


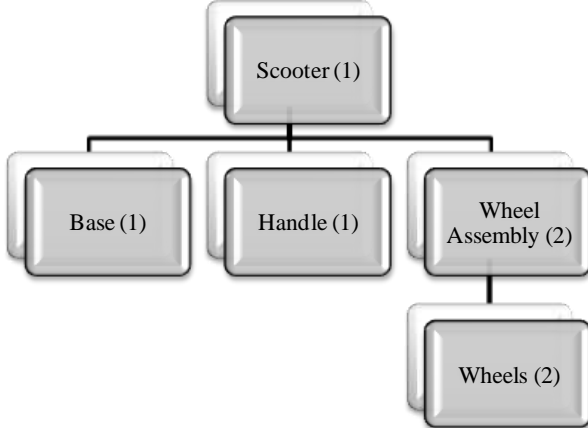
VPM's
DR VN BRIMS, Thane
Programme: MMS (2021-23)
Third Semester Regular Examination February 2023

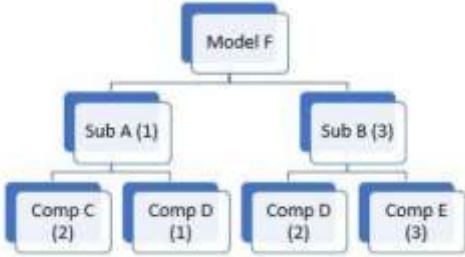
Course Name:	Materials Management	Course Code	MMS – O - 308
Roll No.		Marks	60
Total No. of Questions	6	Duration	3 Hours
Total No. of printed pages	4	Date	14.02.2023

Course Outcome Statements:

- CO1. **RECALL** basic terms and concepts associated with Materials Management.
CO2. **EXPLAIN** the terms and concepts used in all aspects of materials management.
CO3. **EMPLOY** principles of materials management to SOLVE materials management problems.
CO4. **EXAMINE** various aspects of materials management and the relevant characteristics of the materials management process from a data-driven decision perspective.
CO5. **ASSESS** various factors of Materials Planning, Purchasing & Stores Accounting for material management decisions.

Instructions: -		Marks	BL	CO
Q. No 1 (All Questions are Compulsory)				
Q. No.	Questions			
Q. 1	<p>Case-let: Inventory management at Flame Electrical Inventory management in some operations is more than just a part of their responsibility; it is their very reason for being in business. Flame Electrical, South Africa’s largest independent supplier and distributor of lamps, is such a business. It stocks over 2900 different types of lamps, which are sourced from 14 countries and distributed to customers throughout the country. ‘In effect, our customers are using us to manage their stocks of lighting sources for them,’ says Jeff Schaffer, the Managing Director of Flame Electrical. ‘They could, if they wanted to, hold their own stock but might not want to devote the time, space, money, or effort to doing so. Using us they get the widest range of products to choose from, and an accurate, fast, and dependable service.’ Central to the company’s ability to provide the service its customers expect is its computerized stock management system. The system holds information on all of Flame’s customers, the type of lamps they may order, the quality and brand of lamps they prefer, the price to be charged and the location of each item in the warehouse. When a customer phones in an order, the computer system immediately accesses all this information, which is confirmed by the customer. This leaves only the quantity of each lamp required by the customer to be keyed in. The system then generates an instruction to the warehouse to pick up and dispatch the order. This instruction includes the shelf location of each item. The system even calculates the location of each item in the warehouse which will minimize the movement of stock for warehouse staff. Orders for the replenishment of stocks in the warehouse are triggered by a re-order point system. The reorder point is set for each stocked item depending on the likely demand for the product during the order lead time (forecast from the equivalent period’s orders the previous year), the order lead time for the item (which varies from 24 hours to four months) and the variability of</p>			

