

**PAPER 3 : QUANTITATIVE APTITUDE**

- A sum of money lent out at simple interest amounts to Rs. 720 after 2 years and Rs. 1020 after a further period of 5 years. Find the principal.
  - Rs. 520
  - Rs. 6000
  - Rs. 600
  - Rs. 1740
- Using the digits 1, 2, 3, 4 and 5 only once, how many numbers greater than 41000 can be formed?
  - 41
  - 48
  - 50
  - 60
- A Polygon has 27 diagonals. Number of sides of this polygon is:
  - 12
  - 15
  - 16
  - 9
- $x^y = e^{x+y}$  then  $\frac{dy}{dx} =$ 
  - $\frac{2\log x}{(\log x - 1)^2}$
  - $\frac{-\log x - 2}{(\log x - 1)}$
  - $\frac{\log x}{(\log x - 1)}$
  - $\frac{\log x - 2}{(\log x - 1)^2}$
- If  $f(x) = 2x+7$  and  $g(x) = x^2+7$ ,  $x \in \mathbb{R}$ , then which value of  $x$  will satisfy  $f \circ g(x) = 25$  ?
  - 1, 1
  - 2, 2
  - $-\sqrt{2}, \sqrt{2}$
  - None

## Mittal Commerce Classes

6. On a certain sum, the simple interest at the end of  $6\frac{1}{4}$  year becomes  $\frac{3}{8}$  of the sum.  
 The rate of Percentage is:  
 (a) 7%  
 (b) 6%  
 (c) 5%  
 (d)  $5\frac{1}{2}\%$
7. If  $a + b + c = 0$ , then the value of  $\frac{a^2 + b^2 + c^2}{c^2 - ab}$  is equal to  
 (a) 0  
 (b) 1  
 (c) 2  
 (d) -2
8.  $\frac{\log_b x}{\log_{2b} x}$  is equal to  
 (a)  $1 + \log_b 2$   
 (b)  $1 + \log_2 b$   
 (c)  $\frac{1}{2}$   
 (d)  $\log 2$
9. If  $\log_2 \log_2 \log_3 x = 0$  then find out value of x  
 (a) 9  
 (b) 81  
 (c) 729  
 (d) None of these
10. If  $a : b = \frac{2}{9} : \frac{1}{3}$ ,  $b : c = \frac{2}{7} : \frac{5}{14}$  and  $d : c = \frac{7}{10} : \frac{3}{5}$  Then  $a : d =$   
 (a) 28 : 45  
 (b) 16 : 35  
 (c) 24 : 35  
 (d) None
11. Find out sum of the roots of equation  $3x^2 + (5m-2)x + m = 0$  if one root is reciprocal to other.  
 (a)  $\frac{15}{2}$   
 (b)  $\frac{-13}{3}$   
 (c)  $\frac{5m-2}{3}$   
 (d) 3

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12. The area of a rectangle whose length is five more than twice its width is 75 sq. units. The length is :-  
 (a) 5 units  
 (b) 10 units  
 (c) 15 units  
 (d) 20 units
13. Which of the equation roots are -3, 1, 2  
 (a)  $x^3 - 6x^2 + 11x - 6 = 0$   
 (b)  $x^3 - 7x + 6 = 0$   
 (c)  $x^3 - 3x^2 + 2x = 0$   
 (d) None of these
14. If  ${}^{n+2}C_r = {}^{n+2}C_{10-r}$  then  ${}^n C_6$  equals to  
 (a) 8  
 (b) 28  
 (c) 56  
 (d) None of these
15. What is the number of ways of arranging the letters of the word "BANANA" so that no two N's appear together ?  
 (a) 40  
 (b) 60  
 (c) 80  
 (d) 100
16. If  $A = \{a, b, c\}$  and  $R = \{(a, a), (a, b), (b, c), (b, b), (c, c), (c, a)\}$  is a relation on A, then which one of the following is correct?  
 (a) R is reflexive, symmetric and transitive  
 (b) R is reflexive and symmetric, but not transitive  
 (c) R is reflexive and transitive, but not symmetric  
 (d) R is reflexive, but neither symmetric nor transitive
17. If the rate of interests are 6%, 8% and 10% yearly for first, second and third year respectively, then the compound interest for 3 years on the amount Rs. 60,000 will be:-  
 (a) Rs. 19,446  
 (b) Rs. 15,556.80  
 (c) Rs. 16,602  
 (d) Rs. 75,556.80
18. If set  $A = \{1, 2, 3\}$ , then what is the power set of A ?  
 (a)  $\{\{1\}, \{2\}, \{3\}, \{1, 2\}, \{1, 3\}, \{2, 3\}, \{1, 2, 3\}\}$   
 (b)  $\{\emptyset, \{1\}, \{2\}, \{3\}, \{1, 2\}, \{1, 3\}, \{2, 3\}\}$   
 (c)  $\{\emptyset, \{1\}, \{2\}, \{3\}, \{1, 2\}, \{1, 3\}, \{2, 3\}, \{1, 2, 3\}\}$   
 (d) None

