

# Major Test in MEL 426

## Materials Management

Time: 2 Hours.

Max. Marks: 40

- Note: 1. Attempt any five questions.  
2. Each question has equal marks.

- Q.1. (a) What is an Exchange curve? Describe the procedure for constructing an exchange curve and how can that be used to quickly detect if your present procurement policies are rational.
- (b) Show how coverage analysis approach rationalizes an existing inventory policy. Illustrate with an example.
- Q.2. (a) An expensive spare required in a machine has the following demand distribution during the life of the equipment.
- |              |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|
| Demand:      | 0    | 1    | 2    | 3    | 4    | 5    | 6    |
| Probability: | 0.75 | 0.15 | 0.05 | 0.03 | 0.01 | 0.01 | 0.00 |
- The spare costs Rs. 10 Lakhs and the cost of non-availability is estimated to be 20 times the cost of the spare. Find the optimal number of spares to be procured for the life of the equipment. At what value of shortage cost will a 'no-inventory' will become preferred option?
- (b) Briefly describe the effect of permitting planned backlogging , and finite replenishment rate on the order quantity and total system cost in a deterministic EOQ – Reorder Point Inventory Policy.
- Q.3. (a) What is a 'Make or Buy' decision? Identify the factors that favour 'Make' v/s. 'Buy' and comment upon the strategic nature of these decisions.
- (b) Briefly describe the role of standardization, codification and variety reduction in reducing inventories and related costs. Briefly identify the attributes of a material code.
- Q.4. List the functions of storage and warehousing. Identify the various managerial decisions that are relevant for improving the operational efficiency of stores function in a company.
- Q.5. (a) "An enlightened Vendor is the most important asset to the materials management function" critically examine this statement and discuss various methods of Vendor Rating.
- (b) How would you ensure right price of purchased materials? In particular describe the price negotiation methods and techniques.
- Q.6. Write very brief notes on the following:-
- ABC-VED matrix
  - S-O-S Management
  - Centralization v/s decentralization of purchasing function
  - Sensitivity analysis of EOQ inventory model
  - Impact of inflation and quantity discounts on purchasing policy
  - Performance Metrics of Materials Management Function
  - VMI
  - Effect of demand and lead time uncertainty on buffer stock.