P. G. CERTIFICATE IN INVENTORY PLANNING AND WAREHOUSING SYSTEM FOR ENGINEERS (PGCIPWS)
Term-End Examination
June, 2023

MWR–02 : ADVANCE INVENTORY PLANNING AND CONTROL

Time : 3 Hours   *Maximum Marks : 70*

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

1. Discuss the importance of materials management in today's scenario. How is it different from traditional practices ?   10

2. Describe the functions and responsibilities of materials manager. Illustrate with the suitable example of any industry or organization.   10

3. (a) Define and describe materials requirement planning. 5

   (b) Describe the role of 'product structure' in materials requirement planning. 5

4. (a) What do you understand by just in time production system ? 4

   (b) How does the purpose of ERP differ from the purpose of MRP II and what are challenges for implementing ERP in an organziation ? 6

5. (a) Describe the role of aggregate planning in any business organization. 5

   (b) Discuss the relationship of aggregate planning with the master production schedule. 5

6. Production manager of a producer of lawn movers and leaf blowers, has the following information on its major product :

   (i) Regular time production capacity

   = 2600 units/period

   (ii) Overtime production costs = ₹ 120/unit

(iii) Inventory costs = ₹ 20/unit/period

(based on the ending inventory)

(iv) Backlog costs = ₹ 50/unit/period

(v) Beginning inventory = 400 units

Demand (in units) for period 1, 2, 3 and 4 are 4000, 3200, 2000, and 2500 respectively.

(a) Develop a level output plan that yields zero inventory at the end of period 4.   6

(b) What will be the total costs resulting from this plan ?   4

7. (a) Describe '5S' technique used under Kaizen for workplace.   5

(b) What are the various wastes of manufacturing and describe any *two* of them with suitable examples ?   5

8. (a) What do you mean by 'Kanban' and what is its role in production system.   5

(b) Determine the number of containers needed for a workstation that uses 100 parts per hour if the time for a container to complete a cycle (i. e. move, wait,

empty, return, fill) is 90 minutes, and a standard container holds 84 parts. An inefficiency factor of 0.10 is currently being used.   5

9. (a) What do you understand by supply chain management ? What are potential benefits of managing the supply chain ?   6

   (b) What do you mean by logistics management and how does it relate with the supply chain management ?   4

10. Write short notes on only *two* of the following :

                                                5×2=10

   (a) Problems with MRP implementation

   (b) ABC inventory management strategy

   (c) Master production schedule