



QP CODE: E05077



E05077

Reg No :

Name :

B.COM DEGREE CBCS PRIVATE EXAMINATION, JANUARY 2021

Fourth Semester

B.COM

CORE - CO4CRT12 - QUANTITATIVE TECHNIQUES FOR BUSINESS-II

2017 ADMISSION ONWARDS

44122CAC

Time: 3 Hours

Max. Marks : 80

Instructions: This question paper contains two sections. Answer Section I questions in the answer book provided. Section II Internal Examination questions must be answered in the question paper itself. Follow the detailed instructions given under Section II.

Section I

Part A

Answer any ten questions.

Each question carries 2 marks.

1. If the Co-variance between X and Y is 488 and variance of X and Y are 824 and 325 respectively. Find out co-efficient of correlation.
2. Calculate coefficient of correlation.
X 1 3 5
Y 10 6 4
3. Write a note on probable error.
4. What is multiple regression?
5. Where will the regression lines coincide?
6. What do you mean by Weighted Index Number?
7. The following table gives the group index numbers and the corresponding group weights with reference to cost of living for a given year. Construct the overall cost of living for the year.

Group	Index Number	Weight
Food	360	60
Clothing	295	5
Fuel & Lighting	287	7
House Rent	110	8
Miscellaneous	315	20



8. What do you mean by Fixed Base Index Number?
9. What do you mean by Time Series?
10. What are the two types of Secular Trend?
11. Describe union of an event.
12. Two unbiased dice are thrown. Find the probability that throw show the same number of dots in both the dice.

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Define correlation . Explain its importance as a quantitative technique.
14. What is Concurrent Deviation method? Explain its merits and demerits.
15. If AM of X is 25 and AM of Y is 120, bxy is 2 .Estimate the value of X when Y is 130.
16. From the following data, calculate price index under Simple Aggregative Method and Simple Average of Relatives Method:

Commodities	Price in 2017	Price in 2018
Rice	12	14
Wheat	14	18
Oil	40	55
Pulses	25	35

17. From the following data, compute Laspeyre's, Paasche's and Fisher's Index Numbers, taking 2012 as the base year.

Articles	2012		2018	
	Price	Quantity	Price	Quantity
A	10	4	15	3
B	30	12	50	10
C	40	18	55	14
D	25	12	45	6

18. Apply the method of semi-averages for determining the trend.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018
Production (in tonnes)	10	12	15	20	18	25	24	28	34

19. Trend equation obtained is $y=21+1.2x$ with 2000 = 0. find the trend equation shifting the origin to 1998.

20. An urn contains 5 white and 7 black balls. A second urn contains 7 white and 8 black balls. One ball is drawn at random from the first Urn and put into second Urn from which a ball is drawn. what is the probability that it is white.



21. A husband and a wife appear in an interview for two vacancies in the same post. The probability of husband's selection is $\frac{1}{7}$ and that of wife's selection is $\frac{1}{5}$. What is the probability that a) both of them will be selected; b) only one of them will be selected; c) none of them will be selected.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. From the following data find out the rank correlation co-efficient.

X 50 60 65 50 55 60 50 30 40

Y 10 20 25 15 20 30 35 5 7

23. Obtain the equations of the two lines of regression for the data given below:

X	1	2	3	4	5	6	7	8	9
Y	9	8	10	12	11	13	14	16	15

24. Explain different methods of measuring trend.

25. An insurance company insured 2000 scooter drivers, 4000 car drivers and 6000 truck drivers. The probability of accident is 0.01, 0.03 and 0.15 respectively. One of the insured person meets with an accident. What is the probability that he is a scooter driver

(2×15=30)