K23U 1945

Reg. No. : ....

Name : ....

II Semester B.Com. Degree (CBCSS – OBE – Regular/Supplementary/ Improvement) Examination, April 2023
(2019 Admission Onwards)
Complementary Elective Course
2C01 COM : QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

Time : 3 Hours   Max. Marks : 40

SECTION – A

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

1. What is perfect correlation ?

2. What is linear regression ?

3. In an examination paper on statistics 10 questions are set. In how many different ways can an examinee choose 7 questions ?

4. What is Type I error ?

5. What is seasonal variation in time series ?

6. How many different words can be formed with the letters of the word "SUNDAY" ?

7. What is independent event ?

8. Define Poisson distribution.   (6×1=6)

SECTION – B

Answer **any six** questions. **Each** question carries **3** marks.

9. What are the merits of scatter diagram ?

10. From the following data obtain the regression equation X on Y.

X	91	97	108	121	67	124	51	73	111	57
Y	71	75	69	97	70	91	39	61	80	47

P.T.O.

11. What are the uses of Chi-square test ?

12. Find a 4 yearly moving average from the following data :

Year	2011	2012	2013	2014	2015	2016	2017	2018
Output	301	454	393	414	424	464	466	492

13. A committee of 4 has to be formed from among 3 Economists, 4 Engineers, 2 statisticians and 1 doctor.

   a) What is the probability that each of the four professions is represented on the committee ?

   b) What is the probability that the committee consists of the doctor and at least one economist ?

14. The following table gives the age of cars of a certain make and annual maintenance costs. Estimate the maintenance cost for 12 years old car.

Age of cars in years	2	4	6	8
Maintenance cost (in Rs. 100)	10	20	25	30

15. What are the uses of regression analysis ?

16. Suppose that a manufactured product has 2 defects per unit of products inspected. Use Poisson distribution and calculate the probability of finding a product

   a) Without any defect,

   b) 3 defects and

   c) 4 defects.

   (Given $e^{-2} = 0.135$).

(6×3=18)

SECTION – C

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

17. Obtain rank correlation coefficient of the following data :

Candidate	A	B	C	D	E	F	G	H	I	J
Marks by first Judge	26	25	38	37	41	45	60	42	53	57
Marks by second Judge	52	25	30	35	48	77	38	43	68	64

18. Write a note on procedure for testing hypothesis.

19. Fit a straight line trend to the following data by the method of least squares. Also estimate the trend value for 2010.

Year	2003	2004	2005	2006	2007
Profit (Rs. in lakhs)	45	56	78	46	75

(2×8=16)