No. of Printed Pages : 3

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%)

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.*

SECTION - A

1. Solve the following system of equations by Crammer'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 ?