of v on u ?
 - (a) 0.053
 - (b) 0.28
 - (c) 0.107
 - (d) 0.48
6. I am facing west, turning to the left I go 20 m, then turning to the left I go 20 m and turning to the right I go 20m, then again turning to the right I go 40 m and then again I go 40 m to the right. In which direction am I from my original position?
 - (a) North
 - (b) west
 - (c) South
 - (d) East

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7. Consider to regression line $3x+2y=26$, $6x+y=31$ find the correlation coefficient between x and y
 - (a) 0.5
 - (b) -0.5
 - (c) 0.25
 - (d) -0.25
8. If mean and variance of random variable which follows the binomial distribution are 9 & 8 respectively, then the probability of success is:
 - (a) $\frac{8}{9}$
 - (b) $\frac{1}{9}$
 - (c) $\frac{1}{3}$
 - (d) $\frac{1}{4}$
9. Two equal amounts of money are deposited in two banks each at 15% p.a. for 3.5 years in the bank and for 5 years in the other. The difference between the interest amount from the bank is Rs. 144. Find the sum
 - (a) Rs. 620
 - (b) Rs. 640
 - (c) Rs. 820
 - (d) Rs. 840
10. Find the mean proportional between $6 + 3\sqrt{3}$ and $8 - 4\sqrt{3}$.
 - (a) $\sqrt{3}$
 - (b) $3\sqrt{2}$
 - (c) $2\sqrt{5}$
 - (d) None
11. In a poisson distribution $P(x = 0) = P(X = 2)$. Find $E(x)$.
 - (a) $\sqrt{2}$
 - (b) 2
 - (c) -1
 - (d) 0
12. A loan of 1,02,000 is to be paid back in two equal annual instalments. If the rate of interest is 5% p.a., compounded annually, then the total interest charged (in Rs.) under this instalment plan is
 - (a) 6,160
 - (b) 8,120
 - (c) 5,980
 - (d) 7,712
13. The solution of the inequality $\frac{5-2x}{3} \leq \frac{x}{6} - 5$ is:
 - (a) $x \geq 8$
 - (b) $x \geq 7$
 - (c) $x \leq \frac{80}{3}$
 - (d) $x \geq \frac{40}{3}$

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14. The probability that a random variable x following Poisson distribution would assume a positive Value is $(1 - e^{-4.7})$. What is the mode of the distribution?
 - (a) 2
 - (b) 3
 - (c) 4
 - (d) 5
15. The odds against the event A is 5:4, then $P(A) = ?$
 - (a) 5 : 9
 - (b) 5 : 4
 - (c) 4 : 5
 - (d) 4 : 9
16. Mr. Sharad got his retirement benefit amounting to Rs. 50,00,000. He want to receive a fixed monthly sum of amount for his rest of life, starting after one month and there after he wants to pass on the same to future generation. He expects to earn and interest of 9% compounded annually. Determine how much perpetuity amount he will receive every month?
 - (a) Rs. 39,500
 - (b) Rs. 38,500
 - (c) Rs. 37,500
 - (d) Rs. 36,600
17. If a coin is tossed twice we get, Rs. 5 if two heads appear, Rs. 2 if one head appear, loss of Rs.1 if no head appear. Then the expected income is
 - (a) 3.5
 - (b) 2.5
 - (c) 2
 - (d) None
18. Roots of quadratic equation $2x^2 - 6x - 3 = 0$ are_____
 - (a) Real and equal
 - (b) Real, Rational and unequal
 - (c) Imaginary and unequal
 - (d) Real and unequal
19. A die is thrown twice then the probability that the sum of the numbers is divisible by 3&4 is
 - (a) 1/9
 - (b) 1/36
 - (c) 11/36
 - (d) 1/4
20. Out of 6 Boys & 4 girls, Find the number of ways for selecting 5 member committee in which there is exactly two girls ?
 - (a) 120
 - (b) 1440
 - (c) 720
 - (d) 71

