Register No.:   ……………………………   Name.:   ………………………………………………………

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIRST SEMESTER MBA (Logistics and Supply Chain Management)
DEGREE EXAMINATION (R), DECEMBER 2023
(2021 Scheme)

Course Code :   **23MBL113**

Course Name: **Operations Management**

Max. Marks :   **60**   **Duration: 3 Hours**

PART A
(Answer all questions. Each question carries 2 marks)

1. What does a product-process matrix show?
2. Recall the steps involved in forecasting.
3. Define utilization.
4. Note the similarities between MRP and ERP.
5. Explain PDCA in Quality Management.

PART B
(Answer any 3 questions. Each question carries 10 marks)

6. Analyze the recent trends in operations management.
7. a) Explain any two quantitative methods of forecasting?   Marks (4)
   b) Make use of data, prepare forecast for period 6 using
      i) A 3 Period moving average.   Marks (1)
      ii) A weighted average using weights of .50 (most recent), .30 and .20.
                                                                     Marks (2)
      iii) Exponential smoothing with a smoothing constant of .40. Marks (3)

Period	Number of complaints
1	60
2	65
3	55
4	58
5	64

8. a) Explain Cost-Volume Analysis.   Marks (5)

   b) Assume that as an investor, you are planning to enter the construction industry as a panel formwork supplier. The potential number of forthcoming projects, you forecasted that within two years, your fixed cost for producing formworks is Rs. 300,000. The variable unit cost for making one panel is Rs. 15. The sale price for each panel will be Rs. 25. If you charge Rs. 25 for

each panel, how many panels you need to sell in total, in order to start making money?

Marks (5)

9. The Production manager of an ABC Ltd. is planning to put together an aggregate plan for the coming nine months. He has obtained a forecast of expected demand for the planning horizon. The plan must deal with highly seasonal demand; demand is relatively high in period 3 and 4 and again in period 8.

Period	Forecast
1	190
2	230
3	260
4	280
5	210
6	170
7	160
8	260
9	180
Total	1940

The department has 20 full time employees, each of whom produces 10 units of output per period at a cost of Rs. 6 per unit. Beginning inventory for period one is zero. Inventory carrying cost is Rs. 5 per unit per period. And backlog cost is Rs. 10 per unit per period.

Make use of data find total cost of the plan, including production, inventory and backorder costs.

10. Explain the 14 principles in quality management.

PART C
(Compulsory question, the question carries 20 marks)

11. a) Define MRP II and explain its components.   Marks (10)

    b) Explain master production schedule.   Marks (10)

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