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Name.....

Reg. No.....

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION  
APRIL 2023**

B.Com.

BCM 4C 04—QUANTITATIVE TECHNIQUES FOR BUSINESS

(2019 Admission onwards)

Time : Two Hours and a Half

Maximum : 80 Marks

**Part A***Answer all questions.*

1. Define Quantitative Techniques.
2. What do you mean by decision theory ?
3. Write down any *two* limitations of Quantitative Techniques.
4. What is equally likely event ?
5. What do you mean by simple correlation ?
6. What is rank correlation co-efficient ?
7. "Normal distribution is a limiting case of binomial distribution." Explain.
8. What do you mean by line of regression ?
9. What is an experiment ?
10. A bag contains 500 bolts of which 40 are defective. Find the probability that the bolt selected at random was not defective.
11. Elucidate Baye's Theorem.
12. What is co-efficient of determination ?
13. Give the meaning of the terms ; node and branches.
14. What is decision tree ?
15. What do you mean by causation ?

(15 × 2 = 30, maximum ; Ceiling 25 Marks)

**Turn over**

**Part B***Answer all questions.*

16. Explain the Application of Quantitative Techniques in Business.
17. Out of numbers 1 to 150, one number is selected at random, what is the probability that it is divisible by 3 or 5.
18. Discuss the characteristics of Poisson Distribution.
19. Explain the addition rule of probability.
20. Explain the nature of Quantitative Techniques.
21. What are the properties of regression co-efficient ?
22. A company knows on the basis of its past experience that 3 % of the bulbs manufactured are defective. Calculate the probability that a bulb selected at random from a sample of 100 bulb is not defective.
23. What is Linear Programing Problem ? Explain the steps in the formulation of LPP.

(8 × 5 = 40, maximum ; Ceiling 35 Marks)

**Part C***Answer any two questions.*

24. Calculate the co-efficient of correlation between the height of father and height of son from the following data.
 

|                                 |   |     |     |     |     |     |     |     |     |
|---------------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|
| Height of Father in centimetres | : | 165 | 166 | 167 | 167 | 168 | 169 | 170 | 172 |
| Height of Son in centimetres    | : | 167 | 168 | 165 | 168 | 172 | 172 | 169 | 171 |
25. Two coins are tossed. What is the probability of getting two head, given that at least one coin show a head ?
26. A person want to invest up to an amount of ₹ 50,000 in fixed income securities. His broker recommends investing in two Bonds ; Bond A yielding 8 % and Bond B yielding 12 %. After some consideration, he decided to invest at most of ₹ 25,000 in Bond B and at least ₹ 18,000 in Bond B. He also wants the amount invested in Bond A to be at least equal to the amount invested in Bond B. What should be the broker recommend if the investor want to maximize his return on investment ? Formulate this situation as a Linear Programing Problem.
27. Discuss the features of Normal Distribution.

(2 × 10 = 20 marks)