B

APJ Abdul Kalam Technological University

Ernakulam II Cluster

First Semester M.Tech Degree Examination December 2017

05 ME6403- MANUFACTURING SYSTEM MANAGEMENT

Time: 3 hrs.   Max. Marks: 60

1.

a)	Write short notes on process reengineering.	(3 Marks)
b)	List out major factors affecting facility location.	(3 Marks)
c)	Management is investigating which location would be best to position its new plant relative to two suppliers (located in A and B) and three market areas (represented by C, D, and E). Management has limited the search for this plant to those five locations. The following information has been collected. Which is best, assuming rectilinear distance?	(6 Marks)

Location	(x, y)	Trips/year
A	(14,12)	30
B	(9,12)	25
C	(11,6)	15
D	(6,10)	20
E	(13,8)	40

2.

a)	What are objectives of the layout?	(2 Marks)
b)	Describe about Computerized Relative Allocation of Facilities Technique (CRAFT).	(4 Marks)
c)	Discuss various plant layouts highlighting their advantages and disadvantages.	(6 Marks)

3.

a)	Explain the structured approach to aggregate planning.	(4 Marks)
b)	Explain briefly Material Requirement Planning(MRP.)	(6 Marks)
c)	Assume that product Z is made of two units of A and four units of B. A is made of three units of C and four D. D is made of two units of E. Lead time for the final assembly Z is two weeks; A, B, C, and D take one week each; and E takes three	(8 Marks)

weeks. Fifty units of the final assembly Z are required in period 10. Assume that there is currently no inventory on hand of any of these items. Lot-for-lot lot sizing method is used for all items. Develop the product structure tree and prepare the MRP schedule.

OR

4.
  a) Differentiate between MRP I and MRP II.   (6 Marks)

  b) Briefly discuss about Master Production Schedule (MPS).   (6 Marks)

  c) Explain about the MPS approaches to various business environment.   (6 Marks)

5.
  a) Explain any three selective inventory control techniques?   (6 Marks)

  b) Explain inventory control model with instantaneous replenishment and without shortage*?*   (6 Marks)

  c) Explain briefly Just in Time Production System.   (6 Marks)

OR

6.
  a) An industry estimates that it will sell 12000 units of products for the forthcoming year. The ordering cost is Rs. 100 per order and the carrying cost per unit per year is 20% of the purchase price per unit. The purchase price per unit is Rs. 50. Find   (6 Marks)

    (i)   Economic order quantity

    (ii)   Number of orders per year

    (iii)   Time between successive orders

  b) List and explain different types of costs in inventory system.   (6 Marks)

  c) Explain Pull and Push systems with examples.   (6 Marks)