HERAMB PROFESSIONAL INSTITUTE

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CA-CPT / MATHEMATICS　　　　　　　　**MARKS: 50**　　　　　　　　**DURATION: 1 HR**

1. Karl Pearson's correlation coefficient is _____
　　(a) independent of shift of origin.
　　(b) independent of change of scale.
　　(c) independent of shift of origin and change of scale.
　　(d) dependent of shift of origin and change of scale.

2. In case of 'Shoe size and intelligence' … correlation is _____
　　(a) positive correlation.　　(b) negative correlation.
　　(c) sphurious correlation.　　(d) None of the above

3. In case of 'Insurance companies' profits and the number of claims they have to pay" correlation is _____.
　　(a) positive correlation　　(b) negative correlation
　　(c) both (a) and (b)　　(d) None of the above

4. Two regression lines coincide when _____.
　　(a) r = 0　　(b) r = 2　　(c) r = 1　　(d) None of the above

5. bxy is called regression coefficient of _____.
　　(a) x on y　　(b) y on x　　(c) both (a) and (b)　　(d) None of the above

6. The angle between the regression lines depends on _____.
　　(a) correlation coefficient　　(b) regression coefficient
　　(c) both (a) and (b)　　(d) None of the above

7. If x and y satisfy the relationship y = -5 + 7x, the value of r is _____.
　　(a) Positive　　(b) -1　　(c) +1　　(d) Negative

8. Maximum value of Rank Correlation coefficient is _____.
　　(a) -1　　(b) +1　　(c) 0　　(d) None of the above

9. If u = 5x + 3, v = 2x + 7, and rxy = 0.53 Find ruv ?
　　(a) 0.53　　(b) 0.47　　(c) – 0.53　　(d) None of the above

10. If the data are collected for two variables simultaneously, it is known as _____.
　　(a) Univariate Data　　(b) Bivariate Data
　　(c) Conditional Data　　(d) Marginal Data

11. In case the correlation coefficient between two variables is 1, which of the following would be the relationship between the two variables?
　　(a) y = p + qx, q > 0　　(b) y = p + qx, q < 0
　　(c) y = p + qx, p > 0, q < 0　　(d) both (a) and (b)

12. What is coefficient of non-determination?
　　(a) r2　　(b) 1 + r2　　(c) 1 - r2　　(d) 1

13. The test of shifting the base is called _____.
      (a) Unit Test (b) Circular Test (c) Time Reversal Test (d) None of the above

14. Circular Test is not satisfied by :
      (a) the Simple Geometric Mean of price relatives.
      (b) the Weighted aggregative with fixed weights.
      (c) Lospeyre's or Paasche's or the Fisher's ideal index.
      (d) None of the above

15. The time reversal test is satisfied by_____.
      (a) Fisher's index number   (b) Paasche's index number
      (c) Laspeyre's index number   (d) None of the above

16. Identify the false statement.
      (a) Base year quantities are taken as weights in Laspeyre's price index number.
      (b) Fisher's ideal index is equal to the Arithmetic mean of Laspeyre's and Paasche's index number.
      (c) Laspeyre's index number formula does not satisfy time reversal test.
      (d) None of the above

17. In 1980, the net monthly income of the employee was ` 800/- p.m. The consumer price index number was 160 in 1980. It rose to 200 in 1984. If the employee has to be rightly compensated, the additional D.A. to be paid to the employee is_____.
      (a) ` 175/-    (b) ` 185/-   (c) ` 200/-    (d) ` 125/-

18. During the certain period the C. L. I. gives up from 110 to 200 and the Salary of a worker is also raised from 330 to 500, then the real terms are _____.
      (a) loss by Rs 50   (b) loss by Rs 75   (c) loss by Rs 90   (d) None of these

19. _____ is most accurate for the construction of index numbers.
      (a) H.M.   (b) A.M.   (c) G.M.   (d) None of these

20. Index no. is equal to_____.
      (a) sum of price relative.   (b) average of the price relative.
      (c) product of price relative. (d) None of the above

21. The index number of prices at a place in 1998 is 355 with 1991 as base. This means _____.
      (a) there has been on an average 255% increase in price
      (b) there has been on an average a 355% increase in price
      (c) there has been on an average a 250% increase in price
      (d) None of the above

22. The formula should be independent of the unit in which or for which price and quantities are quoted in _____.
      (a) Unit Test   (b) Time Reversal Test
      (c) Factor Reversal Test   (d) None of the above

