P.G. CERTIFICATE IN INVENTORY PLANNING AND WAREHOUSING SYSTEMS FOR ENGINEERS (PGCIPWS)

Term-End Examination

December, 2022

MWR-001 : INTRODUCTION TO INVENTORY PLANNING AND CONTROL

Time : 3 hours 　　　　　　　*Maximum Marks : 70*

Note : *Attempt any* ***seven*** *questions in all. All questions carry equal marks.*

1. With reference to the construction of a bridge, discuss in detail the parameters influencing the management of Inventory. *10*

2. What do you understand by Inventory Control ? Explain the purpose of maintaining inventory in any construction project / or in any automotive company. *10*

3. List different methods of Inventory Planning and Control. Describe any one of them, with the help of examples. *10*

4. A TV manufacturer uses simple exponential smoothing with $\alpha = 0\cdot1$ to forecast demand. For the first week of March, the forecast was 400 units while the actual demand turned out to be 370 units.

   (a) Forecast the demand for the second week of March.

   (b) If the actual demand for the second week turned out to be 417 units, forecast the demand for the third week.

   Continue the forecasting for the subsequent four weeks. You may take actual demand for the subsequent weeks as 409, 388, 377, 445 and 410 units. *10*

5. With the help of examples, explain the various costs involved in inventory planning and control specific to the automotive industry. *10*

6. The demand for an item, each costing ₹ 1 is 20,000 units per year. The ordering cost is ₹ 10. Inventory carrying cost is 20% based on the average inventory per year. Stock-out cost is ₹ 5 per unit of shortage incurred. Determine : *10*

   (a) EOQ

   (b) Number of orders per year

   (c) Total variable cost

7. A certain item costs ₹ 235 per ton. The monthly requirement is 5 tons and each time the stock is replenished, there is a set-up cost of ₹ 1,000. The cost of carrying inventory has been estimated at 10% of the value of the stock per year. Calculate the optimum order quantity. *10*

8. Describe the procedure for VED analysis of Inventory Planning. Bring out the merits and demerits of VED analysis. *10*

9. Write short notes on any **two** of the following : *2×5=10*

   (a) Calculation of Safety Stock in Managing Uncertainty

   (b) ABC Analysis

   (c) Demand Planning

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