1) Suppose an investor wants to have $10 million to retire 45 years from now. How much would she have to invest today with an annual rate of return equal to 15 percent?

a) $18,561

b) $17,844

c) $20,003

d) $21,345

2) A machine is depreciated at the rate of 20% on reducing balance. The original cost of the machine was Rs. 100000 and its ultimate scrap value was Rs. 30000. The effective life of the machine is

a) 4.5 years (appx.)

b) 5.4 years (appx.)

c) 5 years (appx.)

d) none of these

3) The present value of annuity of Rs. 5000 per annum for 12 years at 4% p.a C.I. annually is

a) Rs. 46000

b) Rs. 46850

c) RS. 15000

d) none of these

4) If the amount of an annuity after 25 years at 5% p.a C.I is Rs. 50000 the annuity will be

a) Rs. 1406.90

b) Rs. 1046.90

c) Rs. 1146.90

d) none of these

5) The partners A and B together lent Rs. 3,903 at 4% per annum interest compounded annually. After a span of 7 years, A gets the same amount as B gets after 9 years. The share of A in the sum of Rs. 3,903 would have been :

(a) Rs. 1,875

(b) Rs. 2,280

(c) Rs. 2,028

(d) Rs. 2,820

6) Nominal rate of interest is 9.9% p.a. If interest is Compounded monthly, What will be the effective rate of interest (given ($4033/4000$) ^{12} = 1.1036 (approx))?

(a) 10.36%

(b) 9.36%

(c) 11.36%

(d) 9.9%

7) Vipul purchases a car for Rs. 5,50,000. He gets a loan of Rs. 5,00,000 at 15% p.a. from a Bank and balance Rs. 50,000 he pays at the time of purchase. He has to pay the whole amount of loan in 12 equal monthly instalments with interest starting from the end of the first month. The money he has to pay at the end of every month is: [Given $(1.0125)^{12}$ = 1.16075452].

(a) Rs. 45,130.43

(b) Rs. 45,230.43

(c) Rs. 45,330.43

(d) None of these

8) An urn contains 9 balls two of which are red, three blue and four black. Three balls are drawn at random. The probability that they are of same colour is:

(a) 3/27

(b) 20/31

(c) 5/84

(d) None

9) A card is drawn from a well shuffled pack of 52 cards. Let E, "a king or a queen is drawn" & E2: "a queen or a jack is drawn", then:

(a) E1 and E2 are not independent

(b) E1 and E2 are mutually exclusive

(c) E1 and E2 are independent

(d) None of these

10) In a non-leap year, the probability of getting 53 Sundays or 53 Tuesdays or 53 Thursdays is :

(a) 4/7

(b) 2/7

(c) 3/7

(d) 1/7

11) From a pack of cards, two are drawn, the first being replaced before the second is drawn. The chance that the first is a diamond and the second is king is

(a) 1/52

(b) 3/2704

(c) 4/13

(d) 3/52

12) The odds are 9 : 5 against a person who is 50 years living till he is 70 and 8 : 6 against a person who is 60 living till he is 80. Find the probability that at least one of them will be alive after 20 years:

(A) 11/14

(B) 22/49

(C) 31/49

(D) 35/49

13) The prices of a commodity in the years 1975 and 1980 were 25 and 30 respectively, Price Relative of 1975 on 1980 is

(a) 113.25

(b) 83.33

(c) 109.78

(d) None

14) In 2004 for working class people wheat was selling at an average price of ₹ 16 per 20 kg, cloth at ₹ 2 per meter, house rent ₹ 30 per house and other items at ₹ 10 per unit By 2005 cost of wheat rose by ₹ 4 per 20 Kg, house rent by ₹ 15 per house and other items doubled in price. The working class cost of living index for the year 2005 (with 2004 as base) was 160. By how much did cloth rose in price during the period

(a) 1.28

(b) 0.99

(c) 1.73

(d) 1.30

15) In the data group Bowley's and Laspeyre's index number is as follows. Bowley's index number= 150, Laspeyre's index number = 180 then Paasche's index number is

(a) 120

(b) 30

(c) 165

(d) None of these

16) The life expectancy, E of male is a linear function of time (year). It is given that in 1980 the life expectancy was 70 years and in 2000 it was 75 years. Make a prediction of life expectancy in 2012.

