D 93083

Name...............................

Reg. No....................

FIRST SEMESTER M.Com. DEGREE EXAMINATION, DECEMBER 2015

(CUCSS)

1.2—QUANTITATIVE TECHNIQUES

(2010-2014 Admissions)

Time : Three Hours

Maximum : 36 Weightage

Part A

*Answer **all** questions.*
*Each question carries **1** weightage.*

1. State the concept of conditional probability.

2. Mention the parameters of the binomial, Poisson and normal distributions.

3. Write a short note on multistage and cluster sampling.

4. State any two assumptions of t-test.

5. What is meant by quality of a product ?

6. What techniques are used to solve decision-making problems under uncertainty ?

(6 x 1 = 6 weightage)

Part B

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

7. A candidate is selected for interview for three posts. For the first post there are three candidates, for the second there are 4 and for the third there are 2. What are chances of his getting at least one post ?

8. The mean life of bulbs is normally distributed with mean **120** days and standard deviation 20 days. If 1000 such bulbs are installed then find how many bulbs will fail in less than 90 days.

9. Write short note on F-distribution and a test based on this distribution.

10. 500 apples are taken at random from a large basket and 50 are found to be bad. Estimate the proportion of bad apples in the basket and assign limits within which the percentage of bad apples lies.

11. How does quality affect a supplier's economy ?

12. Briefly explain 'expected value of perfect information', with examples.

13. Determine the optimal minimax strategies for each player in the following game.

$$
\begin{array}{c c|c c c c|}
 & & \multicolumn{4}{c}{\text{B}} \\
 & & \mathbf{B_1} & \mathbf{B_2} & \mathbf{B_3} & \mathbf{B_4} \\
\hline
 & \text{A}_1 & -5 & 2 & 0 & 7 \\
\text{A} & \text{A}_2 & 5 & 6 & 4 & 8 \\
 & \mathbf{A_3} & 4 & 0 & 2 & -3 \\
\hline
\end{array}
$$

14.   Discuss the significance of statistical quality control. Also explain control chart for mean.

(6 x 3 = 18 weightage)

Part C

Answer any two questions.
Each question carries 6 weightage.

15.   Discuss the major features of Binomial and Poisson Distribution. Under what conditions Binomial Distribution tends to poisson Distribution ?

16.   The following data gives the number of defective items in 10 samples of size 100 each.

Sample No.	1	2	3	4	5	6	7	8	9	10
No of defectives	2	1	0	5	1	3	3	0	0	2

Prepare a suitable control chart.

17.   The following figure relatet to the number of units sold in five different areas by four salesman.

Salesman	No of Units sold in Areas			
	1	2	3	4
A	70	72	78	75
B	90	100	95	105
C	85	80	90	95
D	60	65	72	78

Is there a significant difference in the efficiency of these salesmen ?

(2 x 6 = 12 weightage)