C 21202 (Pages : 4) Name.....

Reg. No.....

FOURTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
APRIL 2022

B.Com.

BCM 4C 04—QUANTITATIVE TECHNIQUES FOR BUSINESS

(2017—2018 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

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

I. Choose the Correct Answer :

1 The statistical technique of determining numerical values of the likely hood of the occurrence of events the :

(a) Interpolation. (b) Statistical quality control.

(c) Probability. (d) Hypothesis testing.

2. The numerical value to express the extent of relationship exists between two or more variables :

(a) Co-efficient of variance. (b) Regression co-efficient.

(c) Correlation Co-efficient. (d) Standard error.

3. Any possible outcome of a random experiment is called :

(a) An event. (b) Random Error.

(c) null set. (d) Mutually exclusive events.

4. Which is not the Property of Normal Distribution or Normal Curve ?

(a) Continuous distribution.

(b) Symmetrical about the mean.

(c) Variance = npq.

(d) Quantities are equi-distant from median.

Turn over

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.

Fill in the Blanks :

6. ———————— measures asymmetry of a distribution.

7. ———————— is used to estimate the value of one variable for a given value of another.

8. Two events are said to be ———————— if the occurrence of one of them excludes the possibility of the occurrence of the other in a single observation.

9. The Variance of Poisson distribution is ————————.

10. The statistical tests based on the assumption that population or population parameter is normally distributed are called ————————.

(10 × 1 = 10 marks)

Part B

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

11. What are the Limitations of Quantitative Techniques

12. What is correlation analysis ?

13. Which are the different Degrees of correlation ?

14. What are the regression lines ?

15. Distinguish between Simple and Compound Events.

16. What is Classical Approach to Probability ?

17. Which are the properties of binomial distribution ?

18. What is the range of Normal Curve ?

19. Which are the assumptions in t-test ?

20. What are the Assumptions of F-distribution ?

(8 × 2 = 16 marks)

Part C

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

21. Which are the popular mathematical quantitative techniques ?

22. Which are the graphic methods of measuring correlation ?

23. Calculate Karl Pearson's co-efficient of correlation from the following information and comment on the result : Standard deviation of X series 10, Standard deviation of Y series 12, Arithmetic mean of X series 25, Arithmetic mean of Y series 35, Summation of product of deviations from actual arithmetic means of two series 24, Number of observations

24. Tickets are numbered from 1 to 100. They are well shuffled and a ticket is drawn at random. what is the probability that the drawn ticket has : (a) an even number, (b) a number 5 or a multiple of 5, (c) a number which is greater than 75, (d) a number which is a square ?

25. A university has to select an examiner from a list of 50 persons, 20 of them women and 30 men, 10 of them knowing Hindi and 40 not. 15 of them being teachers and the remaining 35 not. What is the probability of the University selecting a Hindi-knowing women teacher ?.

26. Four coins are tossed simultaneously. What is the probability of getting (a) 2 heads and 2 tails (b) at least two heads (c) at least one head.

27. Which are the Practical situations where Poisson Distribution can be used ?

28. Explain the Uses of F-distribution.

(6 × 4 = 24 marks)

Part D

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

29. Find correlation between marks obtained by 10 students in mathematics and statistics :

X	:	2	4	6	6	8	9	10	4	7	4
Y	:	12	12	16	15	18	19	19	14	15	10

30. Fit a normal distribution of the following data :

Marks	:	10–20	20–30	30–40	40–50	50–60	60–70	70–80
No. of students	:	4	22	48	66	40	16	4

Turn over

31. The following table gives data regarding election to an office :

Attitude towards election	Economic Status		
	Rich	Poor	Total
Favourable	50	155	205
Non-favourable	90	110	200
Total	140	265	405

Is attitude towards election influenced by economic status of workers.

(2 × 15 = 30 marks)