(a) 78

(b) 80

(c) 82

(d) 84

17) Monthly salary of an employee was ₹ 10,000 in the year 2000 and it was increased to ₹ 20,000 in the year 2013 while the consumer price index number is 240 in year 2013 with the base year 2000, what should be his salary in comparison of consumer price index in the year 2013 ?

(a) 2,000

(b) 16,000

(c) 24,000

(d) None

18) Take 200 and 150 respectively as the assumed mean for X and Y series of 11 values, then dx = X- 200, dy = Y – 150, Σ dx = 13, Σ dx^2 = 2667, Σ dy = 42, Σ dy^2 = 6964, Σ dx dy = 3943. The value of r is:

(a) 0.77

(b) 0.98

(c) 0.92

(d) 0.82

19) If the sum of squares of the rank difference in Mathematics and Physics marks of 10 students is 22, then the coefficient of rank correlation is

(a) 0.267

(b) 0.867

(c) 0.92

(d) None

20) The coefficient of rank correlation of marks obtained by 10 students, in English and Economics was found to be 0.5. It was later discovered that the difference in ranks in the two subjects obtained by one student was wrongly taken as 3 instead of 7. The correct coefficient of rank correlation is

(a) 0.32

(b) 0.26

(c) 0.49

(d) 0.93

21) If the rank correlation co-efficient between marks in Management and Mathematics for a group of students is 0.6 and the sum ofthe squares ofthe difference in rank is 66. Then what is the number of students in the group ?

(a) 9

(b) 10

(c) 11

(d) 12

22) Determine Spearman's rank correlation coefficient from the given data $\Sigma D2 = 30$, N = 10

(a) R = 0.82

(b) R = 0.32

(c) R = 0.40

(d) None of these

23) Suresh introduce a man as "he is the son of the woman who is the mother of the husband of my mother". How is Suresh is related to the man?

(a) Brother-in-law

(b) Son

(c) Brother

(d) Nephew

24) P and Q are brothers. R and S are sisters. P's son is R's brother. How is Q related toR?

(a) Uncle

(b) Brother

(c) Father

(d) Grandfather

25) Ram and Mohan are brothers, Shankar is Mohan's father. Chhaya is Shankar's sister. Priya is Shankar's niece. Shubhra is Chhaya's grand daughter. Then Ram is Shubhra's ……………….

(a) Brother

(b) Uncle

(c) Cousin

(d) Nephew

26) Pointing to a photograph, a man said "His mother husband ' s sister is my aunt". Then what is relation between a man and he ?

(a) Son

(b) Uncle

(c) Nephew

(d) Brother

27) Pointing in a photograph, Sonia said, "His mother's only daughter is my mother". How is Sonia relates to that man?

(a) Nephew

(b) Sister

(c) Wife

(d) Niece

28) Six children A, B, C, D, E and F are standing in a row. B is between F and D. E is between A and C. A does not stand next to F or D. C does not stand next to D. F is between which of the following pairs of children?

(a) B and E

(b) B and C

(c) B and D

(d) B and A

29) Eight persons A, B, C, D, E, F, G and H are sitting in a line. E sits second right to D. H sits fourth left to D. C and F are immediate neighbours, but C is not immediate neighbour of A. G is not neighbour of E. Only two persons sit between A and E. The persons on left end and right end respectively are:

(a) G and E

(b) B and E

(c) H and E

(d) G and B

30) 5 Children are sitting in a row. S is sitting next to P but not T. K is sitting next to R. K is not sitting on extreme end. T is not sitting next to K. Who are sitting adjacent S.

(a) K & P

(b) R & P

(c) Only P

(d) P & T

31) Five students 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 next to C on his left. The student in middle is ……..