19. A car that costs Rs. 6,00,000 is bought by paying Rs. 1,00,000 as down-payment and equal annual payments for three-years. What is the annual installment if the interest is paid at 8% on the remaining amount compounded annually?
- (a) Rs. 1,94,016.75  
(b) Rs. 2,94,016.75  
(c) Rs. 1,61,013.75  
(d) Rs. 1,74,016.75
20. Insert 4 GM's between 9 and 288 :-
- (a) 27, 54, 108, 144  
(b) 18, 36, 72, 144  
(c) 36, 72, 144, 208  
(d) 18, 27, 54, 108
21. In a class of 120 students, 35% students can play only cricket, 45% students can play only table tennis and the remaining students can play both the games. In all how many students can play cricket?
- (a) 55  
(b) 66  
(c) 60  
(d) 70
22.  $\int \frac{dx}{x + \sqrt{x^2 - 1}}$
- (a)  $\frac{x^2}{2} - \frac{x}{2} \sqrt{x^2 + 1} + \frac{1}{2} \log (x + \sqrt{x^2 - 1}) + C$   
(b)  $x - \frac{x}{2} \sqrt{x^2 - 1} - \frac{1}{2} \log (x + \sqrt{x^2 - 1}) + C$   
(c)  $\frac{x^2}{2} + \frac{x}{2} \sqrt{x^2 - 1} + \frac{1}{2} \log (x + \sqrt{x^2 - 1}) + C$   
(d)  $\frac{x^2}{2} - \frac{x}{2} \sqrt{x^2 - 1} + \frac{1}{2} \log (x + \sqrt{x^2 - 1}) + C$
23. The cost function for the production of x units of a commodity is given by  $c(x) = 2x^3 - 15x^2 + 36x + 15$   
The Cost will be minimum, when x is equal to:-
- (a) 3  
(b) 2  
(c) 1  
(d) 4
24. The difference between the roots of the equation  $x^2 - 7x - 9 = 0$  is:
- (a) 7  
(b)  $\sqrt{85}$   
(c) 9  
(d)  $2\sqrt{85}$

25. The value of  $A^{\frac{1}{2}} \times A^{\frac{1}{4}} \times A^{\frac{1}{8}} \dots \infty$
- (a) zero
  - (b) Infinity
  - (c)  $\frac{1}{2}$
  - (d) A
26. A sum compounded annually become  $\frac{25}{16}$  times of itself in 2 years, the rate of interest per annum is-
- (a) 5%
  - (b) 12.5%
  - (c) 25%
  - (d) 50%
27. Which number should be subtracted from 23, 30, 57 and 78 so that remaining numbers are in proportion?
- (a) 4
  - (b) 5
  - (c) 6
  - (d) 7
28. Rs. 2,600 were given on interest in two parts. If simple interest of first part in 3 years with 5% interest rate is equal to simple interest of second part in 6 years with 4% interest rate. What is the second part?
- (a) Rs. 1,600
  - (b) Rs. 1,300
  - (c) Rs. 900
  - (d) Rs. 1,000
29. In an organization Employer required maximum ten employees. X and Y are numbers of male and female respectively then which inequality shows right relation.
- (a)  $x + y = 10$
  - (b)  $x + y \leq 10$
  - (c)  $x + y \geq 10$
  - (d)  $x \geq 10$
30.  $\lim_{x \rightarrow 3} \frac{x^2 - 6x + 9}{x - 3}$
- (a) 1
  - (b) 0
  - (c) -2
  - (d) 2

