

C 32470

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Name.....

Reg. No.....

FIRST SEMESTER M.Com. DEGREE EXAMINATION, DECEMBER 2017

(CUCSS)

MC 1C2—QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

(2015 Admissions)

Time : Three Hours

Maximum : 36 Weightage

Part A

Answer all questions.

Each question carries 1 weightage.

1. Explain the term 'Level of Significance'.
2. Write short note on 'Confidence Interval of a parameter'.
3. What are non-parametric tests ?
4. Explain \bar{X} - chart.
5. Differentiate positive correlation from negative correlation.
6. What is meant by analysis of variance ?

(6 × 1 = 6 weightage)

Part B

Answer any six questions.

Each question carries 3 weightage.

7. Explain the procedure of Kruskal-Wallis test.
8. Explain the features of SPSS. Also list the important difficulties while using SPSS.
9. What is 'Statistical Quality Control' ? Describe the preparation of Range-chart.
10. The following are the numbers of tickets issued by two sales men on II days :

I Salesman	:	7	10	14	12	6	9	11	13	7	6	10
II Salesman	:	10	13	14	11	10	7	15	11	10	9	8

Use the sign test at 1 % level of significance to test the null hypothesis that on the average the two salesmen issue equal number of tickets.

Turn over

11. Random samples of 250 bolts manufactured by machine A and 200 bolts manufactured by machine B showed 24 and 10 defective bolts respectively. Test the hypothesis that the machines are showing different qualities of performance. Use 5 percent level of significance.
12. Below are given the yields per acre of wheat for six plots entering a crop competition, three of the plots being sown with wheat of variety A and three with B :

Variety	Yield in field per acre		
	1	2	3
A	30	32	22
B	20	18	16

Set up a table of analysis of variance and calculate F. State whether the difference between the yields of the two varieties is significant taking 7.71 as the table of F at 5 % level for $V_1 = 1$ and $V_2 = 4$.

13. A bag contains defective articles the exact number of which is not known. A sample of 400 from the bag gives 40 defective article. Estimate the percentage of defective articles in the bag and assign limits within which the percentage probably lies.
14. Calculate the coefficient of correlation from the following data :

x	:	1	2	3	4	5
y	:	6	8	11	8	12

(6 × 3 = 18 weightage)

Part C

Answer any two questions.

Each question carries 6 weightage.

15. The following table gives the classification of 200 students according to grades secured in an oral examination and to their year of graduation :

Year	Grade				Total
	A	B	C	D	
I	5	15	15	15	50
II	15	20	25	10	70
III	30	25	20	5	80
Total	50	60	60	30	200

Test the hypothesis that the grades secured by students is independent of their year of graduation.

16. From the data given below find :

- (a) The two regression equations.
- (b) The coefficient of correlation between marks in Economics and Statistics.
- (c) The most likely marks in statistics when the marks in Economics are 30 :

Marks in Economics	:	25	28	35	32	31	36	29	38	34	32
Marks in Statistics	:	43	46	49	41	36	32	31	30	33	39

17. Discuss the importance of quantitative techniques in taking business decisions. What are the limitations of quantitative techniques ?

(2 × 6 = 12 weightage)