(a) B

(b) E

(c) C

(d) A

32) A person is facing towards North. He moves 70° clock-wise direction. Again he is moving 300° clock-wise direction. Now, in which direction is he presently facing ?

(a) North-West

(b) South-East

(c) North-East

(d) South-West

33) When a person faces north and walk 25m and he turn right and walk 20m and again turns left and walk 25m, and turns right 25 m and turns right and walks 40m. In which direction is he now from his starting point?

(a) North-West

(b) North-East

(c) South-East

(d) South-West

34) Sangeeta leaves from her home. She first walk 30 metres in North-West direction, and then 30m in South West direction, next she walks 30 metres in South-East direction. Finally she turns towards her house. In which direction is she moving?

(a) North-West

(b) North-East

(c) South-East

(d) South-West

35) Manu wants to go to the market. He starts walking from his house towards North reaches at a crossing after 30 m. He turns towards East, goes 10m till the second crossing and turns again, moves towards South straight for 30 m where marketing complex exists. In which direction is the market from his house ?

(a) North

(b) South

(c) East

(d) West

36) Anoop Starts walking towards South. After walking 15 metres he turns towards North. After walking 20 metres he turns towards East and walks 10 metres. He then turns towards South and walks 5 metres. In which direction is he from the original position ?

(a) North

(b) South

(c) East

(d) West

37) Which of the following is odd one?

(a) CEHL

(b) KMPT

(c) OQTX

(d) NPSV

38) If in a certain language, MADRAS is coded as NBESBT. How is BOMBAY coded in that language ?

(a) CPNCBX

(b) CPNCBZ

(c) CPOCBZ

(d) CQOCBZ

39) Which of the following is odd one 4, 12, 44, 176, 890?

(a) 4

(b) 12

(c) 44

(d) 176

40) 7, 23, 47, 119, 167

(a) 211

(b) 223

(c) 287

(d) 319

41) Find odd man out of the following series 7, 9, 13, 17, 19

(a) 1

(b) 9

(c) 19

(d) 13

42) A bag contains 4 red, 3 black and 2 white balls. In how many ways 3 balls can be drawn from this bag so that they include at least one black ball ?

(a) 46

(b) 64

(c) 86

(d) None

43) The number of words from the letters of the word BHARAT, in which B and H will never come together, is:

(a) 120

(b) 360

(c) 240

(d) None

44) If $^{n}P_{13} : {}^{(n+1)}P_{12} = 3 : 4$ then 'n' is :

(a) 13

(b) 15

(c) 18

(d) 31

45) The number of arrangements that can be formed from the letters of the word "ALLAHABAD".

(a) 7560

(b) 3780

(c) 30240

(d) 15320

46) A question paper consist 10 questions, 6 in math and 4 in stats. Find outnumber of ways to solve question paper if at least one question is to be attempted from each section.

(a) 1024

(b) 950

(c) 945

(d) 1022

47) The number of 4 digit numbers that can be formed from seven digits 1, 2, 3, 5, 7, 8, 9 such that no digit being repeated in any number,Which are greater than 3000 are:

(a) 120

(b) 480

(c) 600

(d) 840

48) In how many ways can the letters of 'REGULATION' be arranged so that the vowels come at odd places?

(a) 14,400

(b) 1,144

(c) 1,44,252

(d) None of these

49) Out of 4 gents and 6 ladies, a committee is to be formed. Find the number of ways the committee can be formed such that it comprises of at least 2 gents and at least the number of ladies should be double of gents.

(a) 94

(b) 132

(c) 136

(d) 104

50) In how many ways can 17 billiard balls be arranged if 7 of them are black, 6 red and 4 white?