31.  $\lim_{n \rightarrow \infty} \left[ \frac{1}{1-n^2} + \frac{2}{1-n^2} + \frac{3}{1-n^2} + \dots + \frac{n}{1-n^2} \right]$
- (a) 1  
 (b) -1  
 (c)  $\frac{1}{2}$   
 (d)  $-\frac{1}{2}$
32. If a, b, c are in A.P. then the Value of  $\frac{a^3+4b^3+c^3}{b(a^2+c^2)}$  is :-
- (a) 1  
 (b) 2  
 (c) 3  
 (d) None
33. At what rate percent per annum of compound interest will ₹ 1600 amount to ₹ 1852.20 in 3 years?
- (a) 10%  
 (b) 5%  
 (c) 8%  
 (d) 12%
34. Find the Sum of money which will amount to ₹ 26010 in 6 months at the rate of 8% per annum when the interest is compounded quarterly.
- (a) ₹ 20000  
 (b) ₹ 30,000  
 (c) ₹ 25,000  
 (d) ₹ 21000
35. On what sum of money will the difference between simple interest and compound interest for 2 years at 5% p.a. be equal to ₹ 63?
- (a) ₹ 24,600  
 (b) ₹ 24,800  
 (c) ₹ 25,200  
 (d) ₹ 25,500
36. Determine the present value of perpetuity Rs. 25 per month for infinite period at an effective rate of interest of 14% p.a.?
- (a) ₹ 178.5  
 (b) ₹ 201.5  
 (c) ₹ 185.5  
 (d) None of these
37. Which of the following statement is true?  
 (assume that the yearly cash flow are identical for both annuities)
- (a) The present value of ordinary annuity is greater than the present value of an annuity due.  
 (b) The future value of an annuity due is smaller than the future value of an ordinary annuity.  
 (c) The present value of an annuity immediate is the same as annuity regular for (n+1) year plus the initial receipt in the beginning of the period.  
 (d) None of these

38. Find the missing value:-  
6F, 8G, 12I, 18L, .....
- (a) 26 K
  - (b) 26 G
  - (c) 26 Z
  - (d) 26 P
39. A variable  $x$  have 10 values  $x_1, x_2, \dots, x_5, -x_1, -x_2, \dots, -x_5$ . and  $\sum_{i=1}^5 x_i^2 = 80$ , find the standard deviation of  $x$
- (a) 2
  - (b) 4
  - (c)  $2\sqrt{2}$
  - (d) 16
40. If the rank coefficient between debenture price and share price is found to be 0.143 and the sum of squares of the difference in the rank is 48, what is the number of share selected for study?
- (a) 5
  - (b) 7
  - (c) 12
  - (d) 6
41. During a certain period the cost of living Index number goes up from 110 to 200 and the salary of the worker is also raised form Rs. 325 to Rs. 500. Does the worker :
- (a) gain
  - (b) looses
  - (c) fully compensated
  - (d) gain lay 10%
42. The regression equation of  $y$  on  $x$  is  $y = -3 + 0.5x$  and that of  $x$  on  $y$  is  $x = -7 + By$ . If the correlation co-efficient between  $x$  and  $y$  is 0.1, then  $B =$
- (a) 0.5
  - (b) -0.5
  - (c) 0.02
  - (d) -0.02.
43. Which of the following statements are true?
- I. Correlation coefficient is the arithmetic mean between regression coefficients.
  - II. Regression coefficients are independent of the change of origin but not of scale.
  - III. If one of the regression coefficient is  $> 1$ , then the other must be less than unity.
- (a) I and II
  - (b) III and I
  - (c) II and III
  - (d) I, II and III

44. Given the following data :

Commodity	$P_0$	$q_0$	$p_1$	$q_1$
A	1	10	2	5
B	1	5	X	2

- where p and q represent price and quantity respectively and subscript for the time period. The value of X if the ratio between Laspeyres (L) and Paasche's (P) index numbers is 28 : 27 i.e.,  $L : P = 28 : 27$  is :
- (a) 3  
(b) 4  
(c) 5  
(d) 6
45. A pie chart is drawn to show the areas in millions of square kms. of several continents. The area 11.7 sq. km. of Africa is shown by a sector subtending an angle of  $82^\circ$ . If the subtended angle corresponding to North America be  $66^\circ$ , find its area  
(a)  $9.8 \text{ km}^2$   
(b)  $9.4 \text{ km}^2$   
(c)  $88 \text{ km}^2$   
(d)  $5.6 \text{ km}^2$
46. If two regression lines are  $3x+4y-18=0$  and  $5x+2y=10$ . Then  $\sigma_x : \sigma_y = ?$   
(a) 0.53  
(b) 0.73  
(c) 0.60  
(d) None
47. If the 1970 index with base 1965 is 200 and 1965 index with base 1960 is 150, the index 1970 on base 1960 will be:  
(a) 700  
(b) 300  
(c) 500  
(d) 600
48. A driver left his village and drove North for 20 km, after which he stopped for breakfast. Then he turned left and drove another 30 km, when he stopped for lunch. After some rest, he again turned left and drove 20 kms before stopping for evening tea. Once more he turned left and drove 30 kms to reach the town where he had supper. After evening tea in which direction did he drive?  
(a) West  
(b) East  
(c) North  
(d) South
49. Five boys A, B, C, D, E, are sitting in a park in a circle. A is facing South-West, D is facing South-East, B and E are right opposite A and D respectively and C is equidistant between D and B. Which direction is C facing?  
(a) West  
(b) South  
(c) North  
(d) East



