

FACULTY OF ENGINEERING

B.E. 4/4 (Mech./Prod.) II – Semester (Main) Examination, May / June 2015

Subject : Production and Operations Management

Time : 3 hours

Max. Marks : 75

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.**PART – A (25 Marks)**

- 1 Define plant layout and give its objectives.
- 2 What are incentives? How these help the production?
- 3 State the objectives of forecasting.
- 4 Briefly describe Delphi technique.
- 5 What are the objectives of aggregate planning?
- 6 What are the main features of Enterprise Resource Planning (ERP).
- 7 Describe the importance of inventory control.
- 8 Briefly explain Fulkerson's rule.
- 9 List out assumptions in EOQ.
- 10 Differentiate between event and activity.

PART – B (5 x 10 = 50 Marks)

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|--|---|
| 11 a) Differentiate between process layout and product layout with the help of a neat figure. | 5 |
| b) What is the difference between method study and work measurement? | 5 |
| 12 a) Distinguish between moving average, exponential smoothing and trend projection methods of forecasting. | 5 |
| b) What are the common measures of forecast error? Explain. | 5 |
| 13 a) Distinguish between MRP and MRP II. | 4 |
| b) What is aggregate planning? What are the techniques available to prepare aggregate planning? | 6 |
| 14 a) Compare between quantity and periodic reorder inventory systems. | 4 |
| b) Determine i) EOQ ii) Total cost for the following : | 6 |
| Demand = 1200 units per month | |
| Carrying cost = Rs.40 per unit / yr. | |
| Ordering cost = Rs.75 per order | |
| No. of working days = 240 days / yr. | |

15 The following information is given :

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| Activity | Estimated duration in days | | |
|----------|----------------------------|-------|-------|
| | t_o | t_m | t_p |
| 1-2 | 2 | 5 | 14 |
| 1-6 | 2 | 5 | 8 |
| 2-3 | 5 | 11 | 29 |
| 2-4 | 1 | 4 | 7 |
| 3-5 | 5 | 11 | 17 |
| 4-5 | 2 | 5 | 14 |
| 6-7 | 3 | 9 | 27 |
| 5-8 | 2 | 2 | 8 |
| 7-8 | 7 | 13 | 31 |

Draw the network diagram for the above and calculate

- i) Critical path and total project duration
- ii) Variance for each activity

16 a) Define scheduling. Describe the factors affecting scheduling.

5

b) Distinguish between job production and batch production.

5

17 Write short notes on :

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- i) Forecast errors
- ii) Master scheduling
- iii) Break even analysis