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21. The annual rate of simple interest is 15%, in how many years does the principal four times?
 (a) 11 years
 (b) 19 years
 (c) 20 years
 (d) 26.67 years
22. A man travels from Agra to Gwalior at a speed of 90 kmph and returns at a speed of 60 kmph. What is his average speed:
 (a) 75 kmph
 (b) 80 kmph
 (c) 72 kmph
 (d) None
23. Madhu takes a loan of Rs. 50,000 from XYZ Bank. The rate of interest is 12% per annum. The first installment will be paid at the end of year 5. Determine the amount (in Rs.) of equal installments, if Madhu wishes to repay the amount in five installments.
 (a) Rs. 19,510
 (b) Rs. 20,430
 (c) Rs. 19,310
 (d) Rs. 21,825
24. The A.M of square of first '3n' natural numbers is
 (a) $\frac{1}{6} (2n+1) (4n+1)$
 (b) $\frac{1}{6} 3n(3n+1) (6n+1)$
 (c) $\frac{1}{6} (2n-1) (4n+1)$
 (d) $\frac{1}{6} (3n+1) (6n+1)$
25. For a distribution Mean, Median and Mode are 23, 24 and 25.5 respectively, then it is most likely skewed distribution
 (a) Positively
 (b) Symmetrical
 (c) Asymptotically
 (d) Negatively
26. For a normal distribution, the value of third moment about mean is
 (a) 0
 (b) 1
 (c) 2
 (d) 3
27. If $y = 13 + 5x$ and the mode for y-value is 123, then the mode for x is
 (a) 22
 (b) 12
 (c) 24
 (d) 24.6

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28. Mr. X makes a deposit of 50,000 in bank for a period of 3 years. If the rate of interest is 12% per annum compounded half yearly, then the maturity value of the money deposited by Mr. X. is:
 (a) Rs. 66910
 (b) Rs. 66123
 (c) Rs. 70926
 (d) Rs. 66550
29. Find the rank correlation coefficient of the following data:
- | | | | | | | |
|------------|---|---|---|---|---|----|
| Subject I | 3 | 5 | 8 | 4 | 7 | 10 |
| Subject II | 6 | 4 | 9 | 8 | 1 | 2 |
- (a) -0.25
 (b) -0.45
 (c) 0.25
 (d) 0.45
30. For a moderate skewed distribution, quartile deviation and the standard deviation are related by.
 (a) $S.D. = \frac{2}{3} Q.D.$
 (b) $S.D. = \frac{3}{4} Q.D.$
 (c) $S.D. = \frac{4}{3} Q.D.$
 (d) $S.D. = \frac{3}{2} Q.D.$
31. Rahul & Bagesh appear for an interview for 2 vacancies. The Probability of Rahul's selection is $\frac{2}{3}$ and that of Bagesh's selection is $\frac{4}{5}$. Find the probability that only one of them will be selected.
 (a) $\frac{2}{5}$
 (b) $\frac{4}{5}$
 (c) $\frac{6}{5}$
 (d) $\frac{8}{15}$
32. Compute the SD of 9, 5, 8, 6, 2
 Without any more computation, obtain the SD of
 Sample I -1, -5, -2, -4, -8,
 Sample II 90, 50, 80, 60, 20,
 Sample III 32, 20, 29, 23, 11,
 (a) 2.45, 3.45, 2.90
 (b) 2.45, 12.45, 4.90
 (c) 2.45, 24.50, 4.90
 (d) 2.45, 24.5, 7.35
33. Lokesh deposits Rs. 3,000 at the start of each quarter in his savings account. If the account earns interest 5.75% per annum compounded quarterly, how much money (in Rs.) will he have at the end of 4 years?
 (a) Rs. 54,397.31
 (b) Rs. 54,308.57
 (c) Rs. 68,353.60
 (d) Rs. 63,624.40

