

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION)**

**CLASS: BTECH  
BRANCH: All**

**SEMESTER : VII/ADD  
SESSION : MO/2025**

**SUBJECT: PE417 PRODUCTION MANAGEMENT**

**TIME: 02 Hours**

**FULL MARKS: 25**

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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|---|-------|---------|---------|
| Q.1 Compare Batch Production and Mass Production systems in terms of their characteristics, advantages, and limitations.  | [5]   | CO<br>1 | BL<br>2 |
| Q.2 Classify different types of Plant Layout and explain any two of them with suitable diagrams.  | [5]   | 1       | 2       |
| Q.3 Consider the data given in the following table. Plot the requirements over the 10 periods on a graph (scatter diagram), and identify a suitable method of forecasting. Calculate the forecasted value for the 11 <sup>th</sup> period using the suggested method. | [2+3] | 2       | 4       |

Year	Requirements
1	940
2	923
3	865
4	908
5	902
6	831
7	864
8	872
9	825
10	835

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|--|-----------|---|---|
| Q.4 Calculate Mean Absolute Deviation (MAD) and Root Mean Squared Error (RMSE) of the forecasting method used in question 3 using the same data.                   | [2.5+2.5] | 2 | 3 |
| Q.5 Describe the following terms with example.<br>a) Master production schedule, b) bill of material, c) gross requirement, d) lead time, e) planned order release | [5×1=5]   | 3 | 1 |

:::23/09/2025 :::M