(a) 4084080

(b) 1

(c) 8048040

(d) None of these

51) The AM of 15 Observations is 9 and the AM of first 9 Observation is 11 and then AM of remaining Observation is

(a) 11

(b) 6

(c) 5

(d) 9

52) If in a moderately skewed distribution the values of mode and mean are 32.1 and 35.4 respectively, then the value of the median is

(a) 33.3

(b) 34

(c) 34.3

(d) 33

53) If total frequencies of three series are 50,60 and 90 and their means are 12,15 and 20 respectively, then the mean of their composite series is

(a) 15.5

(b) 16

(c) 14.5

(d) 16.5

54) If the mean of the following distribution is 6 then the value of P is

X	2	4	6	10	P + 5
f:	3	2	3	1	2

(a) 1

(b) 5

(c) 11

(d) 8

55) For 889, 999, 391, 384, 390,480,485, 760, 111,240 Rank of median is

(a) 2.75

(b) 5.5

(c) 8.25

(d) None

56) The rates of returns from three different shares are 100%, 200% and 400% respectively, the average rate of return will be

(a) 350%

(b) 233.33%

(c) 200%

(d) 300%

57) If the Harmonic mean of two numbers is 4 and Arithmetic mean (A) and Geometric mean (G) satisfy the equation 2A + G = 27 then the two numbers are

(a) (1, 3)

(b) (9, 5)

(c) (6, 3)

(d) (12, 7)

58) The 3rd decile for the values 15,10,20, 25, 18,11, 9, 12 is

(a) 13

(b) 10.7

(c) 11

(d) 11.5

59) The mean salary of a group of 50 persons is ₹ 5,850. Later on it is discovered that the salary of one employee has been wrongly taken as ₹ 8,000 instead of ₹ 7,800. The corrected mean salary is

(a) ₹ 5,854

(b) ₹ 5,846

(c) ₹ 5,650

(d) None of the above

60) If there are two groups with 75 and 65 as harmonic means and containing 15 and 13 observations, then the combined H.M. is given by :

(a) 70

(b) 80

(c) 70.35

(d) 69.48

61) Frequency density corresponding to a class interval is the ratio of:

(a) Class frequency to the class length

(b) Class frequency to the total frequency

(c) Class length to the class frequency

(d) Class frequency to the cumulative frequency

62) Profits made by XYZ Bank in different years refers to _____

(a) Attribute

(b) Discrete variable

(c) Continuous variable

(d) None

63) Find the number of observations between 250 and 300 from the following data:

Value	More than 200	More than 250	More than 300	More than 350
No. of obs.	56	38	15	0

(a) 56

(b) 23

(c) 15

(d) 8

64) "The Less than Ogive" is a:

(a) U-shaped curve

(b) i-shaped curve

(c) S- shaped curve

(d) Bell-shaped curve

65) If the class intervals are 10 – 14, 15 – 19, 20 – 24, Then the first class boundaries are:

(a) 9.5 – 14.5

(b) 10 – 15

(c) 9 – 15

(d) 10.5 – 15.5

66) The primary rules that should be observed in classification

(i) As far as possible the class should be of equal width

(ii) The classes should be exhaustive

(iii) The classes should be unambiguously defined

 Then which of the following is correct:

(a) Only, (i) and (ii)

(b) Only (ii) and (iii)

(c) Only (i) and (iii)

(d) all (i),(ii) and (iii)

67) Arrange the dimensions of Bar diagram, Cube diagram, Pie diagram in sequence.

(a) 1, 2, 3

(b) 2, 1, 3

(c) 2, 3, 2

(d) 3, 2, 1

68) Which of the following is a statistical data ?

(a) Ram is 50 years old

(b) Height of Ram is 5'6" and of Shyam and Hari is 5'3" and 5'4" respectively

(c) Height of Ram is 5'6" and weight is 90 kg

(d) Sale of A was more than B and C

69) From the following data find the number of class intervals if class length is given as 5.

73, 72, 65, 41, 54, 80, 50, 46, 49, 53,

(a) 6

(b) 5

(c) 7

(d) 8

70) In 2000, out of total of 1,750 workers of a factory 1,200 were members of a trade union. The number of women employed was 200 of which 175 did not belong to a trade union. In 2004, there were 1,800 employees who belong to a trade union 5 0 who did not belong to trade union. Of all the employees in 2004,300 were women of whom only 8 were non-trade members. On the basis of this information, the ratio ; of female member of the trade union in 2000 and 2004 is :

(a) 292 : 25

(b) 8 : 175

(c) 175 : 8

(d) 25 : 292

71) If the ratio of two numbers is 7 : 11. If 7 is added to each number then the new ratio will be 2 : 3 then the numbers are.

