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MWR-02

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

Term-End Examination

December, 2023

**MWR-02 : ADVANCE INVENTORY PLANNING
AND CONTROL**

Time : 3 Hours

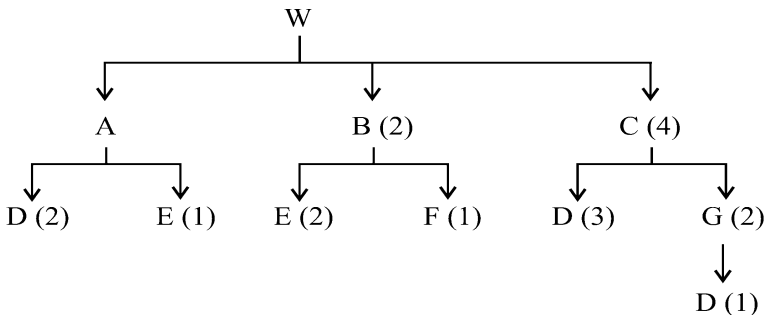
Maximum Marks : 70

Note : *Attempt any **seven** questions. Each question carries 10 marks.*

1. (a) Why is there any needs for materials management ? 4
- (b) Describe the difference between purchasing and materials management. 4
- (c) State any *two* problems or challenges in materials planning. 2

P. T. O.

2. (a) What do you understand by material requirement planning ? When is it appropriate to use ? 5
- (b) Describe the term 'Bill of Material' used in material requirement planning. 5
3. The following product structure indicates the components needed to assemble one unit of product W : 10



Determine the quantities of each component B, C, D, E, F and G to assemble 100 units of W.

4. Write short notes on any **two** of the following :

5×2=10

- (a) Master production schedule
- (b) ERP
- (c) Dependent demand *vs.* Independent demand

5. (a) What is the significance of aggregate production planning in any manufacturing system ? 4
- (b) Discuss the inventory based alternatives and capacity adjustment based alternatives in managing supply in short or medium term. 6
6. (a) Discuss the importance of supplier or vendor relationship in today's business scenario. 5
- (b) ABC Ltd. is in the process of selecting a supplier. Data are given in the table 1 for each supplier X and Y which are rated on 5- point scale (1-lowest, 5-highest) based on their past performances : 5

Table 1 : Supplier's Rating

Factor	Weight (Percentage)	Rating of Supplier A	Rating of Supplier B
Quality	40	5	2
Delivery	30	4	3
Price	20	2	5
Service	10	2	4

Which supplier should be selected ?

7. (a) Discuss the Kanban in context of a manufacturing system. 4
- (b) Planned usage rate of a work center is 300 parts/day, and a standard container holds 25 parts. It takes an average of 0.12 day for a container to complete a circuit from the time a Kanban card is received until the container is returned empty.
- Complete the number of Kanban cards (containers) needed if inefficiency in the system is taken as 0.20. 6
8. (a) Discuss the drivers of supply chain management. 5
- (b) Compare and contrast between 'Efficient' and 'Responsive' supply chain. 5
9. How does 'Kaizen' help in improving the quality and productivity of an organization ? 10
10. Write short notes on any *two* of the following : 2×5=10
- (a) Just-in-Time
- (b) Functional Analysis System Technique (FAST)
- (c) MUDA—The Seven Wastes