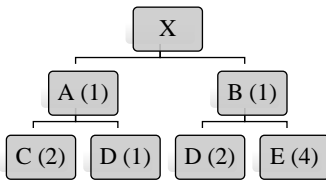


VPM's
DR VN BRIMS, Thane
Programme: MMS (2021-23)
First Semester Examination April 2022

Course Name	Operations Management	Course Code	C104			
Roll No.		Marks	60			
Total No. of Questions	6	Duration	3 Hours			
Total No. of printed pages	3	Date	06.04.2022			
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 solutions to the problems related to operations management						
Instructions: -			Marks	BL	CO	
Q. No 1 (All Questions are Compulsory)						
Q. No.	Questions					
Q. 1	<p style="text-align: center;">Case Study</p> <p>John, newly hired supply management director at Wau Industries, Inc., was about to tackle an inventory. The directors had announced a \$1 million raw materials and supplies inventory reduction to conserve the company's working capital. The Wau's president, had told John, during the hiring interview that inventory was one of their biggest problems, and that's why they were looking for a supply and inventory control person who could reduce the company's inventories. John's background and experience were expected to turn the trick. John started to dig into the problem via a visit to each of Wau's divisions: A, B, and C Division.</p> <p>At the A Division, he heard from the supply Manager, "Don't know as to how the home office can give us much help' on inventory, John. We've been making machinery here since 1877, and every customer knows he can get a replacement part from us for almost every machine we've ever made. That's the real service that sells our machines. See that pile of raw castings and plates out there? Don't imagine there's another company in the country that has such a complete stock of material all ready to be made up to customer orders. It's taken years to build this up, and it's worth millions! We need to figure out inventory valuation after depreciation, too." The supply manager.</p> <p>At B Division Manager told him, "Sure, I'm trying to get our inventory sales in line with what the top management at headquarters demand forecast asked for. Our only concern is about fluctuations in demand forecasts. We hope our sales forecast is right."</p> <p>The C Division's supply manager told John, "We don't have any inventory problem here in supply. As we process only confirmed customized orders. All our money is out there on the shop floor in custom-built components. We don't have any finished goods inventory in the stockroom. Only concern is about inventory and procurement of components required for customized orders. John was expected to help-the supply managers come up with some results.</p>					
	a.	Analyze the different inventory troubles company is facing at different divisions.	6	Level 4	CO4	

	b.	Recommend the appropriate solution for each division's problem to John.	6	Level 5	CO5																					
Q. 2	Answer Any one from the following.																									
	a.	<p>Given the product structure tree and the inventory shown below, Determine the requirements for A, B, C, D, E to produce 50 units of X.</p> <div style="text-align: center;">  <pre> graph TD X[X] --- A["A (1)"] X --- B["B (1)"] A --- C["C (2)"] A --- D1["D (1)"] B --- D2["D (2)"] B --- E["E (4)"] </pre> </div>	6	Level 5	CO5																					
	b.	<p>Evaluate the following situations and propose the solutions with reference to capacity management</p> <ul style="list-style-type: none"> If the capacity is slightly less than the Demand If the capacity is on the very less side than the Demand 	6	Level 5	CO5																					
Q. 3	Answer Any one from the following.																									
	a.	Examine Quality dimensions with an Example.	6	Level 4	CO4																					
	b.	<p>Which type of inventory classification system would you use to store following product? Justify your answers with appropriate motive/causes.</p> <ol style="list-style-type: none"> Rainy wear (eg. Raincoat etc.), winter wear (Sweater, Shawl etc), Summer Wear (Sun coat, Cotton scarf etc.) FMCG products at retail outlet In saree manufacturing plant different types of threads are procured from different locations, their lead time are as follows: <ul style="list-style-type: none"> Silk Tread: 14Days Golden Tread: 8 Days Cotton Thread: 2 Days 	6	Level 4	CO4																					
Q. 4	Answer Any two from the following.																									
	a.	<p>Consider a sequencing problem for 6 jobs that require processing first on machine 1 and then on machine 2 (processing time in minutes). Use Johnson's rule (showing the steps) to sequence the jobs for production.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Job</th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>F</th> </tr> </thead> <tbody> <tr> <td>Machine 1 process Time</td> <td>27</td> <td>13</td> <td>25</td> <td>28</td> <td>15</td> <td>17</td> </tr> <tr> <td>Machine 2 process Time</td> <td>24</td> <td>19</td> <td>22</td> <td>29</td> <td>10</td> <td>23</td> </tr> </tbody> </table>	Job	A	B	C	D	E	F	Machine 1 process Time	27	13	25	28	15	17	Machine 2 process Time	24	19	22	29	10	23	6	Level 3	CO3
Job	A	B	C	D	E	F																				
Machine 1 process Time	27	13	25	28	15	17																				
Machine 2 process Time	24	19	22	29	10	23																				
	b.	<p>The manufacturing firm is presently catering to three markets Chicago, Pittsburgh, New York, and Atlanta. The annual volume required by the markets in Chicago, Pittsburgh, New York, and Atlanta are 2000, 1000, 1000 & 2000 respectively. Apply the COG method and decide the Coordinates of Locations where the firm can set up a warehouse with the objective of transportation cost minimization.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Market</th> <th>X Co-ordinate</th> <th>Y Co-Ordinate</th> </tr> </thead> <tbody> <tr> <td>Chicago</td> <td>30</td> <td>120</td> </tr> <tr> <td>Pittsburgh</td> <td>90</td> <td>110</td> </tr> <tr> <td>New York</td> <td>130</td> <td>130</td> </tr> <tr> <td>Atlanta</td> <td>60</td> <td>40</td> </tr> </tbody> </table>	Market	X Co-ordinate	Y Co-Ordinate	Chicago	30	120	Pittsburgh	90	110	New York	130	130	Atlanta	60	40	6	Level 3	CO3						
Market	X Co-ordinate	Y Co-Ordinate																								
Chicago	30	120																								
Pittsburgh	90	110																								
New York	130	130																								
Atlanta	60	40																								
	c.	Construct a process flow chart for taking MMS Admission in higher Education institutes.	6	Level 3	CO3																					
Q. 5	Answer Any two from the following.																									

	a.	Explain any three types of production systems with suitable examples.	6	Level 2	CO2
	b.	Explain the benefits to an organisation if it is ISO certified.	6	Level 2	CO2
	c.	Explain the differences between goods & services with an example.	6	Level 2	CO2
Q. 6		Answer Any two from the following.			
	a.	What is meant by method study, its objectives, and the steps involved (i.e., the procedure of method study)?	6	Level 1	CO1
	b.	What is the difference between value analysis & value engineering? (Example)	6	Level 1	CO1
	c.	What is the transformation process? Name any three types of transformational processes	6	Level 1	CO1