

R22

Code No: 783AA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

MBA III Semester Examinations, February - 2024

PRODUCTION AND OPERATIONS MANAGEMENT

Time: 3 Hours

Max.Marks:60

Note: This question paper contains two parts A and B. i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.

- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from **Part-B**.

PART- A

(10 Marks)

- 1.a) What are the types of production systems? [1]
- b) Define productivity. [1]
- c) What are the steps in product design? [1]
- d) Explain the value analysis. [1]
- e) What is value engineering? [1]
- f) Explain the product layout. [1]
- g) Explain the types of layouts. [1]
- h) What is scheduling? [1]
- i) Explain the concept of green purchasing. [1]
- j) What is SDE analysis? [1]

PART - B

(50 Marks)

- 2.a) Describe the importance of strategic operations management.
 - b) Explain the generic competitive strategies. [5+5]
- OR**
3. What is World Class Manufacturing, and how does it contribute to operational excellence? [10]
 4. Explain the steps involved in capacity planning and how optimization techniques enhance capacity. [10]
- OR**
5. What is value analysis in product design and How value engineering contribute to the efficiency of production systems? [10]
 6. Describe the advantages and limitations of product layout and group technology layout with suitable illustration. [10]

OR

QA

QA

QA

QA

QA

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QA

7. Explain the single-facility location problem and multi-facility location problems with real-world case examples. [10]

- 8.a) Provide the optimal job sequence involving three machines M1, M2 and M3 in the order M1M2M3 for the following and also find out the total time for completing all the jobs:

Jobs	1	2	3	4	5
M1	7	12	11	9	8
M2	8	9	5	6	7
M3	11	13	9	10	14

- b) Discuss the heuristic procedures and priority dispatching rules in detail. [6+4]

OR

- 9.a) Discuss the various scheduling techniques with examples.

- b) Brief on quality control process. [5+5]

- 10.a) Explain the role of materials planning in integrated materials management.

- b) Discuss the components of materials planning. [5+5]

OR

- 11.a) A company uses 25,000 numbers of a component per year. It costs Rs.100 to place and receive an order and carrying cost is 30% of unit price, and the supplier quotes the following prices for the component.

Quantity	Unit price
0-499	Rs. 21.60
500-999	Rs. 20.95
1000+	Rs. 90

- i) What is EOQ? ii) What is the minimum total cost of component for the annual requirement?

- b) Discuss the selective inventory control techniques with their application areas. [7+3]

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