50. Six persons M, N, O, P, Q and R are sitting in two row with three persons in each row, Both the row are in front of each other. Q is not at the end of any row. P is second the left of R. O is the neighbour of Q and diagonally opposite to P. N is the neighbour of R. Who is in front N?
- (a) R  
(b) Q  
(c) P  
(d) M
51. In a college party, 5 girls are sitting in a row. P is to the left of M and to the right of O. R is sitting to the right of N but to the left of O. Who is sitting in the middle?
- (a) O  
(b) R  
(c) P  
(d) M
52. X and Y are the children of A. A is the father of X but Y is not his son. How is Y related to A?
- (a) Sister  
(b) Brother  
(c) Son  
(d) Daughter
53. If the median of  $\frac{x}{5}, \frac{x}{3}, \frac{x}{6}, \frac{x}{2}, \frac{x}{7}$  and  $x$  is 24. Find the value of  $x$ .
- (a) 72  
(b) 49  
(c) 90  
(d) 52
54. A lady travel at a speed of 120km/h and returned at quicker speed. If her average speed of the whole journey is 150km/h, find the speed of return journey (in km/h).
- (a) 250  
(b) 300  
(c) 200  
(d) None
55. 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)  $4\sqrt[3]{45}$
56. Which measure of dispersion is best for open end classes?
- (a) Range  
(b) Quartile deviation  
(c) Mean deviation  
(d) Standard deviation

57. If the standard deviation of 0, 1, 2, 3... 9 is k, than standard deviation of 10, 11, 12, 13,... 19 is  
 (a) 10k  
 (b) k+10  
 (c) k  
 (d)  $k + \sqrt{10}$
58. The standard deviation calculated from a set of 32 observations is 5. If the sum of the observations is 80, what is the sum of the squares of these observations ?  
 (a) 10  
 (b) 1000  
 (c) 100  
 (d) 2000
59. Chain index is equal to:  
 (a) link relative of current year  $\times \frac{\text{Chain index of the current year}}{100}$   
 (b) link relative of current year  $\times \frac{\text{Chain index of the previous year}}{100}$   
 (c) link relative of previous year  $\times \frac{\text{Chain index of the current year}}{100}$   
 (d) None of these
60.  $\Sigma P_1 Q_1 = 248, \Sigma P_0 Q_0 = 150$ , Paasche's index number = 150 and Dorbish-Bowley's index number = 145. Then the Fisher's ideal index number is:  
 (a) 75  
 (b) 144.91  
 (c) 145.97  
 (d) None of these
61. Spatial classification is :  
 (a) classification of units on the basis of time  
 (b) classification of units on the basis of geographical area  
 (c) classification of units according to the characteristic of attributes  
 (d) classification of units according to the characteristic of variables
62. The Probability distribution of a random variable is as follows
- |     |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|
| $x$ | 1  | 2  | 3  | 4  | 5  | 6  |
| P   | 3k | 5k | 2k | 4k | 3k | 3k |
- The expected value of  $x$  is:  
 (a) 2.8  
 (b) 12.2  
 (c) 6.8  
 (d) 3.4