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34. For equal observations such as K, K, K, K.....
 (a) All the measures of central tendency will be 0
 (b) All the measures of dispersion will be 0
 (c) All the measures of central tendency will be K
 (d) Both (b) and (c)
35. Cost of sugar in a month under the heads Raw Materials, labour, direct production and others were 42, 20, 35 and 23 units respectively. What is the difference between the central angles for the largest and the smallest components of the cost of sugar?
 (a) 72°
 (b) 48°
 (c) 66°
 (d) 92°
36. Calculate $\int_1^3 \left[e^x - \frac{1}{x^2} \right] dx$
 (a) $e^3 - e - \frac{2}{3}$
 (b) $e^3 - e - \frac{1}{3}$
 (c) $e^3 + e + \frac{2}{3}$
 (d) $e^3 - e + \frac{2}{3}$
37. If Standard deviation of a, b, c is 5 then variance of 3a, 3b, 3c is
 (a) 15
 (b) 225
 (c) 45
 (d) 18
38. The following data related to the marks of group of students
- | Marks | No. of students |
|---------------|-----------------|
| More than 70% | 7 |
| More than 60% | 18 |
| More than 50% | 40 |
| More than 40% | 60 |
| More than 30% | 75 |
| More than 20% | 100 |
- How many students have got marks less than 50% and more than 30%?
 (a) 60
 (b) 82
 (c) 40
 (d) 35
39. The left part of a table providing the description of rows is called
 (a) Caption
 (b) Box – head
 (c) Stub
 (d) Body

40. The criteria for an ideal estimator are
(a) Unbiasedness, consistency, efficiency and sufficiency
(b) Unbiasedness, expectation, sampling and estimation
(c) Estimation, consistency, sufficiency and efficiency
(d) Estimation, expectation, unbiasedness and sufficiency.
41. If a variable takes the discrete values $a + 4, a - \frac{7}{2}, a - \frac{5}{2}, a - 3, a - 2, a + \frac{1}{2}, a - \frac{1}{2}, a + 5$ ($a > 0$), then the median is:
(a) $a - \frac{5}{4}$
(b) $a - \frac{1}{2}$
(c) $a - 2$
(d) $a + \frac{5}{4}$
42. When every member in population has an equal chance of being selection, then that sampling is called
(a) Restrictive
(b) Purposive
(c) Subjective
(d) Non-restrictive
43. If the first quartile is 42.75 and the third quartile is 74.25, then the inter quartile range is:
(a) 31.50
(b) 15.75
(c) 17.57
(d) 25.92
44. A is the son of B while B and C are sister to one another. E is the mother of C. If D is the son of E, which of the following statements is correct?
(a) D is the maternal uncle of A
(b) E is the brother of B
(c) D is the cousin of A
(d) B and D are brothers.
45. Fisher's index number does not satisfy
(a) Unit test
(b) Circular test
(c) Time reversal test
(d) Factor reversal test
46. Pointing to a photograph Rahul said "She is the daughter of my grandfather's only son". How is the lady in the photograph related to Rahul?
(a) Father
(b) Brother
(c) Sister
(d) Mother

Directions (Q. 47-48): Following questions are based on the information provided below:

- (i) 'A x B' means 'A is Mother of B'.
 - (ii) 'A - B' means 'A is Brother of B'.
 - (iii) 'A + B' means 'A is Sister of B'.
 - (iv) 'A ÷ B' means 'A is father of B'.
47. Which of the following means 'F is paternal grandfather of 'H'?
- (a) $F - J \div H$
 - (b) $F \div J - H$
 - (c) $F \div J \div H$
 - (d) $H \div J \div F$
48. How will 'M is daughter of N' be written?
- (a) $N \div M$
 - (b) $N \div M + W$
 - (c) $M + D \times N$
 - (d) $N \times M$
49. If $P(A) = \frac{1}{2}$ and $P(B) = \frac{1}{3}$ and $P(A \cup B) = \frac{2}{3}$ then find $P(A \cap B)$
- (a) $\frac{1}{4}$
 - (b) $\frac{2}{3}$
 - (c) $\frac{1}{6}$
 - (d) $\frac{1}{2}$
50. Five boys A, B, C, D and E are standing in a row. D is on the right of E, B is on the left of E but on the right of A. D is one the left of C, who is standing on the extreme right. Who is standing in the middle?
- (a) B
 - (b) C
 - (c) D
 - (d) E
51. P, Q, R and S are playing the game of carroms. P, R and S, Q are partners, 'S' is to the right of 'R'. If 'R' is facing West, then 'Q' is facing which direction?
- (a) West
 - (b) North
 - (c) East
 - (d) South
52. Eight persons E, F, G, H, I, J, K and L are seated around a square table, facing table - two on each side. J is between L and F; G is between I and F; H a lady member is second to the left of J; F a male member is seated opposite to E, a lady member There is a lady member between F and I. who among the following is to the immediate left of F?
- (a) G
 - (b) I
 - (c) J
 - (d) H

