

Roll No.

Total Pages : 03

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Dec. 2025

B.Tech. (ME/ ME Hindi) (Fifth Semester)

Industrial Engineering (PCC-ME-505-21)

Time : 3 Hours]

[Maximum Marks : 75

Note : It is compulsory to answer all the questions (1.5 marks each) of Part A in short. Answer any *four* questions from Part B in detail. Different sub-parts of a question are to be attempted adjacent to each other.

Part A

1. (a) What is Productivity ? **1.5**
- (b) What is Indirect Cost ? **1.5**
- (c) How standard time for a job is evaluated ? **1.5**
- (d) Why is Inventory Control Necessary ? **1.5**
- (e) What is Industry 4.0 ? **1.5**

- (f) What is master Production Schedule ? 1.5
- (g) What is Lean Manufacturing ? 1.5
- (h) What is Economic Order Quantity ? 1.5
- (i) What is the Work Measurement ? 1.5
- (j) What is Production Planning and Control ? 1.5

Part B

- 2. (a) What are the factors affecting Productivity ?
How is the Productivity measured ? 10
- (b) How the Plant location and Plant layouts are finalized ? 5
- 3. (a) How the Method study and Time study is carried out in a manufacturing industry ? 5
- (b) What is the significance of Manufacturing Cost analysis ? How cost cutting is done in a manufacturing firm ? 10
- 4. How the EOQ and EBQ calculated for Material management ? Explain the various inventory control models. 15

5. (a) Differentiate between Forecasting and Prediction with examples. 5
- (b) How the forecasting errors are handled ?
What is the scientific and evidence based procedure of forecasting in a production system ? 10
6. (a) What are the objectives and variables of production planning and control ? 5
- (b) Elaborate the Johnson algorithm for n-jobs-2 machines with illustrations. 10
7. What are the strategies for improving Productivity in a manufacturing industry ? Elaborate ways and means for Time Reduction for the manufacturing of a product. 15

