APJ Abdul Kalam Technological University

Third Semester M. Tech Degree Examination December 2016

Ernakulam II Cluster

05ME 7445 PLANT ENGINEERING AND MAINTENANCE

Time: 3 hours.   Max. Marks: 60

MODULE 1

1a   Explain briefly about the operations management functions?   (4 marks)

1b   What do you meant by aggregate planning and discus its strategies?   (4 marks)

1c   Discuss Delphi method and the steps involved in Delphi method?   (4 marks)

MODULE 2

2a   Explain briefly Just in Time Production System (JIT).   (6 marks)

2b   The new Health-care facility is targeted to serve seven census tracts in Delhi. The   (6 marks)
table given below shows the coordinates for the center of each census tract, along with
the projected populations, measured in thousands. Customers will travel from the
seven census tract centers to the new facility when they need health-care. Two
locations being considered for the new facility are at (5.5, 4.5) and (7, 2), which are
the centers of census tracts C and F. Details of seven census tract centers, co-ordinate
distances along with the population for each center are given below. If we use the
population as the loads and use rectilinear distance, which location is better in terms
of its total load distance score?

Sl no	Census tract	(x, y)	Population
1	A	(2.5,4.5)	2
2	B	(2.5,2.5)	5
3	C	(5.5,4.5)	10
4	D	(5,2)	7
5	E	(8,5)	10
6	F	(7,2)	20
7	G	(9,2.5)	14

MODULE 3

3a   Discuss Distribution Requirement Planning?   (8 marks)

3b   What do you meant by lot sizing in MRP? What are the methods available to   (10 marks)
determine the effective lot size in MRP?

OR

4a Explain Economic Order Quantity method?   (6 marks)

4b Explain briefly Material Requirement Planning(MRP)   (6 marks)

4c Discuss Enterprise Resource Planning (ERP) and its advantages and disadvantages?   (6 marks)

MODULE 4

5a Explain in detail the problem formulation for simulation?   (8 marks)

5b Write a short note about development of simulation model for various systems?   (10 marks)

OR

6a Write a short note about pseudo random numbers? List various methods for   (8 marks)
    generating random variates?

6b List various types of simulation?   (10 marks)