

C 21478

(Pages : 3)

Name.....

Reg. No.....

**FOURTH SEMESTER (CBCSS-UG) DEGREE EXAMINATION, APRIL 2022**

B.B.A.

BBA 4C 04—QUANTITATIVE TECHNIQUES FOR BUSINESS

(2019 Admission onwards)

Time : Two Hours and a Half

Maximum : 80 Marks

**Section A***Answer atleast ten questions.**Each question carries 3 marks.**All questions can be attended.**Overall ceiling 30.*

1. List the mathematical techniques used for business decisions.
2. Write the significance of correlation analysis.
3. Which are the graphic methods of ascertaining correlation ?
4. What are the features of regression coefficients ?
5. Write a note on least square method of computing regression equation.
6. What are seasonal variations ?
7. Which are the methods used for studying the trend component in a time series ?
8. What are the uses of index numbers ?
9. What are the advantages of fisher's ideal method ?
10. What is meant by 'difference of two sets' ?
11. What is a random experiment ?
12. What are equally likely events ?
13. What are Venn diagrams ?
14. What are the properties of binomial distribution ?
15. Which are the practical situations where Poisson distribution can be used ?

(10 × 3 = 30 marks)

**Turn over**

**Section B**

Answer atleast **five** questions.

Each question carries 6 marks.

All questions can be attended.

Overall ceiling 30.

16. What are the Functions of Quantitative Techniques ?
17. From the following data, compute coefficient of correlation ( $r$ ) between X and Y :

	X series	Y series
Arithmetic Mean	... 25	18
Square of Deviations from A.M.	... 136	138
Summation of products of deviations of X and Y series from their respective means	...	122
Number of pairs of values	...	15

18. Following data relates to marks in accounts and statistics in B. Com. (Hons.) I Year Examination of a particular year in University of Delhi :

	Accounts	Statistics
Mean	... 30	35
Standard deviation	... 10	7
Coefficient of correlation	...	0.8

Find two regression equations and calculate the expected marks in accounts if marks secured by a student in statistics are 40.

19. Calculate 4 yearly moving average of the following data :

Year	...	2005	2006	2007	2008	2009	2010	2011	2012
Wages	...	1150	1250	1320	1400	1300	1320	1500	1700

20. Compute the price index as per the following methods : (1) Laspeyres' and (2) Paasche's from the following data :

Item	$p_0$	$q_0$	$p_1$	$q_1$
A	10	4	12	6
B	15	6	20	4
C	2	5	5	3
D	4	4	4	4

21. Which are the different of Sets ?
22. A bag contains 7 red, 12 white and 4 green balls. What is the probability that : (a) 3 balls drawn are all white and (b) 3 balls drawn are one of each colour ?
23. What are the Properties of Normal Distribution (Normal Curve) ?

(5 × 6 = 30 marks)

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

24. Find correlation between age of husband and age of wife.

Age of Husband (X) ...	46	54	56	56	58	60	62
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Age of Wife (Y) ...	36	40	44	54	42	58	54
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25. Fit a straight line trend to the following data and estimate the likely profit for the year 2012. Also calculate the trend values :

Year ...	2003	2004	2005	2006	2007	2008	2009
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Profit (in lakhs of ₹) ...	60	72	75	65	80	85	95
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26. You note that your officer is happy on 60% of your calls, so you assign a probability of his being happy on your visit as 0.6 or 6/10. You have noticed also that if he is happy, he accedes to your request with a probability of 0.4 or 4/10 whereas if he is not happy, he accedes to the request with a probability of 0.1 or 1/10. You call one day, and he accedes to your request. What is the probability of his being happy ?

27. A Systematic sample of 100 pages was taken from a dictionary and the observed frequency distribution of foreign words per page was found to be as follows :

No. of foreign words per page (x) :	0	1	2	3	4	5	6
Frequency (f) :	48	27	12	7	4	1	1

Calculate the expected frequencies using Poisson Distribution.

(2 × 10 = 20 marks)