63. The average of 17 numbers is 45. The average of first 9 of these numbers is 51 and the last 9 of these numbers is 36. Find the 9th number?  
 (a) 5  
 (b) 14  
 (c) 18  
 (d) None of these
64. If  $u + 5x = 6$  and  $3y - 7v = 20$  and the correlation coefficient between  $x$  and  $y$  is 0.58, then what would be the correlation coefficient between  $u$  and  $v$ ?  
 (a) 0.58  
 (b) - 0.58  
 (c) - 0.84  
 (d) 0.84
65. In the following rectangle there are numbers and alphabets, what will come in place of question mark?
- |   |   |   |   |
|---|---|---|---|
| 2 | 4 | 6 | 8 |
| C | F | I | ? |
| D | H | L | P |
- (a) K  
 (b) N  
 (c) L  
 (d) M
66. In a certain code 256 means 'Red Colour Chalk', 589 means 'Green Colour Flower' and 245 means 'White Colour Chalk'. What digit in the code means 'White'?  
 (a) 2  
 (b) 4  
 (c) 5  
 (d) None of these
67. If water is called food, food is called tree, tree is called sky, sky is called wall, on which of the following grows a fruit?  
 (a) Sky  
 (b) Tree  
 (c) Food  
 (d) Wall
68. Arun started from point A and walked 10 km East to point B, then turned to North and walked 3 km to point C and then turned West and walked 12 kms to point D, then again turned South and walked 3 kms to point E. In which direction is he from his straight point ?  
 (a) East  
 (b) South  
 (c) West  
 (d) North

69. If + Means  $\times$ , - Means + and  $\times$  Means  $\div$ , then the value of  $5+4-18\times 3$  is :-
- (a) -45
  - (b)  $12\frac{2}{3}$
  - (c) 26
  - (d) 15

**Directions (Q. 70-71) : Read the following information carefully and answer the questions, given below :-**

- (i) 'P  $\div$  Q' means P, is Son of Q
  - (ii) 'P  $\times$  Q' means P, is Sister of Q
  - (iii) 'P + Q' means P, is Brother of Q
  - (iv) 'P - Q' means P, is Mother of Q
70. How is T related to S in the expression?  
'T  $\times$  R + V  $\div$  S' ?
- (a) Sister
  - (b) Mother
  - (c) Aunt
  - (d) Daughter
71. How is T related to S in the expression?  
'T  $\times$  R  $\div$  V - S' ?
- (a) Father
  - (b) Sister
  - (c) Daughter
  - (d) Aunt
72. One evening, Raja started to walk toward the Sun. After walking a while, he turned to his right and again to his right. After walking a while, he again turned right. In which direction is he facing ?
- (a) South
  - (b) East
  - (c) West
  - (d) North
73. Choose the missing term out of the given alternatives:-  
B, S, F, Q, J, O, N, M, \_\_\_\_, \_\_\_\_
- (a) R, I
  - (b) P, K
  - (c) P, I
  - (d) R, K
74. The most appropriate diagram to represent 5 year plan outlay of India in different economic sectors is:
- (a) Pie diagram
  - (b) Histogram
  - (c) Line diagram
  - (d) Frequency polygon

75. If the standard deviation of  $x$  is 3, what is the variance of  $(5-2x)$ ?
- (a) 36
  - (b) 6
  - (c) 1
  - (d) 9
76. If  $P(\bar{A} \cup B) = 5/6$ ,  $P(A) = 1/2$  and  $P(\bar{B}) = 2/3$ , what is  $P(A \cup B)$ ?
- (a)  $1/3$
  - (b)  $5/6$
  - (c)  $2/3$
  - (d)  $4/9$
77. The probability that A speaks truth is  $4/5$ , while the probability for B is  $3/4$ . The probability that they contradict each other when asked to speak on a fact is:
- (a)  $3/20$
  - (b)  $1/5$
  - (c)  $7/20$
  - (d)  $4/5$
78. What is the probability that a leap year selected at random would contain 53 Saturdays?
- (a)  $1/7$
  - (b)  $2/7$
  - (c)  $1/12$
  - (d)  $1/4$
79. A Binomial distribution is \_\_\_\_\_. The parameter(s) are:
- (a) Biparametric,  $n$  and  $q$
  - (b) Biparametric,  $n$  and  $p$
  - (c) Uniparametric,  $p$
  - (d) Uniparametric,  $q$
80. In Binomial Distribution,  $\mu = 4$ ,  $\sigma^2 = 3$ , then mode =
- (a) 4
  - (b) 4.25
  - (c) 4.5
  - (d) 4.1
81. A man started walking from his house towards south. After walking 6 km, he turned to his left and walked 5 km. Then he walked further 3 km after turning left. He then turned to his left and continued his walk for 9 km. How far is he away from his house?
- (a) 3 km
  - (b) 4 km
  - (c) 5 km
  - (d) 6 km

