

**FOURTH SEMESTER B.B.A. DEGREE EXAMINATION, APRIL 2022**

(CBCSS - UG)

**CC19U BBA4 C04 - QUANTITATIVE TECHNIQUES FOR BUSINESS**

(B.B.A. - Complementary Course)

(2019 Admission onwards - Regular/Supplementary/Improvement)

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. State four operation research technique in QT.
3. Name the four components of Time series.
4. What are the uses of studying secular trend?
5. Index Numbers are called Economic Barometers. Why?
6. Which are the different kinds of Index Numbers?
7. Why is study of correlation important?
8. What you mean by simple, partial and multiple correlation?
9. What are the methods of studying simple correlation?
10. What are the merits of rank correlation?
11. What is union of two sets?
12. Explain sure, impossible and uncertain events.
13. There are 17 balls numbered from 1 to 17 in a bag. If a person selects one at random what is the probability that the number printed on the ball be an even number greater than 9?
14. What is theoretical distributions?
15. What is Normal distribution?

**(Ceiling: 25 Marks)****Part B** (Paragraph questions)Answer **all** questions. Each question carries 5 marks.

16. Explain the role of quantitative technique in business management.
17. Define Time series. Explain its significance and utility.
18. In the construction of Index Numbers the advantages of Geometric Mean are greater than those of Arithmetic Mean. How?
19. Explain the difference between correlation and regression analysis.
20. From the given data given below obtain the regression equation of x on y.

X : 2 3 7 8 10  
 Y : 10 9 11 8 12

21. The probability that a contractor will get a plumbing contract is  $\frac{2}{3}$  and the probability that he will not get an electric contract is  $\frac{5}{9}$ . If the probability of getting at least one contract is  $\frac{4}{5}$ , what is the probability that he will get both the contracts?
22. State the addition and multiplication theorems of probability.
23. 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?

**(Ceiling: 35 Marks)**

**Part C (Essay questions)**

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

24. Given the following:

Commodity	Base year		Current year	
	Price	Quantity	Price	Quantity
A	1	10	1.5	8
B	5	12	6.0	10
C	8	5	10.0	2

Demonstrate the computation of price index number for current year using (1) Laspeyer's formula, (ii) Paasche's formula, (iii) Marshall Edgeworth method (iv) Weighted arithmetic average of price relative, weights being values in the base year.

25. Find Karl Pearson coefficient correlation between the values of X and Y given below. Also find probable error and interpret.

X : 78    89    96    69    59    79    68    61  
 Y : 125   137   156   112   107   136   123   108

Assume 69 and 112 as the mean values for X and Y respectively.

26. 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 contracted the disease. What is the probability that the worker is female?
27. Eight coins were tossed together, 256 times. Find the expected frequencies of heads. Find mean and standard deviation

**(2 × 10 = 20 Marks)**

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