

Code No: R204103J

R20

SET - 1

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM**  
**IV B. Tech I Semester Advanced Supplementary Examinations March 2025**

**PRODUCTION PLANNING AND CONTROL**

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**

All Questions Carry Equal Marks

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**UNIT-I**

1. a) Discuss about different elements of PPC. [7M]  
b) Explain about the characteristics and applications of batch and mass production systems. [7M]

(OR)

2. a) Describe the importance of PPC in an organization? [7M]  
b) Explain the objectives of production control. [7M]

**UNIT-II**

3. a) Explain different methods of forecasting for new products. [7M]  
b) For the data of a company given below, take  $\alpha=0.33$ . Find exponential smoothing forecast for the month of December. Compare the forecast with actual demand values. [7M]

Month	Demand
May	584
June	610
July	655
August	747
September	862
October	913
November	963

(OR)

4. a) Explain short term forecasting and long term forecasting with applications. [7M]  
b) Describe different quantitative techniques of forecasting. [7M]

**UNIT-III**

5. a) Illustrate bill of materials with an example? [7M]  
b) Explain the salient features of ABC and VED analyses. [7M]

(OR)

6. a) Explain the differences between MRP, ERP and aggregate planning. [7M]  
b) In a company, annual usage is 15,000 units. Ordering cost is Rs.200 per order & carrying cost per unit per year is 20% of purchase price/unit. Purchase price per unit is Rs.100. Determine: [7M]  
i. EOQ ii No. of orders/year iii. Time between successive orders

**UNIT-IV**

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|------|----|--|------|
| 7.   | a) | Explain the factors that affect routing procedure.                 | [7M] |
|      | b) | Describe different types of scheduling techniques?                 | [7M] |
| (OR) |    |  |      |
| 8.   | a) | Explain about: Route sheet, Gantt chart and String diagram.        | [7M] |
|      | b) | Briefly explain about line balancing technique and its importance. | [7M] |

**UNIT-V**

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|------|----|---|------|
| 9.   | a) | Discuss the duties of dispatcher.                   | [7M] |
|      | b) | Explain briefly about different types of follow up. | [7M] |
| (OR) |    |   |      |
| 10.  | a) | Describe centralized and decentralized dispatching? | [7M] |
|      | b) | Explain the role of computers in PPC.               | [7M] |

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