

C 21478

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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
Square of Deviations from A.M.	...	136
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
Standard deviation	...	10
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
Age of Wife (Y) ...	36	40	44	54	42	58	54

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
Profit (in lakhs of ₹) ...	60	72	75	65	80	85	95

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)