

Total No. of Questions : 12]

SEAT No. :

P1074

[4659]-138

[Total No. of Pages : 3

B.E. (Production Engineering)

b - MATERIALS AND LOGISTICS MANAGEMENT

(Revised 2008 Course) (Elective - II) (Semester - I) (411085)

Time : 3Hours]

[Max. Marks :100

Instructions to the candidates:

- 1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 from Section I and Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12 from Section II.*
- 2) *Answer to the two sections should be written in separate answer books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right side indicate full marks.*

SECTION-I

Q1) a) What are the phases involved in Value Analysis? Explain each phase briefly. **[9]**

b) What are the objectives of materials management? **[9]**

OR

Q2) a) Explain Material Requirement Planning (MRP1) in detail. **[9]**

b) List the functional aspects of make or Buy decision. Demand for the component is at the rate of 12,000 per year and this demand is going to continue for next three years. The company has two options. It can get the component manufactured from outside or it can manufacture in house. It costs the company Rs. 4.2 per unit to buy the component. The in-house manufacture will incur a fixed cost to the extent of Rs. 10,000 and variable cost of Rs. 2.9 per unit. Give the decision rule for make or buy. **[9]**

Q3) a) Explain Purchase Cycle with flowchart. **[8]**

b) Explain documents used in importing: **[8]**

- i) Letter of credit
- ii) Bill of Lading

OR

P.T.O.

- Q4)** a) Explain different objectives of Purchasing. [8]
b) What is vendor rating? Explain any two methods of vendor rating. [8]
- Q5)** a) What are the different types of stores? Explain briefly. [8]
b) What is the importance of waste management? List various methods of waste management. Explain any one with example. [8]

OR

- Q6)** a) What is the role of Store Keeper? Differentiate Between Centralized and Decentralized Stores. [8]
b) What is stock verification? Differentiate between annual stock taking and continuous stock taking. [8]

SECTION-II

- Q7)** a) Explain functional areas of Logistics in brief. [8]
b) List the types of warehouses. Explain any two in brief. [8]

OR

- Q8)** a) Explain the economic and service benefits of warehouse. [8]
b) List economic factors of transportation. Explain any two in brief. [8]
- Q9)** a) Explain the drivers of supply chain management. [8]
b) What is the importance of demand in supply chain? How the demand risk is managed in supply chain? [8]

OR

- Q10)**a) What is supply chain? Explain the significance of three key supply chain decision phases. [8]
b) What is strategic fit in supply chain management? Explain the steps involved in achieving strategic fit. [8]

Q11)a) Explain Fixed Period system and Fixed Quantity system in brief. [9]

b) An automobile factory manufactures a particular type of gear within the factory. This gear is used in the final assembly. The particulars of this gear are presented below. [9]

Demand rate = 14,000 units/year

Production rate = 35,000 units/year

Set-up cost = Rs. 500 per set-up.

Carrying cost = Rs. 15/unit/year

Find EBQ and cycle time.

OR

Q12)a) What is safety stock? How lead time affects safety stock in finished goods inventory? [9]

b) The annual demand of a product is 36000 units. The average lead time is 3 weeks. The standard deviation of demand during the average lead time is 150 units/week. The cost of ordering is Rs. 500 per order. The cost of purchase of the product per unit is Rs. 15. The cost of carrying per unit/year is 20% of the purchase price. The maximum delay in lead time is 1 week and the probability of this delay is 0.3. Assume a service level of 0.95. [9]

i) What is the recorder level if 'Q' system is followed?

ii) If 'P' system followed, what is the maximum inventory level?

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