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C-7

**COMMONWEALTH EXECUTIVE MBA / MPA
PROGRAMME**

00165

Term-End Examination

December, 2010

C-7 : QUANTITATIVE TECHNIQUES

Time : 3 hours

Maximum Marks : 100

(Weightage 70%)

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- Note :** (i) *There are two sections.*
(ii) *Section A has six questions, each carrying 15 marks. Attempt any four questions from section A.*
(iii) *Section B is compulsory and carries 40 marks. Attempt both questions.*
(iv) *Statistical tables may be supplied on request.*
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SECTION - A

1. Solve the following system of equations by Cramer's rule :

$$2x - 3y + z = 7$$

$$2x + y - z = 1$$

$$4y + 3z = -11$$

2. What are the various types of frequency distributions? What are the general rules to frame a frequency distribution?

3. An investment consultant predicts that the odds against the price of a certain stock going up are 2 : 1 and odds in favour of the price remaining the same are 1 : 3. What is the probability the price of the stock will go down ?

4. Explain the difference between Census and Sampling. Why is the word 'random' attached with sampling ? Discuss some advantages of random sampling.

5. A factory claims that only 1% units of total production are substandard. A sample of 500 units is taken and 2% of them are found to be defective. Check the claim at 95% level of significance.

6. Write short notes on *any three* of the following :
 - (a) Step functions
 - (b) Quartile Deviation
 - (c) Baye's Theorem
 - (d) Chi-Square distribution
 - (e) Cyclical variations

SECTION - B

7. Calculate the rank correlation coefficient from the data given below :

X	75	88	95	70	60	80	81	50
Y	120	134	150	115	110	140	142	100

8. Write down the salient features of normal probability distribution. What percentage of values will lie within $\mu \pm 2\sigma$ when the characteristic follows a normal distribution ?
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