	<p>the lead time (from previous experience). The size of the replenishment order depends on the lamp being ordered. Flame prefers most orders to be for a whole number of container loads (the shipping costs for part-container loads being more expensive). However, lower order quantities of small or expensive lamps may be used. The order quantity for each lamp is based on its demand, its value and the cost of transportation from the suppliers. However, all this can be overridden in an emergency. If a customer, such as a hospital, urgently needs a particular lamp which is not in stock, the company will even use a fast courier to fly the item in from overseas – all for the sake of maintaining its reputation for high service levels.</p> <p>‘We have to get the balance right,’ says Jeff Schaffer. ‘Excellent service is the foundation of our success. But we could not survive if we did not control stocks tightly. After all we are carrying the cost of every lamp in our warehouse until the customer eventually pays for it. If stock levels were too high, we just could not operate profitably. It is for that reason that we go as far as to pay incentives to the relevant staff based on how well they keep our working capital and stocks under control.’</p>																		
	<p>a. Examine the most important of these performance objectives for Flame Electrical?</p>	6	Level 4	CO4															
	<p>b. Determine the factors which influence the stock replenishment policy of Flame Electrical?</p>	6	Level 5	CO5															
Q. 2	Answer Any one from the following.																		
	<p>a. Determine supplier evaluation criteria using Carter’s 10Cs for below packaging material:</p> 	6	Level 5	CO5															
	<p>b. Using the information given below, Determine a complete MRP material plan. The gross requirements for scooters are 50 units in week 7 and 60 units in week 8</p>  <table border="1" data-bbox="287 1921 1008 2161"> <thead> <tr> <th>Item</th> <th>Quantity On Hand</th> <th>Lead Time (weeks)</th> </tr> </thead> <tbody> <tr> <td>Scooter</td> <td>20</td> <td>1</td> </tr> <tr> <td>Base</td> <td>4</td> <td>3</td> </tr> <tr> <td>Handle</td> <td>10</td> <td>2</td> </tr> <tr> <td>Wheel</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Item	Quantity On Hand	Lead Time (weeks)	Scooter	20	1	Base	4	3	Handle	10	2	Wheel	0	1	6	Level 5	CO5
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Q. 3		Answer Any one from the following.																																																														
	a.	List the different material classification techniques used in retail stores (Super Market) along with appropriate inference .			6	Level 4	CO4																																																									
	b.	List and analyse the reasons for scrap generation in steel sheet manufacturing company.			6	Level 4	CO4																																																									
Q. 4		Answer Any two from the following.																																																														
	a.	<p>Material Requirement Plan for iPhone Model F (5 marks) Apple, the world-leading mobile device manufacturer, is preparing the materials to produce the latest model F, which the final product F is assembled by the subassemblies and components as shown in the product structure tree below. If you are given the following information regarding the forecast demand of Product F, on-hand inventory, scheduled receipt, order lead time and minimum order quantity. Develop the material requirement planning reports for all the components.</p> <div style="text-align: center;">  <pre> graph TD MF[Model F] --> SA["Sub A (1)"] MF --> SB["Sub B (3)"] SA --> CC["Comp C (2)"] SA --> CD1["Comp D (1)"] SB --> CD2["Comp D (2)"] SB --> CE["Comp E (3)"] </pre> </div> <p>Note: number in brackets show the quantity required for that item to make one unit of its parent.</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>Week</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> </tr> </thead> <tbody> <tr> <td>Forecast Demand</td> <td>20</td> <td>15</td> <td>50</td> <td>15</td> <td>35</td> <td>20</td> <td>15</td> <td>10</td> <td>50</td> <td>40</td> </tr> </tbody> </table> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>item</th> <th>Lead Time (Weeks)</th> <th>Beginning On-Hand Inventory</th> <th>Scheduled Receipt (Week, Quantity)</th> <th>Minimum Order Quantity</th> </tr> </thead> <tbody> <tr> <td>Model F</td> <td>1</td> <td>40</td> <td>(1, 25), (2, 40)</td> <td>25</td> </tr> <tr> <td>Sub A</td> <td>1</td> <td>35</td> <td>(1, 40)</td> <td>40</td> </tr> <tr> <td>Sub B</td> <td>2</td> <td>45</td> <td>(2, 10)</td> <td>10</td> </tr> <tr> <td>Comp C</td> <td>2</td> <td>30</td> <td>(2, 40)</td> <td>40</td> </tr> <tr> <td>Comp D</td> <td>1</td> <td>70</td> <td>(1, 40)</td> <td>70</td> </tr> <tr> <td>Comp E</td> <td>2</td> <td>105</td> <td>(2, 10)</td> <td>105</td> </tr> </tbody> </table>			Week	1	2	3	4	5	6	7	8	9	10	Forecast Demand	20	15	50	15	35	20	15	10	50	40	item	Lead Time (Weeks)	Beginning On-Hand Inventory	Scheduled Receipt (Week, Quantity)	Minimum Order Quantity	Model F	1	40	(1, 25), (2, 40)	25	Sub A	1	35	(1, 40)	40	Sub B	2	45	(2, 10)	10	Comp C	2	30	(2, 40)	40	Comp D	1	70	(1, 40)	70	Comp E	2	105	(2, 10)	105	6	Level 3	CO3
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	b.	Given the layout (Last Page of Question Paper), Identify the risks associated with the layout & control/s you would recommend to prevent or minimize the impact of the risks which you have identified.			6	Level 3	CO3																																																									
	c.	<p>One Molecule Away from Legal Supplement Company sells a popular horse Medicine product. During the month of August, the following transactions occurred. As of</p> <ul style="list-style-type: none"> • August 1, beginning inventory was 700 units at \$10/unit. • August 3: Purchased 500 units at \$12/unit • August 8: Sold 1,000 units at \$20/unit • August 15: Purchased 800 units at \$14/unit August 22: Sold 650 units at \$22/unit • August 28: Purchased 300 units at \$16/unit Apply the FIFO method for calculating the Value of Ending Inventory,			6	Level 3	CO3																																																									
Q. 5		Answer Any two from the following.																																																														

	a.	Explain any three methods of purchasing with an example.	6	Level 2	CO2
	b.	Explain below the import documentation required for import: 1. Bill of Entry 2. Bill of Lading 3. Bill of Sight	6	Level 2	CO2
	c.	Illustrate Kodak System of Codification with an example.	6	Level 2	CO2
Q. 6		Answer Any two from the following.			
	a.	Put yourself in the position of a plant manager, with the materials manager reporting to you. Think of what your expectations are of a well-running materials management department.	6	Level 1	CO1
	b.	When shopping for a laptop, you want to save money by not purchasing an extended service agreement after the first year. You want to buy a laptop on a budget that you will have to service yourself. When choosing manufacturers, how should you narrow your search? What are your top choices, and why?	6	Level 1	CO1
	c.	What are the methods of economic analysis, which are considered while purchasing capital equipment?	6	Level 1	CO1

Q4. B

