

D 102714

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Name.....

Reg. No.....

**FOURTH SEMESTER (CUCBCSS-UG) DEGREE EXAMINATION
APRIL 2024**

B.Com.

BCM 4C 04—QUANTITATIVE TECHNIQUES FOR BUSINESS

(Admission Year : 2018 only)

Time : Three Hours

Maximum : 80 Marks

Part A

*Answer all ten questions.
Each question carries 1 mark.*

Choose the correct answer :

1. The statistical technique to judge the reliability of inferences drawn on the basis of sample studies.
 - (a) Interpolation.
 - (b) Statistical quality control.
 - (c) probability.
 - (d) Hypothesis testing.
2. When the variables are varying in the same direction ?
 - (a) negative correlation.
 - (b) positive correlation.
 - (c) perfect correlation.
 - (d) linear correlation.
3. The total number of possible outcomes of arandom experiment is called :
 - (a) Independent Events.
 - (b) Equally likely events.
 - (c) Mutually exclusive events.
 - (d) exhaustive events.
4. Which is not a Property of Binomial distribution ?
 - (a) Mean = np .
 - (b) symmetrical if $p = q = 0.5$.
 - (c) Variance = npq .
 - (d) has only one parameter m .
5. Type I Error is :
 - (a) Rejecting a null hypothesis when it is false.
 - (b) Accepting a null hypothesis when it is true.
 - (c) Rejecting a null hypothesis when it is true.
 - (d) Accepting a null hypothesis when it is false.

Turn over

Fill in the Blanks :

6. _____ measures the flatness of peakedness in a distribution.
7. _____ used to study the degree of relationship among two or more variables.
8. The outcomes are said to be _____ when one does not occur more often than the others.
9. The mean of Poisson distribution is _____.
10. The size of sample is 30 or less than 30, the sample is called _____.

(10 × 1 = 10 marks)

Part B

*Answer any **eight** questions from the following.
Each question carries 2 marks.*

11. Write the nature of Quantitative techniques ?
12. What is the significance of correlation analysis ?
13. How Linear Correlation is different from Non-linear correlation ?
14. Distinguish between correlation and regression
15. What is a Random Experiment ?
16. What are the Limitations of Classical Approach to probability ?
17. Distinguish between Distribution Discrete Probability Distribution and Continuous Probability Distributions.
18. What is Axiomatic Approach (Modern Approach) to Probability ?
19. What are the uses of standard errors ?
20. What is meant by Test Statistic ?

(8 × 2 = 16 marks)

Part C

*Answer any **six** questions from the following.
(Each question carries 4 marks)*

21. Which are the popular statistical quantitative techniques ?
22. Which are the Algebraic Methods of measuring correlation ?

23. From the following data, compute coefficient of correlation (r) between X and Y :

	X series	Y series
Arithmetic Mean	25	18
Square of Deviations from A.M.	136	138
Summation of products of deviations of X and Y series from their respective means	122	
Number of pairs of values	15	

24. Two cards are drawn from a pack of cards at random. What is the probability that it will be (a) a diamond and a heart (b) a king and a queen (c) two kings ?
25. A ball is drawn at random from a box containing 6 red balls, 4 white balls and 5 blue balls. Determine the probability that it is : (i) Red ; (ii) white ; (iii) Blue ; (iv) Not Red ; and (v) Red or White.
26. The average percentage of failure in a certain examination is 40. What is the probability that out of a group of 6 candidates, at least 4 passed in the examination ?
27. What are the Properties of Normal Distribution (Normal Curve)
28. Which are the major parametric tests ?

(6 × 4 = 24 marks)

Part D

Answer any **two** questions from the following.
(Each question carries 15 marks)

29. Calculate coefficient of correlation from following data :

X	0	15	15	14	10	12	10	8	16	15
Y	20	15	12	10	8	5	6	15	12	18

Turn over

30. A systematic sample of 100 pages was taken from a dictionary and the observed frequency distribution of foreign words per page was found to be as follows :

No. of foreign words per page (x) :	0	1	2	3	4	5	6
Frequency (f) :	48	27	12	7	4	1	1

Calculate the expected frequencies using Poisson Distribution.

31. A sample analysis of examination result of 200 students were made. It was found that 46 students had failed, 68 secured IIIrd class, 62 IInd class and the rest were placed in the 1st class. Are these figures commensurate with the general examination results which is in the ratio of 2 : 3 : 3 : 2 for various categories respectively ?

(2 × 15 = 30 marks)