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53. It is 3' o clock on a watch. If minute hand points towards the North-east, then the hours hand point towards the
 - (a) North - West
 - (b) South-West
 - (c) South
 - (d) South - East
54. As a sample size increases, the standard error:
 - (a) Increase
 - (b) Decreases proportionately
 - (c) Remains constant
 - (d) Decreases
55. In sampling, standard deviations are known as:
 - (a) Expectation
 - (b) Sampling Errors
 - (c) Standard Error
 - (d) All of the above
56. Mr. X walks 14 km towards north. From there he walks 10 km towards south. Then he walks 3 km towards the west. How far and in which direction is he with reference to his starting point?
 - (a) 10 km, North-West
 - (b) 5 km, North-West
 - (c) 10 km, East
 - (d) 5 km, West
57. Solve $x^3 - 7x + 6 = 0$
 - (a) $x = -4, -2, -3$
 - (b) $x = 1, 2, -3$
 - (c) $x = 5, 6, -1$
 - (d) $x = 7, 2, -5$
58. If $P \times Q$ means P is to the south of Q; $P + Q$ means P is to the north of Q; $P \% Q$ means P is to the east of Q; $P - Q$ means P is to the west of Q: then in case of $A \% B + C - D$, Dis in which direction with respect to B?
 - (a) North-west
 - (b) South-east
 - (c) North-east
 - (d) South-west
59. In a frequency distribution, the relative frequency of the class is:
 - (a) The ratio of class frequency to the total number of classes
 - (b) The ratio of class frequency to the total frequency
 - (c) The ratio of class frequency to the total number of data points
 - (d) The ratio of class mid-point to the class frequency
60. The G.M. of 4, 20 and 36 is
 - (a) $2\sqrt[3]{80}$
 - (b) $8\sqrt[3]{340}$
 - (c) $2\sqrt[3]{8}$
 - (d) $4\sqrt[3]{45}$

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61. Find odd One out of the following
 50, 51, 47, 56, 42, 65, 29
 (a) 42
 (b) 47
 (c) 51
 (d) 56
62. If in a certain code "THANKS" is written as "SKNATH", then how is "STUPID" written?
 (a) DIPUTS
 (b) DISPUT
 (c) DIPUST
 (d) DIPSTU
63. In a certain code language 'la ke ta' means 'go and swim' and 'ne la se' means 'you swim here' and 'pe ke ne ta' means 'he and you go'. Which of the following is the code for 'here' in that code language?
 (a) Cannot be determined
 (b) La
 (c) Ne
 (d) Se
64. What is the chance that a leap year selected at random will contain 53 Fridays and 53 Saturdays?
 (a) $\frac{3}{7}$
 (b) $\frac{1}{7}$
 (c) $\frac{2}{7}$
 (d) $\frac{4}{7}$
65. If $x = 5t^2 + 3$ and $y = 12t^2 + 1$, then $\frac{dy}{dx}$ can be calculated as
 (a) 2
 (b) 1
 (c) 2t
 (d) $\frac{12}{5}$
66. In a line, P is sitting 23th from left. Q is sitting 24th from the right and 3rd left from P. How many people are sitting in the line?
 (a) 33
 (b) 31
 (c) 32
 (d) 43
67. The cost for producing x units is $500 - 20x^2 + x^3 / 3$. The marginal cost is minimum at x=_____
 (a) 5
 (b) 10
 (c) 20
 (d) 50

