

D 53078

(Pages : 3)

Name..

Reg. No

FIRST SEMESTER M.Com. DEGREE EXAMINATION, JANUARY 2014

(CUCSS)

MC IC 2—QUANTITATIVE TECHNIQUES

(2010 Admissions)

Time : Three Hours

Maximum : 36 Weightage

Part A

Answer all questions.

Each question carries 1 weightage.

1. What is a random experiment ?
2. What is standard error ?
3. What is a left tail test ?
4. What is a range chart ?
5. Distinguish between decision making under 'uncertainty' and 'risk'.
6. What is 'goodness-of-fit test' ?

(6 x 1 = 6 weightage)

Part B

Answer any six questions.

Each question carries 3 weightage.

7. Explain the relative frequency definition of probability. What are its limitations ?
8. Distinguish between process control and product control. What control charts are used for variables ?
9. What is meant by a 'two person zero sum game' ? How are games without saddle point solved ?
10. There are 50 students in an MBA programme. In this class, 20 students are taking Statistics, 15 are taking Finance, and 10 are taking both Statistics and Finance. If a student is chosen at random, what is the probability that he or she is not taking Statistics ?
11. If a fair coin is tossed seven times, what is the probability of getting exactly five heads ?

Turn over

12. Suppose that coloured balls are distributed in three indistinguishable boxes as follows :

	<i>Box</i>		
	A	B	C
Red	2	4	3
White	3	1	4
Blue	5	3	3

A box is selected at random from which a ball is drawn at random.

- (a) Find the probability that the ball is red.
- (b) Given that the ball is red, what is the probability that Box C was selected ?
13. An urn contains 12 white balls and eight black balls. If eight balls are drawn from this urn, find the probability that among them there will be exactly five white balls and three black balls.
14. A decision matrix with profit data is given below :

<i>Alternatives</i>		<i>States of Nature</i>			
		A	B	C	D
1	...	1	3	8	5
2		2	5	4	7
3	...	4	6	6	3
4	...	6	8	3	5

Find the best alternative using maximax, maximin, and savage regret criteria.

(6 x 3 = 18 weightage)

Part C

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

15. Explain the procedure for estimating the population mean with a suitable example.

16. The following table gives yields on 5 sample plots under three varieties of seed- A, B and C.

<i>Varieties of seeds</i>	<i>Yields</i>				
A	19	19	21	14	18
B	16	18	15	23	13
C	23	26	20	26	30

Test whether the average yields of land under different varieties of seed show significant difference.

17. The average height of females in the post-graduate class of a certain college has been 162.5 cms with a standard deviation of 6.9 cms. Is there reason to believe that there has been an increase in the average height if a random sample of 50 females in the present post-graduate class has an average height of 165.2 cms ? Use a 0.01 level of significance.

(2 x 6 = 12 weightage)