

**VPM's**  
**DR VN BRIMS, Thane**  
**Programme: MMS (2023-25)**  
**First Semester Regular Examination December 2023**

<b>Course Name</b>	Operations Management	<b>Course Code</b>	C104
<b>Roll No.</b>		<b>Marks</b>	60
<b>Total No. of Questions</b>	6	<b>Duration</b>	3 Hours
<b>Total No. of printed pages</b>	3	<b>Date</b>	26.12.2023

**Course Outcome Statements:**

- CO1.** RECALL basic concepts of operations management and cite its evolution  
**CO2.** ASSOCIATE the concepts of operations management and connect with business scenarios  
**CO3.** APPLY basic principles of operations management in production and operation functions  
**CO4.** EXAMINE the problems related to operations management in day-to-day functioning  
**CO5.** RECOMMEND tentative solutions to the problems related to operations management

<b>Instructions: -</b>		<b>Marks</b>	<b>BL</b>	<b>CO</b>
<b>Q. No 1 (All Questions are Compulsory)</b>				
<b>Q. No.</b>	<b>Questions</b>			
<b>Q. 1</b>	<b>Case/Case-let Study</b>			
	<p style="text-align: center;"><b>Dynamic Strategies at AMD Electronics: The Tale of Level and Chase in Production Planning</b></p> <p>In the bustling world of electronics manufacturing, AMD Electronics found itself at the crossroads of operational decision-making. Faced with varying demand for their cutting-edge gadgets, the company had to navigate the delicate balance between maintaining a steady production pace and adapting to market fluctuations.</p> <p>In the initial phase, AMD Electronics embraced the Level Strategy. With consistent demand projected over the next six months, the company decided to maintain a stable production rate. This approach allowed them to avoid the pitfalls of overproducing during peak periods or facing idle capacities during lulls in demand.</p> <p>As the production lines hummed along at a steady pace, employees appreciated the predictability. The workforce could plan their schedules with confidence, and the manufacturing floor exhibited a harmonious rhythm. However, challenges arose when unexpected spikes in demand occurred. The Level Strategy, while promoting stability, occasionally led to backlogs and delayed deliveries during peak seasons.</p> <p>With the holiday season approaching, AMD Electronics shifted gears and adopted the Chase Strategy. Facing a surge in customer orders for their latest gadget, the company decided to align production precisely with demand. Temporary workers were brought in, and overtime hours were authorized to meet the increased workload.</p> <p>The manufacturing floor buzzed with heightened activity, as the company dynamically adjusted its resources to match the intensified demand. This flexibility allowed AMD Electronics to fulfil orders promptly, preventing potential bottlenecks and ensuring customer satisfaction during the peak period.</p>			



<b>Q. 4</b>	Answer <b>Any two</b> from the following.																														
	<b>a.</b>	Construct a detailed process flowchart outlining the steps involved in the order fulfilment process, starting from the customer placing an order to a delivery of the product for e-commerce company.	<b>6</b>	<b>Level 3</b>	<b>CO3</b>																										
	<b>b.</b>	Given the following details for a product <b>solve</b> the problem: <ul style="list-style-type: none"> <li>• Annual demand: 10,000 units</li> <li>• Cost per order (ordering cost): \$100</li> <li>• Holding/ Carrying Cost per unit per year: \$2</li> </ul> Calculate the Economic Order Quantity (EOQ), the number of orders per year, and the total annual inventory cost. Provide a step-by-step solution, and justify how optimizing the order quantity influences the overall inventory costs.	<b>6</b>	<b>Level 3</b>	<b>CO3</b>																										
	<b>c.</b>	A book binder has one printing press, one binding machine and manuscripts of 7 different books. The times required for performing printing and binding operations for different books are shown below. <table border="1"> <thead> <tr> <th>Book</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> </tr> </thead> <tbody> <tr> <td>Printing time (hours)</td> <td>20</td> <td>90</td> <td>80</td> <td>20</td> <td>120</td> <td>15</td> <td>65</td> </tr> <tr> <td>Binding time (hours)</td> <td>25</td> <td>60</td> <td>75</td> <td>30</td> <td>90</td> <td>35</td> <td>50</td> </tr> </tbody> </table> <b>Identify</b> the optimum sequence of processing of books in order to minimize the total time required to bring out all the books. Also, <b>Identify</b> elapsed time and total idle time for book printing and binding process.	Book	1	2	3	4	5	6	7	Printing time (hours)	20	90	80	20	120	15	65	Binding time (hours)	25	60	75	30	90	35	50	<b>6</b>	<b>Level 3</b>	<b>CO3</b>		
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<b>Q. 5</b>	Answer <b>Any two</b> from the following.																														
	<b>a.</b>	<b>Explain</b> batch production and continuous production systems on following points: <ol style="list-style-type: none"> <li>1. Volume</li> <li>2. Variety</li> <li>3. Flow</li> </ol> and <b>explain</b> with an example.	<b>6</b>	<b>Level 2</b>	<b>CO2</b>																										
	<b>b.</b>	<b>Explain</b> product layout and process layout with an example.	<b>6</b>	<b>Level 2</b>	<b>CO2</b>																										
	<b>c.</b>	<b>Explain</b> the key benefits that organizations can derive from implementing value engineering.	<b>6</b>	<b>Level 2</b>	<b>CO2</b>																										
<b>Q. 6</b>	Answer <b>Any two</b> from the following.																														
	<b>a.</b>	<b>Recall</b> the difference between goods from services.	<b>6</b>	<b>Level 1</b>	<b>CO1</b>																										
	<b>b.</b>	<b>Define</b> the term "transformation process" in operations management. <b>List</b> two examples of transformation processes in the service industry.	<b>6</b>	<b>Level 1</b>	<b>CO1</b>																										
	<b>c.</b>	List the importance of ISO 9001:2015	<b>6</b>	<b>Level 1</b>	<b>CO1</b>																										