

RegNo.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY  
SECOND TRIMESTER MBA DEGREE EXAMINATION(R&S), FEBRUARY 2020**

**Course Code: 24**

**Course Name: Operations Management**

Max. Marks: 60

Duration: 3 Hours

**PART A**

*Answer all questions. Each question carries 2 marks.*

Marks

- |   |                                              |     |
|---|----------------------------------------------|-----|
| 1 | What are the 5P's of Operations Management?  | (2) |
| 2 | What do you mean by 'Mass Production'?       | (2) |
| 3 | What are the factors affecting productivity? | (2) |
| 4 | Elucidate 'VED analysis'                     | (2) |
| 5 | Interpret the term 'Bull Whip Effect'        | (2) |

**PART B**

*Answer any three questions. Each question carries 10 marks.*

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|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 6 | What is 'Process Analysis'? Explain the major factors affecting process design.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | (10) |
| 7 | Explain in detail the various Work Measurement techniques and how these can be conducted?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (10) |
| 8 | <p>An auto parts supplier sells 'safe-power' brand batteries to car dealers and auto mechanics. The annual demand is approximately 1,200 batteries. The supplier pays Rs. 2500 for each battery and estimates that the annual holding cost is 30 percent of the battery's value. It costs approximately Rs. 2000 to place an order (managerial and clerical costs). The supplier currently orders 100 batteries per month.</p> <p>(i) Determine the annual ordering, holding, and total inventory costs for the current order quantity. (3 marks)</p> <p>(ii) Find the economic order quantity (2 marks)</p> <p>(iii) How many orders will be placed per year using the EOQ? (1 mark)</p> <p>(iv) Determine the ordering, holding, and total inventory costs for the EOQ. (3 marks)</p> <p>(v) How has ordering cost changed? Holding cost? Total inventory cost? (1 mark)</p> | (10) |
| 9 | <p>a. "A good layout must result in optimum utilization of resources and maximum effectiveness". Elucidate. (4 marks)</p> <p>b. Three locations X, Y &amp; Z have been identified to start a manufacturing venture by an entrepreneur. He has conducted statistical forecasting and concluded that the expected volume of production would be 10000 units/year. The three locations have cost structures as shown in the following table.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                  | (10) |

Location	Fixed cost/year	Variable cost/unit
X	Rs. 125,000	Rs. 40
Y	Rs. 200,000	Rs. 33
Z	Rs. 300,000	Rs. 25

Find the most economical location. Also determine the range of annual production volume for which each of the locations X, Y & Z would be most economical by applying break even concept. (6marks)

- 10 a. Define and explain 'World Class Manufacturing' (WCM). Explain the principles of WCM. (6 marks) (10)  
b. "In a rapidly changing market environment, Quick Response Manufacturing is gaining acceptance". Elucidate (4 marks)

### PART C

*Compulsory Question. The question carries 20 marks.*

- 11 a. "A Master Production Schedule delivers accurate and timely production plans that help manufacturers achieve their production objectives and minimize procurement costs". Elucidate. Explain the process of Master Production Scheduling with example. (10 marks) (20)  
b. What is Material Requirement Planning? Explain the Material Requirement Planning process with example. (10 marks)

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