QP CODE: 19101417

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Reg No : .....

Name : .....

B.Com DEGREE (CBCS) EXAMINATION, MAY 2019

Fourth Semester

Core Course - CO4CRT12 - QUANTITATIVE TECHNIQUES FOR BUSINESS-II

(Common for B.Com Model II Computer Applications ,B.Com Model II Finance & Taxation ,B.Com Model II Marketing ,B.Com Model II Travel & Tourism ,B.Com Model III Office Management & Secretarial Practice ,B.Com Model III Taxation ,B.Com Model III Computer Applications ,B.Com Model III Travel & Tourism ,B.Com Model I Computer Applications ,B.Com Model I Co-operation ,B.Com Model I Marketing ,B.Com Model I Finance & Taxation ,B.Com Model I Travel & Tourism ,B.Com Model II Logistics Management)

2017 Admission onwards

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Maximum Marks: 80 **Time: 3 Hours**

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. What is a Correlation Graph?
2. What is concurrent deviation method?
3. Write a note on probable error.
4. Why the line of regression analysis are called' line of best fit
5. Construct the regression equations of X on Y and Y on X from the following information. Arithmetic mean of X and Y is 6 and 8 respectively, bxy is -1.3 and byx is -0.65.
6. What do you mean by Index Numbers?
7. Explain Paasche's method of constructing index numbers.
8. What do you mean by Chain Base Index Number?
9. What is meant by Time Series Analysis?
10. Briefly explain the free hand curve method.
11. What is compliment of an event
12. In how many ways can the letters of the word "ASSASSINATION " be arranged?

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. What are the utilities of correlation analysis?

14. Given :

	X Series	Y Series
No. of items	10	10
Total of deviations	-170	-20
Total of the squares of deviations	8288	2264

Total of the products of deviations from their respective assumed mean 3044. Find the Karl Pearson's Co-efficient of Correlation.

15. Explain the concept of regression and point out its usefulness in dealing with business problems.

16. From the following data, construct index numbers under Simple Aggregate Expenditure method and Average of Relative Method.

Commodities	Price in 2017	Price in 2018
A	60	80
B	30	45
C	18	22
D	120	150
E	65	65

17. An enquiry into the budget of certain middle class families in a town gave the following information.

Heads of Expenditure	Food	Rent	Clothing	Fuel	Sundries
Price in 2012	100	20	70	20	40
Quantity in 2012	30	15	20	10	25
Price in 2016	90	20	60	15	55
Quantity in 2016	25	20	30	15	10

Compute weighted arithmetic mean of price relatives taking P0Q1 as weights of the items

18. What are the components of Time Series Analysis?

19. Applying the semi-averages method determine the trend from the data given below.

Years	2010	2011	2012	2013	2014	2015	2016	2017
Production (units)	8000	6000	10000	12000	11000	15000	14000	16000

20. Two six faced dice with face numbers 1,2,3,4,5,6 are thrown simultaneously once. Find the probability that i) both the dice would show 4; ii) One of them would show '3' and the other '5' and iii) the sum of their face value works to be 8; iv) The sum of the numbers is an even number.

21. The odds against A speaking the truth are 4:6 while the odds in favour of B speaking the truth are 7:3. i)What is the probability that A and B contradict each other in stating the same fact? ii) If A and B agree on a statement, what is the probability that this statement is true?

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. From the following data relating to the marks secured by a batch of candidates ascertain the rank correlation co-efficient and interpret results.

Candidates	A	B	C	D	E	F	G	H	I	J
Marks in Statistics	55	40	50	35	37	18	30	22	15	5
Marks in Maths	58	60	48	50	30	32	45	37	42	52
Marks in Economics	70	68	75	40	80	50	30	85	25	90

23. Given the bi-variate data

X	2	4	5	6	8	11
Y	18	12	10	8	7	5

1. Fit the two regression lines and estimate Y when X is 10 and X when Y is 8.5.
2. Interpret the regression Co-efficients.

24. Below are given the annual production of X Ltd.

Year	2010	2011	2012	2013	2014	2015	2016
Production (in tonnes)	70	75	90	91	95	98	100

(i) Fit a straight line by the method of least squares tabulate the trend values.

(ii) Estimate the production for the year 2017.

(iii) Eliminate the trend using Additive Model. What components of the time series are left over?

(iv) Convert annual trend equation to monthly trend equation.

25. Suppose, a black ball has been drawn from one of the three bags, the first containing three black balls and seven white, the second five black and three white, the third, eight black balls and four white. What is the probability that it was drawn from the first bag?

(2×15=30)