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21ME61

Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025

Production and Operations Management

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define operation management and explain operation management function, with block diagram. (10 Marks)
- b. Differentiate between goods and services. (10 Marks)

OR

- 2 a. Explain the characteristics of operation decisions. (10 Marks)
- b. Mention the frame work for decision making process. (10 Marks)

Module-2

- 3 a. Explain the elements of good forecast. (10 Marks)
- b. Mention the steps involved in forecast process. (10 Marks)

OR

- 4 a. Explain long term, short term and intermediate forecasts. (10 Marks)
- b. With the help of least-squares method, develop a linear trend equation for the data shown in the table and
 - i) Compute the constants a and b in the regression equation
 - ii) Forecast a trend value for the year 2002 and 2008.

Year	1991	92	93	94	95	96	97	98	99	2000	2001
Shipments (tones)	2	3	6	10	8	7	12	14	14	18	19

(10 Marks)

Module-3

- 5 a. Explain the importance of capacity decisions. (10 Marks)
- b. Explain measuring capacity with examples. (10 Marks)

OR

- 6 a. Name the different types of processing layouts and explain any two. (10 Marks)
- b. Explain the need for layout decisions. (10 Marks)

Module-4

- 7 a. Explain purpose and scope of aggregate planning. (10 Marks)
- b. Name the different strategies involved in aggregate planning. (10 Marks)

OR

- 8 a. What are the objectives of master scheduling process? (10 Marks)
- b. Mention the planning horizon of master schedule. (10 Marks)

Module-5

- 9 a. Mention the benefits in material requirement planning. (10 Marks)
- b. Explain briefly MRP inputs. (10 Marks)

OR

- 10 a. Explain the importance of purchasing in supply chain management. (10 Marks)
- b. Define tender and mention the approaches to supply chain management. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.