FOURTH SEMESTER B.Com. DEGREE EXAMINATION, APRIL 2024
(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. Write four uses of quantitative technique.

2. Even a high degree of correlation does not mean that a relationship of cause and effect exists between the variables. Discuss.

3. What you mean by positive and negative correlation?

4. Write notes on scatter diagram.

5. Define coefficient of concurrent deviation.

6. Write a short note about regression line.

7. What is complement of a set?

8. Define probability.

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. What is the relative frequency theory of probability?

11. State multiplication rule of probability.

12. Explain Baye's Theorem.

13. Write a note on decision tree.

14. What are static and dynamic models?

15. What are the charcteristics of Linear Programming ?

(Ceiling: 25 Marks)

Part B (Paragraph questions)

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

16. Explain the types of probability distribution

17. Given A, B and C are independent events P(A)=0.3, P(B)=0.2 and P(C)=0.4. Find the probability for (1) all occurring and (2) none occurring.

18. The probability that a student Mr X passes Mathematics is 2/3, the probability that he passes statistics is 4/9. If the probability of passing at least one subject is 4/5, what is the probability that Mr X will pass both the subject?

19. Assuming that 1/2 of the population is vegetarian so that choice of an individual being a vegetarian is 1/2. Assuming that 100 investigators can take a sample of 10 individuals each to see whether they are vegetarians, how many investigators would you expect to report that three people or less were vegetarians?

20. 3% electric bulbs manufactured by a company are defective, find the probability that in a sample of 100 bulbs, exactly 5 bulbs are defective.

21. X follows poisson distribtion with parameter m=2. Find P(X=0), P(X=1), P(X<2).

22. What are the properties of Normal Distribution?

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. Establish correlation between the following pair of series and find out the probable error. Also interpret.
    X : 17 19 20 22 24 27 29 30 33 35
    Y : 87 85 80 78 75 72 70 65 62 60

25. The ranking of 10 students in two students in two subject A and B are as follows
    A : 3 5 8 4 7 10 2 1 6 9
    B : 6 4 9 8 1 2 3 10 5 7
    Find out the rank correlation

26. What are the different schools of thought on the intrepreation of probability? How does each school define probabilty? Explain with suitable examples.

27. Solve the LPP by Graphically
    Maximize z $=7X_1 + 5X_2$
       St. $X_1 + 2X_2 \leq 6$
        $4X_1 + 3X_2 \leq 12$
        $X_1\ X_2 \geq 0$

(2 × 10 = 20 Marks)

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