68. Which of the following statement is true?
- (a) Paache's Index Number is based on the base year quantity
 - (b) Fisher's Index Number is the Arithmetic Mean of Laspeyre's Index Number and Paache's Index Numbers
 - (c) Arithmetic Mean is the most appropriate average for constructing the index number
 - (d) Fisher's Index Number is an Ideal Index Number
69. Evaluate $\int_2^4 \frac{x}{x^2 + 1} dx$ is
- (a) $\frac{1}{3} \log \left(\frac{15}{4} \right)$
 - (b) $\frac{1}{2} \log \left(\frac{15}{7} \right)$
 - (c) $\frac{1}{2} \log \left(\frac{17}{5} \right)$
 - (d) $\frac{1}{2} \log \left(\frac{17}{9} \right)$
70. $\lim_{x \rightarrow \infty} \frac{(a - bx)}{x^2}$ is equal to:
- (a) 1
 - (b) 0
 - (c) a
 - (d) $-\infty$
71. If $f(x) = (x+1)$ and $g(x) = 3x^2 - 2$, find the value of $g \circ f(x) = ?$
- (a) $3x^2 + 6x + 1$
 - (b) $2x^2 - 6x + 3$
 - (c) $3x^2 - 5$
 - (d) $x - 5$
72. Which of the following is odd one
- (a) CEHL
 - (b) KMPT
 - (c) OQTX
 - (d) NPSV
73. If a relation $R = \{(1,1), (2,2), (1,2), (2,1)\}$ is symmetric on $A = \{1,2,3\}$ then R is
- (a) Reflexive but not Transitive
 - (b) Transitive but not Reflexive
 - (c) Reflexive and Transitive
 - (d) Neither Reflexive nor Transitive

74. If 'x' means ' $\div$ ', ' $\div$ ' means '+', '+' means '-' and '-' means 'x', then
 $2 - 50 + 40 \times 10 \div 96 = ?$
(a) 104
(b) 98
(c) 182
(d) 192
75. If the n^{th} term of an A.P is $7n - 2$. Then the sum of 'n' terms is:
(a) $0.5(7n^2 + 2n)$
(b) $0.5(7n^2 - 3n)$
(c) $0.5(7n^2 + 3n)$
(d) $0.5(7n^2 - 2n)$
76. In a geometric progression, the 3rd and 6th terms are, respectively, 1 and $-1/8$. The first term (a) and common ratio are respectively.
(a) 4 and $1/2$
(b) 4 and $-1/4$
(c) 4 and $-1/2$
(d) 4 and $1/4$
77. Which of the following index is computed by taking the average of base year and current year.
(a) Marshall-Edgeworth Index
(b) Paasche's Index
(c) Laspeyres's Index
(d) Fisher's Index
78. A gentlemen invites 6 of his friends to a party. In how many different arrangements they along with the wife of the gentleman can sit at a round table for a dinner if the host and his wife always sit side by side?
(a) 1440
(b) 144
(c) 1445
(d) None of these
79. There are 10 students in a class, including 3 girls. The number of ways arrange them in a row, when any two girls out of them never come together:
(a) ${}^8P_3 \times 7!$
(b) ${}^3P_3 \times 7!$
(c) ${}^8P_3 \times 10!$
(d) None of these
80. If ${}^{11}C_x = {}^{11}C_{2x-4}$ and $x \neq 4$ then the value of ${}^7C_x =$
(a) 20
(b) 21
(c) 22
(d) 23

