EXECUTIVE MBA (EXMBA)

Term-End Examination

December, 2012

MCT-053 : QUANTITATIVE TECHNIQUES

Time : 3 hours   *Maximum Marks : 100*

Note : Answer *any five questions.* **All** questions carry equal marks.

1. Draw a pie-diagram from the distribution of   **20**
    revenue during 2010-11 by a company, the data
    for which is given below.

Item	Amount (Rs)	Item	Amount (Rs)
Materials	32,011	Depreciation	784
Salaries, wages and benefits	10,306	Taxes	1450
Operating expenses	16,673	Retained earnings	1808
Interest	1,837		
Final Total is =64,869			

2. (a) Calculate the harmonic mean of the   **10**
         following distribution :

Divident yield (Divident/Market price)	2 - 4	4 - 6	6 - 8	8 - 10
No. of Companies	20	40	30	10

(b) Differentiate between geometric mean and arithmetic mean. **10**

3. An item is manufactured by three machines M_1, M_2 and M_3. Out of the total manufactured during a specified production period, 50% are manufactured on M_1, 30% on M_2 and 20% on M_3. It is also known that 2% of the item produced by M_1 and M_2 are defective, while 3% of those manufactured by M_3 are defective. All the items are put into one bin. From the bin, one item is drawn at random and is found to be defective. What is the probability that it was made on M_1 M_2 and M_3. **20**

4. (a) Enumerate the types of problems in decision making under different environment. **10**

   (b) Explain the following terms. **10**

   (i) Problem under uncertainty

   (ii) Stochastic problem

5. (a) What do you mean by computer simulation ? Explain in detail about GPSS. (General Purpose System Simulation) **10**

   (b) What are the steps involved in drawing a decision tree. **10**

6. (a) Calculate the coefficient of skewness for the   **10**
following distribution :

Debt as a % age of total capitalization	0-10	10-20	20-30	30-40	40-50	50-60
No. of companies	15	17	19	27	19	12

(b) Explain the following term w.r.t. kurtosis.   **10**
   (i) Leptokurtic
   (ii) Platykurtic

7. (a) Briefly comment on the following
   statement :   **5+5=10**
   (i) A model is defined as a representation
       or abstraction of an actual object or
       situation.
   (ii) Mode is the value that occurs most
       frequently in a set of observations or
       the point of maximum frequency.

(b) Distinguish between the following :   **5+5=10**
   (i) Static versus Dynamic
   (ii) Classical approach versus Bayesian
       Approach.

8. Write short notes :   **20**
   (a) Bar chart
   (b) Range
   (c) Coefficient of variation
   (d) Baye's Theorem

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