23. Laspeyres' method and Paasche's method do not satisfy _____.
      (a) Unit Test   (b) Time Reversal Test
      (c) both (a) and (b)   (d) None of the above

24. The Cost of Living Index (C. L. I.) is always :

(a) Weighted index   (b) Price index   (c) Quantity index   (d) None of the above

25. When sample size is small then condition for n is
    (a) n <15   (b) n $\leq$ 30   (c) n < 30   (d) none of these

26. A statistic is
    (a) A function of sample observations   (b) A function of population units
    (c) A characteristic of a population   (d) A part of a population

27. A measure of precision obtained by sampling is given by
    (a) Standard error   (b) Sampling fluctuation
    (c) Sampling distribution   (d) Expectation

28. Simple random sampling is very effective if
    (a) The population is not very large
    (b) The population is not much heterogeneous
    (c) The population is partitioned into several sections
    (d) Both (a) and (b)

29. Which sampling adds flexibility to the sampling process ?
    (a) Simple random sampling   (b) Multistage sampling
    (c) Stratified sampling   (d) Systematic sampling

30. In sampling theory, proportion is used to study _____
    (a) Attribute of population   (b) Variable of population
    (c) both   (d) none

31. Statistical data may be collected by complete enumeration called
    (a) Census inquiry   (b) Sample inquiry   (c) both   (d) none

32. A ——————— is the set of measurement / data that are actually selected in the course of an investigation / enquiry.
    (a) Sample   (b) Population   (c) both   (d) none

33. Sampling is the process of obtaining a
    (a) population   (b) sample   (c) frequency (d) none

34. A statistic is a ——— variable.
    (a) Simple   (b) compound   (c) random   (d) none

35. The difference of the actual value and the expected value using a model is
    (a) Error in statistics   (b) Absolute error
    (c) Percentage error   (d) Relative error.

36. There are _____ types of estimates about a population parameter
    (a) five   (b) Two   (c) three   (d) four

37. The nth element of the sequence -1, 2, -4, 8 ... is
    (a) $(-1)^n 2^{n-1}$ (b) 2^{n-1} (c) 2^n (d) none of these

38. Which term of the progression -1, -3, -5, .. Is - 39
    (a) 21st (b) 20th (c) 19th (d) none of these

39. The two arithmetic means between -6 and 14 is
(a) 2/3, 1/3 (b) 2/3, $7\frac{1}{3}$ (c) -2/3, $-7\frac{1}{3}$ (d) none of these

40. The number of numbers between 74 and 25556 divisible by 5 is
(a) 5090 (b) 5097 (c) 5095 (d) none of these

41. t_8 of the series 6, 12, 24, ... is
(a) 786 (b) 768 (c) 867 (d) none of these

42. The sum of the series 243, 81, 27 … to 8 terms is
(a) 36   (b)$\left(36\frac{13}{30}\right)$ (c)$36\frac{1}{9}$ (d) none of these

43. If you save 1 paise today, 2 paise the next day 4 paise the succeeding day and so on, then your total savings in two weeks will be
(a) Rs. 163 (b) Rs. 183 (c) Rs. 163.84 (d) none of these

44. Number of misprints per page of a thick book follows _____.
(a) Normal Distribution (b) Poisson Distribution
(c) Binomial Distribution (d) Standard Normal Distribution

45. In Binomial Distribution 'n' means _____.
(a) no. of trials of the experiment (b) the probability of getting success
(c) no. of success (d) None of the above

46. Standard deviation of Binomial Distribution is _____.
(a) $\sqrt{npq}$ (b) np (c) both (a) and (b) (d) None of the above

47. An unbiased dice is tossed 500 times. The Standard deviation of the no. of 'sixes' in these 500 tossed is _____.
(a) $\frac{50}{6}$ (b) $\frac{500}{6}$ (C) $\frac{5}{6}$ (d) None of the above

48. A fair coin is tossed for six times. Find probability of getting atleast one head.
(a)$\frac{63}{64}$ (b)$\frac{22}{64}$ (c)$\frac{57}{64}$ (d) None of the above

49. A random variable X has the following distribution:

X	1	2	3	4
P(X = x)	c	2c	3c	4c

The value of c is _____.
(a) 0.2   (b) 0.3   (c) 0.1   (d) 0.4

50. For a Normal Distribution, mean deviation is 20 and variance is 25. Find point of inflexion.
(a) 15, 25 (b) -5, 5 (c) 4, 4 (d) None of the above