(a) 49,77

(b) 42,45

(c) 43,42

(d) 39,40

72) If (a + b): (b + c): (c + a) = 7 : 8 : 9 and a + b + c = 18 then a : b : c = .

(a) 5 : 4 : 3

(b) 3 : 4 : 5

(c) 4 : 3 : 5

(d) 4: 5 : 3

73) A bag contains 23 number of coins in the form of 1 rupee, 2 rupee and 5 rupee coins. The total sum of the coins is ?₹ 43. The ratio between 1 rupee and 2 rupees coins is 3 : 2. Then the number of 1 rupee coins is:

(a) 12

(b) 8

(c) 10

(d) 16

74) Find the ratio of third proportional of 12 ; 30 and mean proportional of 9; 25 :

(a) 7: 2

(b) 5 : 1

(c) 9 : 4

(d) None of these

75) $(2p^2 – q^2) = 7pq$, where p, q are positive then p : q.

(a) 5:6

(b) 5:7

(c) 3:5

(d) 3:7

76) The first, second and third month salaries of aperson are in the ratio 2:4:5. The difference between the product of the salaries of first 2 months & last 2 months is ₹ 4,80,00,000. Find the salary of the second month

(a) ₹ 4,000

(b) ₹ 6,000

(c) ₹ 12,000

(d) ₹ 8,000

77) In what ratio should tea worth ₹ 10 per kg. be mixed with tea worth ₹ 14 per kg., so that the average price of the mixture may be ₹ 11 per kg.?

(a) 2 : 1

(b) 3 : 1

(c) 3 : 2

(d) 4 : 3

78) If the sides of an equilateral triangle are shortened by 3 units , 4 units and 5 units respectively and a right triangle is formed then the sides of an equilateral triangle is:

(a) 6 units

(b) 7 units

(c) 8 units

(d) 10 units

79) The line 3x + 2y = 6 intersects the line 3 x − y = 12 in _____ quadrant:

(a) 1st

(b) 2nd

(c) 3rd

(d) 4th

80) Let E_1, E_2 are two linear equations in two variables x and y .(0,1) is a solution for both the equations E_1 & E_2 (2, -1) is a solution of equation E, only and (-2, -1) is a solution of equation E_2 only, then E_1, E_2 are _____.

(a) x = 0, y = 1;

(b) 2x − y = -1, 4x + y = 1

(c) x + y = 1, x − y = -1

(d) x + 2y = 2, x + y = 1

81) A person on a tour has ₹ 9600 for his expenses. But the tour was extended for another 16 days, so he has to cut down his daily expenses by ₹ 20.The original duration of the tour had been ?

(a) 48 days

(b) 64 days

(c) 80 days

(d) 96 day

82) Area between -1.96 to + 1.96 in a normal distribution is :

(a) 95.45%

(b) 95%

(c) 96%

(d) 99%

83) In a Poisson distribution if P(x = 4) = P(x = 5) then the parameter of Poisson distribution is :

(a) 45

(b) 54

(c) 4

(d) 5

84) For a Poisson variate X, P(X = 2) = 3P (X = 4), then the standard deviation of X is _____

(a) 2–√

(b) 3

(c) 4

(d) 5

85) In Normal distribution 95% observation lies between _____ & _____ :

(a) $(\mu - 2\sigma, \mu + 2\sigma)$

(b) $(\mu - 3\sigma, \mu + 3\sigma)$

(c) $(\mu - 1.96o, \mu + 1.96\sigma)$

(d) $(\mu - 2.58o, \mu + 2.58\sigma)$

86) For a poisson variate X, P(X = 1) = P(X = 2). What is the mean of X ?

