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| <b>R15</b> |
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**Code No: 723AA**
**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**
**MBA III Semester Examinations, April/May-2019**
**PRODUCTION AND OPERATIONS MANAGEMENT**
**Time: 3hours**
**Max.Marks:75**
**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART - A**
**5 × 5 marks = 25**

- 1.a) Define the concepts 'production' and 'operations' management and its relationship with materials department. [5]
- b) Why is capacity planning strategically important? Describe different strategies for expanding capacity. [5]
- c) What is the relationship between the volume, variety and flow characteristics of an operating firm and its layout? [5]
- d) Briefly discuss Priority Dispatching Rules followed in scheduling process. [5]
- e) What is integrated materials management? [5]

**PART - B**
**5 × 10 marks = 50**

- 2.a) What is a transformation process? Explain the transformation process in a commercial bank.
- b) How is job production different from batch production process? [5+5]

**OR**

- 3.a) Explain about World Class Manufacturing and its characteristics.
- b) Explain generic competitive strategies. [5+5]

4. Elaborate different steps involved in product design. Represent the various stages in a block diagram. [10]

**OR**

- 5.a) What do you understand by 'value analysis?
- b) What are the different responsibilities of a process planning engineer? Explain with help of a suitable example in any industry of your choice. [5+5]

6. What are the different types of layouts? How can an organization decide on the type of layout to choose? [10]

**OR**

7. What is the importance of location decision in operations management? What are the consequences of a bad location selection? [10]

8. How is scheduling linked to other aspects of production planning? How would you determine the complexity of the scheduling problem? [10]

**OR**

9. A service provider has two stages in service delivery. Initially, the customers arrive at stage 1, get the service and then reach stage 2, where the remaining part of the service is completed. All arriving customers wait at a lounge and are called on some basis into the system once a batch of eight accumulates. All of them go through these two stages, although the time they spend in these two stages may vary depending on their specific requirements. The time spent by a set of eight customers on these two stages are given below.

|  | Customer number |    |    |    |    |    |    |    |
|--|-----------------|----|----|----|----|----|----|----|
|  | 1               | 2  | 3  | 4  | 5  | 6  | 7  | 8  |
| Stage 1 (minutes)                          | 11              | 10 | 9  | 13 | 12 | 10 | 9  | 11 |
| Stage 2 (minutes)                          | 9               | 14 | 10 | 12 | 14 | 14 | 11 | 10 |
| Arrival time (minutes from start of batch) | 0               | 1  | 3  | 4  | 5  | 7  | 8  | 10 |

- Use Johnson's rule to schedule customers in the system
  - Identify key performance measures for the above situation and compute them for the solution obtained using Johnson's rule.
  - If you schedule the customers using FCFS what is its impact on the performance criteria? [10]
10. What are the advantages and disadvantages of managing inventory? How you decide about the EOQ, re-order level, maximum, minimum level of the inventory having following details-
- Annual demand - 48000 units
  - Unit cost - Rs 1.25
  - Ordering cost - Rs 45
  - Carrying cost - 15% of average inventory
  - Working days - 300 days a year
  - Procurement time - 12 days
  - Safety stock - 500 units [10]
- OR**
- How ABC analysis and VED analysis are different from each other?
  - Write short note on purchase management. [5+5]

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