6. Write notes on the following :

(a) Probabilities and non-pobabilities sampling

(b) Difference between large sample and small sample.

(c) Define Hypothesis

(d) Importance of Degree of freedom.

Unit IV

7. A physician purchases a particular medicine on Monday of each week. The medicine must be used whithin the week following, otherwise it becomes worthless. The medicine cost Rs. 80 per dose and the physician charges Rs. 100 per dose. In the past 50 week, the records of uses are as follows :

Dose per week	20	30	35	40
No. of week	5	15	25	5

Calculate :

(a) Expected monetary value

(b) Expected opportunity loss and Expected valve of perfect information EVPI.

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BB-662

M.Tech./M.C.R.M.

EXAMINATION, May 2018

(Second Semester)

(Main & Re-appear)

MCRM606

ADVANCE MATHEMATICAL METHODS IN ECONOMICS AND MANAGEMENT SCIENCE

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) What do you mean by system and explain its importance in field of MCRM ?

(b) Explain the importance of system approach of solving of various MCRM problems.

(c) What do you mean by interpretation of result and explain its importance ?

2. What do you mean by problem solving and explain various economics and management science techniques used in solving problem of MCRM in current scenario in India ?

Unit II

3. A manufacture makes two types of products viz., TV and fridge with the help of two machines. First machine can work for 30 hours while machine second can work for 24 hours. To make a TV machine 1 I must work for 2 hours while machine 2 must work for one hour. Similarly, to make a fridge one hour of machine 1 and 2 hours for machine 2 are needed. If manufacture makes a profit of Rs. 4 on each TV and Rs. 3 on each fridge, find how many TV and fridge should be manufactured to maximize the profit ?

4. Explain the following :

(a) Explain the different techniques use if field of MCRM for market analysis.

(b) Define the different methods used in dynamic analysis.

(c) What do you mean by market equilibrium and explain its importance in field of MCRM ?

Unit III

5. (a) The mean height of a random sample of 100 students is 80″ and standard deviation is 5″. Test the statement that the men height of population is 86″ at 1% level of significance.

(b) Explain the application of Chi-square.

8. Write short notes on the following :

(a) Explain the imporssstance of inventory management

(b) Define the process of dynamic programming

(c) Explain the importance of risk analysis

(d) Explain the application of simulation techniques in area of MCRM.

8. Write short notes on the following :

(a) Explain the imporssstance of inventory management

(b) Define the process of dynamic programming

(c) Explain the importance of risk analysis

(d) Explain the application of simulation techniques in area of MCRM.