

**FIRST SEMESTER M.Com. DEGREE EXAMINATION, NOVEMBER 2018**

(CUCSS—PG)

M.Com.

**MC 1C 02—QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS**

(2015 Syllabus Year)

Time : Three Hours

Maximum : 36 Weightage

**Part A**

*Answer all questions.*

*Each question carries 1 weightage.*

1. Distinguish between 'point estimate' and 'interval estimate'.
2. Distinguish between a 'Parameter' and a 'Statistic'.
3. Explain the term 'Standard error'.
4. Explain Type I and Type II errors.
5. What is Chi-square test ?
6. What is C-Chart ? When is it used ?

(6 × 1 = 6 weightage)

**Part B**

*Answer any six questions.*

*Each question carries 3 weightage.*

7. Write a note on SPSS.
8. Explain the procedure followed in testing of a hypothesis.
9. Write notes on the following :—
  - (a) Mann-Whitney U-test.
  - (b) Kruskal-Wallis K-test.

Turn over

10. On 15 Occassions Mr. X had to wait 9, 5, 3, 8, 8, 6, 9, 7, 2, 10, 7, 7, 6, 10, 6 minutes for bus. Use the sign test at 5 % level of significance to test the bus's claim that on the average Mr. X has to wait 5 minutes.
11. Two laboratories are independently producing drugs that provide relief to arthritis sufferers. The first drug is tested on 200 arthritis victims and 120 got relief. The second drug is tested on 150 victims and 80 got relief. Test that the effectiveness of two drugs at 5 % level of significance does not differ significantly.

12. 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

13. In an experiment on the immunization of goats from anthrax, the following results were obtained. Derive your inference on the efficiency of the vaccine.

		<i>Died</i>	<i>Survived</i>	<i>Total</i>
Innoculated	...	2	10	12
Net Innoculated	...	6	6	12
Total	...	8	16	24

14. The increase in weights due to two kinds of food are given below. Can it said that food B is better than food A ?

Food A :	49	53	51	52	47	50	52	53
Food B :	52	55	52	53	50	54	54	53

(6 × 3 = 18 weightage)

## Part C

Answer any **two** questions.  
Each question carries 6 weightage.

15. To study the performance of three detergents and three water temperature the following whiteness readings were obtained with specially designed equipment :

Water Temperature		Detergent A	Detergent B	Detergent C
Cold Water	...	57	55	67
Warm Water	...	49	52	68
Hot Water	...	54	46	58

Perform a two way analysis of variance using 5 % level of significance (Given :  $F = 6.94$ ).

16. You are given the data relating to purchases and sales. Obtain the two regression equations by the method of least squares and estimate the likely sales when the purchases equal 100.

Purchases	:	62	72	78	76	81	56	76	92	88	49
Sales	:	112	124	131	117	132	96	120	136	97	85

17. Explain the role of quantitative techniques in the field of business and industry in modern times. Give a few examples in support of your answer.

(2 × 6 = 12 weightage)