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81. A man invests Rs. 12,000 at 10% p.a. and another sum of money at 20% p.a. for one year. The total investment earns at 14% p.a. simple interest the total investments is:
 - (a) Rs. 8,000
 - (b) Rs. 20,000
 - (c) Rs. 14,000
 - (d) Rs. 26,000
82. The first and last terms of an arithmetic progression are 5 and 905. Sum of the terms is 45,955. The number of terms is
 - (a) 99
 - (b) 100
 - (c) 101
 - (d) 102
83. An amount is lent at a nominal rate of 8% per annum compounded quarterly. What would be the gain in rate over when compounded annually?
 - (a) 8.24
 - (b) 2
 - (c) 0.24
 - (d) None of these
84. What is the compound interest on a sum of 8,000 for $2\frac{2}{5}$ years at the rate of 10% p.a., when the interest is compounded yearly?
 - (a) 1920
 - (b) 2067
 - (c) 1840
 - (d) None of these
85. _____ may be defined as the ratio of covariance between two variables and the product of the standard deviations of the two variables.
 - (a) Scatter diagram
 - (b) Karl Pearson's correlation coefficient
 - (c) Spearman's correlation coefficient
 - (d) Coefficient of concurrent deviations
86. Compute the net present value for a project with a net investment of Rs. 1,00,000 and net cash flows year one is Rs. 55,000; for year two is Rs. 70,000 and for year three is Rs. 15,000. Further, the company's cost of capital is 10%?
 - (a) 25,880
 - (b) 19,121
 - (c) 27,384
 - (d) 20,390
87. The difference between C.I and S.I on a certain sum of money invested for 3 years at the rate of 6% per annum is Rs 132.192 then principle is
 - (a) Rs. 3,000
 - (b) Rs. 3,700
 - (c) Rs. 10,000
 - (d) Rs. 12,000

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88. A company may obtain a machine either by leasing it for 5 years (useful life) at annual rent of Rs. 2,000 or by purchasing the machine for Rs. 8,100. If the company can borrow money at 18% per annum, which alternative is preferable ?
- Leasing
 - Purchasing
 - Can't say
 - None of these
89. The mean of binomial distribution is
- always less than its variance
 - always more than its variance
 - always equal to its variance
 - always equal to its standard deviation
90. A man spends ₹ 500 in buying 12 tables and chairs. The cost of one table is ₹ 50 and that of one chair is ₹ 40. What is the ratio of the numbers of the chairs and tables purchased?
- 3 : 1
 - 4 : 1
 - 5 : 1
 - None
91. If thrice of A's age 6 years ago be subtracted from twice his present age, the result would be equal to his present age. Find A's present age:
- 18
 - 9
 - 27
 - 30
92. A machine costing 1,00,000 has useful life of 10 years. If the rate of depreciation is 10%, what is the scrap value of the machine at the end of its life?
- 38,468
 - 34,868
 - 36,468
 - 38,846
93. The gross monthly pay of an employee was ₹15,000 in a year 2020. The consumer price index number in 2023 is 165 with 2020 as base year. If employee is to rightly compensate what dearness allowance is required to be paid?
- ₹ 8,000
 - ₹ 8,250
 - ₹ 9,500
 - ₹ 9,750
94. If α, β be the roots of $2x^2 - 4x - 1 = 0$. Find the value of $\frac{\alpha^2}{\beta} + \frac{\beta^2}{\alpha}$
- 22
 - 22
 - 11
 - 11

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95. A man facing west turned 45° in the clockwise direction, and again 180° in anti-clockwise direction and turned towards 270° in clockwise direction, then what direction is he facing now?
- South - East
 - North-West
 - North-East
 - South -West
96. The value of $[\log(5 \log_{10} 100)]^2$ is:
- 1
 - 2
 - 10
 - 25
97. Study the following Question carefully and answer the given questions.
 Eight friends A, B, C, D, E, F, G and H are sitting in a circle facing centre, not necessarily in the same order. D sits third to the left of A. E sits to the immediate right of A. B is third to left of D. G is second to the right of B. C is neighbour of B. C is third to left of H.
 Three of the following four are alike in a certain way based on the information given above and so form a group. Which is does not belong to that group.
- DC
 - AH
 - EF
 - DF
98. If $\log_a \sqrt{3} = \frac{1}{6}$, find the value of a.
- 9
 - 81
 - 27
 - 3
99. How many odd numbers of four digits can be formed with digits 0, 1, 2, 3, 4, 7 and 8?
- 150
 - 300
 - 120
 - 210
100. If $x^{1/3} + y^{1/3} = z^{1/3}$, then $[(x + y - z)^3 + 27xyz]$ equals :-
- 1
 - 0
 - 1
 - 27

__ ** __