

VPM's  
DR VN BRIMS, Thane  
Programme: MMS (2013-15)  
Third Semester Examination October/November 2014

MMS-III Subject <b>Operations</b>	<b>Materials Management (MM 03)</b>		
Roll No.		Marks	60 Marks
Total No. of Questions	7	Duration	3 Hours
Total No. of printed pages	2	Date	16-11-2014

**Note: Q1 is compulsory and solve any FOUR from the remaining SIX questions.**

**Q1) 20 Marks (Compulsory): Case Study**

a) Exclusive Parts Inc., is a distributor of automotive replacement parts with no manufacturing capability, all the product it sells are purchased, assembled and repackaged. With good inventory and assembly facilities it produces private-label carburetors and ignition kits. The company has been experiencing difficulties for the last 2 years. First, cost of production rising considerably. Second, customer service levels have declined, with late deliveries now exceeding 25% of orders. Third, customer returns have been rising with 3% rate per month.

General Manager Sales claims that most of the problems are with the assembly dept. and they have accurate BOM but it is not producing right mix of the product. He also believes that quality and productivity have gone down.

According to Finance head, the problems are due to investments in the wrong inventories. He thinks that marketing has too many options and products and purchasing department buyers have been hedging their inventories and requirements with excess purchasing commitments.

According to Assembly manager they have lot of parts in inventory but no place to assemble them in the production schedule. When they had the right part, it was not very good but they had to use it to meet the schedule.

Purchase manager has taken a stance that purchasing has not let Exclusive Parts Inc. down. He has stuck by his old suppliers, used historical data to determine the requirements, maintained what he views as excellent prices from suppliers, and evaluated new sources of supply with a view toward lowering cost. Wherever possible he reacted to the increased pressure for profitability by emphasizing low cost and early delivery.

As a Head of this company, you must get the firm back on a course towards improved profitability.

**Question: (12 Marks)**

- 1) Identify both the symptoms and the problems at Exclusive Parts Inc.
- 2) What specific changes would you implement?

b) A company makes a large boiler installation. A certain automatic monitoring unit is critical for the operation of the whole system. At the time of original order, the spares for this unit can be purchased for Rs.2000 per unit. The probability distribution for the failure of this unit during the life time of installation is given as :

If a spare is needed and is not available, the total cost of idle time and replacement cost will be Rs. 15,000. Unused spare have no salvage value.

Determine the optimal number of spares to be ordered? **(8 Marks)**

Failure	Probability
0	0.35
1	0.25
2	0.20
3	0.15
4	0.05

**Attempt Any FOUR from the Remaining SIX Questions**

**Q2) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) What are the benefits of Materials requirement planning?
- b) What is bill of material? Explain with the help of an examples with multiple level coding.
- c) What are the different levels of standards? What are the advantages of Standardization?

**Q3) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) Explain the objectives and functions of materials management.
- b) What is the role of materials management in variety reduction?
- c) Explain the import procedure and what are the categories of importer?

**Q4) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) Compare centralized and decentralized stores.
- b) What is letter of Credit? Explain briefly.
- c) What are the different techniques of materials planning? Explain any one in short.

**Q5) Write short note on any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) Purchase versus lease
- b) Good store location
- c) Bill of lading

**Q6) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) Differentiate between centralized and decentralized Purchase system.
- b) Explain what the reasons are for the generation of obsolete, surplus and scrap items?
- c) What are the different activities of materials management that are covered by computerization?

**Q7) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) Explain what is disposal of scrap.
- b) State the significant differences between purchase of capital equipment and purchase of consumption material?
- c) Monthly consumption of a particular item belonging to 'B' category and having unit price of Rs. 1 has been estimated to be 300 units. The inventory carrying cost and the procurement cost for the company have been computed at 18 % and Rs.36 per order respectively. Stock records show that this item can normally be procured within a period one month. If the company adheres to the policy of one month safety stock for 'A' and 'B' category of items.

Calculate:

1. Re-order quantity
2. Re-order level
3. Minimum level
4. Maximum level
5. Average quantity
- 6.

Assuming re-order level system of replenishment.