82. Five persons are sitting in a row. D is right to P and left to T. B is left to V and right to T. who are at the ends of the row?  
(a) D, T  
(b) T, B  
(c) P, V  
(d) D, B
83. A and B are Sisters. C and D are Brothers. Daughter of A is Sister of C, then how B is related to D?  
(a) Mother  
(b) Grandmother  
(c) Sister  
(d) Aunt
84. A girl introduced a boy as the son of the daughter of the father of her paternal uncle. The boy is related to the girl as –  
(a) Son  
(b) Uncle  
(c) Nephew  
(d) Cousin

**Directions (Q.N. 85-86) : Read the following instructions and answer the questions :-**

- (i) Ram, Shyam, Harish, Mahesh and Rahim are five boys sitting along a circular table facing towards centre.  
(ii) Harish is sitting immediately to the left of Rahim.  
(iii) Ram is sitting between Mahesh and Rahim
85. Who is sitting to the immediate left side of Harish?  
(a) Rahim  
(b) Mahesh  
(c) Ram  
(d) Shyam
86. Who is sitting between Shyam and Ram ?  
(a) Rahim  
(b) Mahesh  
(c) Harish  
(d) Impossible to find
87. Mutually exclusive classification is usually meant for  
(a) A discrete variable  
(b) A continuous variable  
(c) An attribute  
(d) None of these

88. The mean income of a group of workers is  $\bar{x}$  and that of another group is  $\bar{y}$ . If the number of workers in the second group is 10 times the number of workers in the first group, then the mean income of the combined group is
- $(\bar{x} + 10\bar{y})/5$
  - $(\bar{x} + 10\bar{y})/11$
  - $(10\bar{x} + \bar{y})/11$
  - $(\bar{x} + 10\bar{y})/9$
89. The average of 2 number is 20 and their standard deviation 5. Find the two numbers?
- 15, 25
  - 30, 40
  - 10, 15
  - None of these
90. If events are mutually exclusive, then-
- Their probabilities are less than one
  - Their probabilities sum to one
  - Both events cannot occur at the same time
  - Both of them contain every possible outcome of an experiment.
91. In standard normal distribution
- Mean =1 SD=0
  - Mean =1 SD=1
  - Mean=0 SD=1
  - Mean=0 SD=0
92. If X & Y are two independent normal variates with means  $\mu_1$  &  $\mu_2$  and standard deviations  $\sigma_1$  &  $\sigma_2$  respectively, then X + Y follows\_\_\_\_\_
- Means =  $\mu_1 + \mu_2$ , S.D = 0
  - Means =  $\mu_1 + \mu_2$ , S.D =  $\sigma_1^2 + \sigma_2^2$
  - Means = 0, S.D =  $\sigma_1^2 + \sigma_2^2$
  - Means =  $\mu_1 + \mu_2$ , S.D =  $\sqrt{\sigma_1^2 + \sigma_2^2}$
93. As the sample size increases, standard error
- Increases
  - Decreases
  - Remains constant
  - Decreases proportionately
94. Which sampling adds flexibility to the sampling process?
- Simple random sampling
  - Multistage sampling
  - Stratified sampling
  - Systematic sampling

95. Sample in which the number of units is less than \_\_\_\_\_ is called a small sample  
 (a) 100  
 (b) 75  
 (c) 50  
 (d) 30
96. In a certain manufacturing process, 5% of the tools produced turn out to be defective. Find the probability that in a sample of 40 tools, at most 2 will be defective.  
 [Given :  $e^{-2} = 0.135$ ]  
 (a) 0.555  
 (b) 0.932  
 (c) 0.785  
 (d) 0.675
97. The test of shifting the base is called  
 (a) Unit  
 (b) Circular  
 (c) Time reversal  
 (d) Factor reversal
98. What is the present Value of Rs. 1 to be received after two years compounded annually @ 10% p.a.?  
 (a) ₹ 0.56  
 (b) ₹ 0.83  
 (c) ₹ 0.91  
 (d) ₹ 1.21
99. How much amount is required to be invested every year so as to accumulate ₹ 2,00,000 at the end of 10 years if interest is compounded annually at 10%?  
 (a) ₹ 18,823  
 (b) ₹ 16,223  
 (c) ₹ 14,230  
 (d) ₹ 12,549
100. If the cost of capital be 10% per annual, then the net present value (in nearest Rs.) from the given cash flow is given as:-

Year	0	1	2	3
Operating profit (in thousand Rs.)	100	60	15	25

- (a) ₹ 14,275  
 (b) ₹ 11,275  
 (c) ₹ 17,675  
 (d) None

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