

C 3466

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Name.....

Reg. No.....

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2021**

B.B.A.

BBA 4C 04—QUANTITATIVE TECHNIQUES FOR BUSINESS

Time : Two Hours and a Half

Maximum : 80 Marks

Section A

*Answer at least ten questions.
Each question carries 3 marks.
All questions can be attended.
Overall Ceiling 30.*

1. What are Quantitative Techniques ?
2. When two or more variables are said to be correlated ?
3. Which are the different Degrees of correlation ?
4. What are regression lines ?
5. What are regression co-efficients ?
6. Which are the components of a time series ?
7. Write a note on the method of Semi averages.
8. What are Index Numbers ?
9. What are the advantage and disadvantages of Laspeyres' Price Index ?
10. Which are the Methods of Describing a Set ?
11. What are Mutually exclusive events ?
12. What are Disjoint Sets ?
13. What are the limitations of Classical Approach (Priori Probability).
14. What are the conditions for using Binomial distribution ?
15. Distinguish between Discrete Probability Distribution and Continuous Probability Distributions.

(10 × 3 = 30 marks)

Turn over

Section B

Answer at least five questions.
 Each question carries 6 marks.
 All questions can be attended.
 Overall Ceiling 30.

16. How Quantitative Techniques can be classified ?
17. How correlation can be classified ?
18. The line of regression of marks in statistics (X) on marks in accountancy (Y) for a class of 50 students is $3Y - 5X + 180 = 0$. Average mark in accountancy is 44 and variance of marks in statistics is $\frac{9}{16}$ of variance of marks in accountancy. Find :
- Average marks in Statistics.
 - Co-efficient of correlation between X and Y.
19. The wages of certain factory workers are given as below. Using 3 yearly moving average indicate the trend in wages :
- | | | | | | | | | | | |
|-------|---|------|------|------|------|------|------|------|------|------|
| Year | : | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Wages | : | 1200 | 1500 | 1400 | 1750 | 1800 | 1700 | 1600 | 1500 | 1750 |
20. What are the problems involved in construction of index numbers ?
21. Rewrite the following examples using set notation : (i) First ten even natural numbers ; (ii) Set of days of a week ; (iii) Set of months in a year which have 30 days, (iv) The numbers 3, 6, 9, 12, 15. ; and (v) The letters *m, a, t, h, e, m, a, t, i, c, s*.
22. The average percentage of failure in a certain examination is 40. What is the probability that out of a group of 6 candidates, at least 4 passed in the examination ?
23. An aptitude test was conducted for selecting officers in 4 bank from 1000 students. The average score is 42 and the Standard Deviation is 24. Assume normal distribution for scores and find :
- The number of candidates whose score exceed 58.
 - The number of candidates whose score lie between 30 and 66.

(5 × 6 = 30 marks)

Section C

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

24. From the data given belows calculate the rank correlation between X and Y :

| | | | | | | | | | |
|---|---|-----|-----|-----|-----|-----|-----|-----|-----|
| X | : | 78 | 89 | 97 | 69 | 59 | 79 | 68 | 57 |
| Y | : | 125 | 137 | 156 | 112 | 107 | 136 | 123 | 108 |

25. Fit a straight line trend to the following data by Least Square Method and estimate the sale for the year 2012 :

| | | | | | | | |
|-----------------|---|------|------|------|------|------|------|
| Year | : | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Sale (in '000s) | : | 70 | 80 | 96 | 100 | 95 | 114 |

26. Explain different definitions of Probability.
27. 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 |

(2 × 10 = 20 marks)