

	Sanjay Ghodawat University, Kolhapur		2018-19
	Established as State Private University under Govt. of Maharashtra. Act No XL, 2017		EXM/P/09/01
Year and Program: 2018-19	School of Commerce and Management	Department of MBA	
Course Code MMC 516	Course Title OPERATIONS MANAGEMENT	Semester -II	
Date & Time Friday 31-05-2019	ESE Examination	Time: 3 Hrs. Max Marks: 100 10:30 am to 1:30 pm	

Instructions: 1) Write specific answers to questions

2) Use of non-programmable calculators

3) Details to the right indicate full marks, bloom's level and Course Outcome

- | Q.1 | Answer the following | Marks | Bloom's
Level | CO | | | | | | | | | | | | | | |
|------------------------------|---|-----------------------|------------------|-----|----|-----|----|----|------------------------------|----|----|----|----|----|-----|--|--|--|
| | a) Production systems are categorized based on volume and variety. Explain the types of production systems, situations under which they are recommended with examples and any one major advantage and limitation of each. | 10 | L2 | CO1 | | | | | | | | | | | | | | |
| | b) Product lifecycle (PLC) is a tool to guide the new product development. Comment. Explain with the help of diagram the PLC and map them on BCG Matrix. What is the significance of each phase? Explain with the help of an illustrative product. | 10 | L3 | CO3 | | | | | | | | | | | | | | |
| OR | | | | | | | | | | | | | | | | | | |
| | b) Suggest the methods to improve i) Labor Productivity ii) Material Productivity iii) Capital Productivity | 10 | L3 | CO3 | | | | | | | | | | | | | | |
| Q.2 | Solve any Two | | | | | | | | | | | | | | | | | |
| | a) A company is manufacturing microwave ovens. The company study reveals that the microwave ovens and population of the city are related. The market research carried out reveals the following information | 10 | L3 | CO1 | | | | | | | | | | | | | | |
| | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 15%;">Population (millions)</td> <td>5</td> <td>7</td> <td>15</td> <td>22</td> <td>27</td> <td>36</td> </tr> <tr> <td>No. of microwave ovens (000)</td> <td>28</td> <td>40</td> <td>65</td> <td>80</td> <td>96</td> <td>130</td> </tr> </table> | Population (millions) | 5 | 7 | 15 | 22 | 27 | 36 | No. of microwave ovens (000) | 28 | 40 | 65 | 80 | 96 | 130 | | | |
| Population (millions) | 5 | 7 | 15 | 22 | 27 | 36 | | | | | | | | | | | | |
| No. of microwave ovens (000) | 28 | 40 | 65 | 80 | 96 | 130 | | | | | | | | | | | | |
| | Fit a linear regression equation and forecast the demand for a city with a population of 45 million. | | | | | | | | | | | | | | | | | |
| | b) What are the major impacts of location planning because of Globalization? Determine the dominant location factors with proper justifications for the following | 10 | L3 | CO3 | | | | | | | | | | | | | | |
| | i) A software company | | | | | | | | | | | | | | | | | |

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- ii) Food Processing Industry
- iii) Aluminum Industries

c) Just in time Manufacturing is a Manufacturing concept with Zero inventory. Comment. Explain the JIT philosophy, principles .Differentiate between JIT and Lean Manufacturing 10 L2 CO4

Q.3 Explain the ROL system of inventory. Determine the reorder level, reorder quantity and the frequency of ordering in the following situation 10 L3 CO5
 Annual demand:12500 units
 Ordering cost: ₹ 2000 per order
 Inventory carrying cost: ₹ 48/unit/annum
 Lead times: ½ month Safety stock equals the half month consumption

OR

Under what situations a quantity discount is to be accepted. Give the flow chart. Whether the discount should be availed under the following situation 10 L3 CO5
 Annual demand: 2400 units
 Ordering cost: 32 per order
 Inventory carrying cost: 16%
 Price per unit : ₹6
 Discount offered = 5% if 500 or above quantities are ordered.

Q.4 Attempt any Three

- a) Explain the typical components of a supply chain with a block diagram clearly mentioning types of flows. Bring out the issues and challenges of SCM in Indian context. 10 L2 CO6
- b) Supply Chain capabilities are guided by the decisions that are made regarding the supply chain drivers. Analyze the supply chain drivers with respect to responsiveness and efficiency. 10 L4 CO6
- c) A vertically integrated company is a company that owns, manages and operates all its business functions. A horizontally integrated company is a corporation consisting of a number of companies, each of which is acting independently. The corporation provides branding, direction and general strategy. Analyze, compare and contrast the supply chain strategies of two types of companies 10 L4 CO6
- d) Explain the following with respect to SCM 10 L2 CO6
 - i) Supply Chain Integration
 - ii) Supply Chain Network Design

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Attempt Any Two

- | | | | | |
|----|--|----|----|-----|
| a) | Sumit Corporation distributes Video games terminals throughout India. The marketing manager estimates the demand for next year to be 500 units per month and the cost of placing an order is Rs. 5000. The estimated holding cost is 20 per cent of the base price per unit per year. The video game terminals are imported from suppliers in Japan and the delivery lead time is one month. The cost per unit is Rs 2400.

Design an inventory policy for Sumit Corporation. If the supplier insisted on a minimum batch size of 1200 for any order, what should be the inventory system be? What is the implication of this minimum batch size to Sumit Corporation. | 10 | L6 | CO5 |
| b) | Titan watches currently manufactures major components required for its brand of watches in house with the state of the art facilities installed. The company is thinking of outsourcing its manufacturing activities. Can you justify the decision of the company Give reasons. Will it be good operational strategy for company like Titan? | 10 | L5 | CO6 |
| c) | Titan offers two brands of watches- Sonata and Fast track. Sonata is targeted at a premium segment. Should Titan manage both brands with the same supply chain? Should they share warehouses, transportation, supply chain software and other assets or should Titan handle them separately in all the areas of business. | 10 | L5 | CO6 |

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