

23U455

(Pages: 2)

Name :

Reg. No :

FOURTH SEMESTER B.Com. DEGREE EXAMINATION, APRIL 2025

(CBCSS-UG)

(Regular/Supplementary/Improvement)

CC19U BCM4 C04 / CC20U BCM4 C04 - QUANTITATIVE TECHNIQUES FOR BUSINESS

(Commerce: Finance / Taxation - Complementary Course)

(2019 Admission onwards)

Time: 2.5 Hours

Maximum: 80 Marks

Credit: 4

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Define Quantitative technique.
2. Write four mathematical quantitative technique in QT.
3. What you mean by linear and non linear correlation?
4. What are the different methods for calculating correlation?
5. How do you interpret the correlation on the basis of probable error?
6. Write a note on spearman's Rank correlation.
7. What are the properties of regression coefficient?
8. What do you mean by mutually exclusive event?
9. What is the probability of getting 3 white balls in a draw of 3 balls from a box containing 5 white and 4 black balls?
10. Write a note on axiomatic definition of probability.
11. If $P(A)=1/13$, $P(B)=1/4$ and $P(A\cup B)=4/13$. Find $P(A\cap B)$.
12. Explain the steps in fitting of binomial distribution.
13. Explain the steps in fitting of poisson distribution.
14. What are static and dynamic models?
15. What are the characteristics of Linear Programming?

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer *all* questions. Each question carries 5 marks.

16. List out the important areas where quantitative techniques have applications.
17. Explain the importance of correlation in economic and business activities.

18. The odds against X solving a business statistics problem are 8 to 6 and odds in favour of student Y solving the same problem are 14 to 16. What is the probability that (1) problem is solved (2) problem is not solved.
19. State the addition and multiplication theorems of probability.
20. Six dice are thrown together and appearing of 3 on a dice is counted as a success. Find the probability that there will be 4 success.
21. If in the key punching of 80 column cards, the average mistakes per card is 0.3, what percent of cards will have (1) no mistake (2) one mistake (3) three mistakes.
22. Given a normal distribution with mean =40 and S.D =10. Find the value of X that has (1) 15% of the area to its left (2) 20% of the area to its right.
23. Describe some methods which are useful for decision making under uncertainty.

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any *two* questions. Each question carries 10 marks.

24. Find out the co efficient of correlation between price and sales from following data. And also find probable error.

Price	:	100	90	85	92	90	84	88	90	93	95
Sales	:	600	610	700	630	670	800	800	750	700	680

25. The chance that a female worker in a chemical factory will contract an occupational disease is 0.4 and the chance for a male worker is 0.06. Out of 1000 workers in a factory 200 are females. One worker is selected at random and is found to have contacted the disease. What is the probability that the worker is female?
26. A firm manufactures three products A, B and C. The profits are Rs. 30, Rs. 20 and Rs. 40 respectively. The firm has two machines and below is the required processing time in minutes for each machine on each product.

Machine	Products		
	A	B	C
M1	8	6	10
M2	4	4	8

Machine M_1 and M_2 have 4000 and 5000 machine minutes respectively. The firm must manufacture at least 100 A's, 200 B's and 50 C's but not more than 150 A's. Set up LPP to maximize profit.

27. A toy manufacturing company manufactures two types of dolls - basic version doll A and a deluxe version doll B. Each doll of type B takes twice as long to produce as one type A and the company would have time to make a maximum of 2000 per day if it produced only the basic version. The supply of plastic is sufficient to produce 1500 dolls per day (both A and B combined). The deluxe version required a fancy dress of which there are 600 per day available. If the company makes a profit of Rs. 3 and Rs. 5 per doll respectively on doll A and B how many of each should be produced per day in order to maximize the profit.

(2 × 10 = 20 Marks)
