K20U 0346

Reg. No. : .....

Name : .....

II Semester B.Com. Degree (CBCSS-Supple./Improv.) Examination, April 2020
(2014-2018 Admissions)
Complementary Course
2C02 COM : QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

Time : 3 Hours Max. Marks : 40

PART – A

Answer **all** questions. **Each** question carries ½ mark.

1. Two events are said to be _____ event when both cannot happen simultaneously in a single trial.
2. The additive model of a time series is expressed as _____ .
3. _____ in time series refers to such variations in business activity which do not repeat in a definite pattern.
4. The value of coefficient of correlation is always lie between _____ and _____ **(4×½=2)**

PART – B

Answer **any four** questions. **Each** question carries **1** mark.

5. What is scatter diagram ?
6. Define Regression.
7. What is Rank Correlation ?
8. What is moving average ?
9. What is permutation and combination ?
10. What is mutually exclusive events ? **(4×1=4)**

PART – C

Answer **any six** questions (**Not** exceeding **one** page). **Each** question carries **3** marks.

11. What do you mean by normal distribution ?
12. Distinguish between correlation and regression.
13. Calculate the coefficient of correlation from the following data :

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

P.T.O.

14. What is the probability that a leap year, selected at random, will contain 53 Sundays ?

15. Two boys were asked to rank 7 different brands of mobile phones. The ranks given by them are given as :

Brands of mobile phones	A	B	C	D	E	F	G
Vijay	2	1	4	3	5	7	6
Surya	1	3	2	4	5	6	7

Calculate Spearman's rank correlation coefficient.

16. From the following data obtain the two regression equations and calculate the correlation coefficient.

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

17. Fit a straight line trend to the following series by the method of least squares.

Year	2011	2012	2013	2014	2015	2016	2017
Production (in thousand tons)	10	13	12	14	12	16	14

18. The probability that a contractor will get a plumbing contract is 2/3 and the probability that he will not get an electric contract is 5/9. If the probability of getting at least one contract is 4/5, what is the probability that he will get both the contracts ? **(6×3=18)**

PART – D

Answer **any two** questions. **Each** question carries **8** marks.

19. What is time series analysis ? Discuss the components of time series.

20. The following data relate to the heights of fathers and sons :

Height of Fathers (in inches) X :	71	68	73	69	67	65	66	67
Heights of Sons (in inches) Y :	69	72	70	70	72	67	68	64

Find the two regression equations and estimate the height of a son whose father's height is 67.5 inches.

21. An urn contains 8 red, 3 white and 9 blue balls. If 3 balls are drawn at random, determine the probability that (a) all 3 are red (b) all 3 are white (c) 2 are red and 1 is blue (d) at least one is white. **(2×8=16)**