(a) 1

(b) 3/2

(c) 2

(d) 5/2

87) Let the distribution function of a random variable x be F(x) = P(x ≤ x),then F(5) − F(2)

(a) $P(2 \le x < 5)$

(b) $P(2 \le x \le 5)$

(c) $P(2 \le x \le 5)$

(d) $P(2 < x < 5)$

88) 5,000 students were appeared in an examination. The mean of marks was 39.5 with standard deviation 12.5 marks. Assuming the distribution to be normal,find the number of students recorded more than 60% marks. [Given when Z = 1.64 area of normal curve = 0.4494]

(a) 1000

(b) 505

(c) 253

(d) 2227

89) The solution set of the inequations x + 2 > 0 and 2x − 6 > 0 is

(a) (- 2 , ∞);

(b) (3 , ∞)

(c) (- ∞ , – 2)

(d) (-∞, – 3)

90) An employer recruits experienced (x) and fresh workmen (y) under the condition that he cannot employ more than 11 people, x and y can be related by the inequality:

(a) x + y ≠ 11 ;

(b) x + y ≤ 11, x ≥ 0, y ≥ 0

(c) x + y ≥ 11, x ≥ 0, y ≥ 0

(d) None of these

91) By lines x + y = 6,2x – y = 2, the common region shown is the diagram refers to:

(a) x + y ≥ 6, 2x – y ≤ 2, x ≥ 0, y ≥ 0

(b) x + y ≤ 6, 2x – y ≤ 2, x ≥ 0, y ≥ 0

(c) x + y ≤ 6, 2x – y > 2, x ≥ 0, y ≥ 0

(d) None of these

92) The solution of the inequality

8x + 6 < 12x + 14 is

(a) (-2, 2)

(b) (-2, 0)

(c) (2, ∞)

(d) (-2, ∞)

93) Solution space of inequalities 2x + y ≤ 10 and x – y ≤ 5:

(i) includes the origin.

(ii) includes the point (4,3) which one is correct? i

(a) Only (i)

(b) Only (ii)

(c) both (i) and (ii)

(d) none of the above

94) What sum should be invested at the end of every year so as to accumulate an amount of ₹ 796870 at the end of 10 years at the rate of interest 10% compounded annually, [given that A(10 ; 0.1) = 15.9374]

(a) 40,000

(b) 4,50,000

(c) 4,80,000

(d) 50,000

95) Paul borrowers ₹ 20,000 on condition to repay it with compound interest at 5% p.a. in annual instalment of ₹ 2,000 each. Find the number of years in which the debt would be paid off.

(a) 10 years

(b) 12 years

(c) 14 years

(d) 15years

96) A company may obtain a machine either by leasing it for 5 years (useful life) at an annual rent of ₹ 2,000 or by purchasing the machine for ₹ 8,100. If the company can borrow money at 18% per annum, which alternative is preferable?

(a) Leasing

(b) Purchasing

(c) Can't say

(d) None of these

97) A company establishes a sinking fund to provide for the payment of ₹ 2,00,000 debt maturing in 20 years. Contributions to the fund are to be made at the end of every year. Find the amount of each annual deposit if interest is 5% per annum :

(a) ₹ 6,142

(b) ₹ 6,049

(c) ₹ 6,052

(d) 6,159

98) If p. i2 = 96, and R = 8% compounded annually then P =

(a) Rs. 14,000

(b) Rs. 15,000

(c) Rs. 16,000

(d) Rs. 17,000

99) A bank pays 10% rate of interest, interest being calculated half yearly. A sum of ₹ 400 is deposited in the bank. The amount at the end of 1 years will be:

(a) ₹ 439

(b) ₹ 440

(c) ₹ 442

(d) ₹ 441

100) If an amount is kept at S.I. it earns an interest of Rs. 600 in first two years but when kept at compound interest it earns an interest of Rs. 660 for the same period, then the rate of interest and principal amount respectively are :

(a) 20%., Rs. 1,200

(b) 20%, Rs. 1,500

(c) 10%, Rs. 1,200

(d) 10%., Rs. 1,500