No. of Printed Pages : 5 **MWR–001**

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

Term-End Examination

December, 2025

MWR-001 : INTRODUCTION TO INVENTORY PLANNING AND CONTROL

Time : 3 Hours *Maximum Marks : 70*

Note : *Attempt any* ***seven*** *questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. "Inventory planning and control can help in reducing overall cost of production/operation for a firm." Illustrate with the reference to any engineering or manufacturing firm. 10

2. Explain the relationship between procurement/purchase cost and carrying cost for inventory using suitable diagram. 10

3. (a) Describe the purpose of decoupling in managing inventory with suitable examples. 5

   (b) Explain Marginal Efficiency of Capital (MEC) with suitable diagram. 5

4. (a) Briefly describe time-series analysis in forecasting. 3

   (b) A spare part manufacturing company uses a moving average to forecast next month's demand. Actual demand data for the past few months is available as given in the following table :

Month	Actual demand (unit)
January	1000
February	1200
March	1100
April	1400
May	1600
June	1500

(i) Compute a simple three-month moving average to forecast the demand for July month. 4

(ii) Calculate Mean Squared Error (MSE) to know forecast error. 3

5. ABC Limited, the manufacture of a special product, follows the policy of EOQ (Economic Order Quantity) for one of its components. The component's details are as follows :

Purchase price per component	₹ 200
Cost of an order	₹ 100
Annual carrying cost per unit	10% of purchase price
Annual usage or demand	4000 units

(a) Compute the EOQ. 6

(b) The company has been offered a discount of 2% on the price of the component provided the lot size is 2000 components at a time. 4

Advise, whether the quantity discount offer can be accepted (Assume that the inventory carrying cost does not vary according to discount policy).

6. Compare and contrast 'Fixed Periodic Order' with 'Gradual Replenishment Order' of inventory planning with the help of suitable diagram. 10

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

   (a) ABC classification of inventory

   (b) VED analysis of inventory

   (c) FSN analysis of inventory

8. (a) Describe various objectives of purchase management. 6

   (b) Describe the factors influencing the purchasing decisions. 4

9. Discuss the merits of continuous stock verification and periodical stock verification. 10

10. (a) Describe the conditions for decentralized purchasing. 5

(b) How does material codification help in better materials planning and control ? 5

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