

Code: ME7T2

**IV B.Tech - I Semester – Regular/Supplementary Examinations
October - 2018**

**PRODUCTION PLANNING AND CONTROL
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) Write short note on types of production.
- b) What are the different qualitative forecasting techniques?
- c) What are the advantages of good forecasts?
- d) What are the functions of inventory?
- e) Write short note on inventory costs.
- f) Briefly write about routing procedure.
- g) List and explain priority rules for job sequencing.
- h) List out objectives of line balancing.
- i) What are the capacity options related to aggregate planning?
- j) What is dispatching? What is its significance?
- k) List the types of follow up.

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) The demand for six consecutive periods for a product is as follows: 105,108,112,116,120,130.
- i) Establish a linear forecast.
 - ii) Determine the forecasted demand in 11th period.
- 8 M
- b) Define productivity. Elucidate the PPC production planning control functions briefly.
- 8 M
3. a) Explain about the MRP II system in detail.
- 8 M
- b) A company requires 10000 units of an item per annum. The cost of ordering is Rs.100 per order. The inventory carrying cost is 20%. The unit price of the item is Rs.10. Calculate
- i) the economic order quantity
 - ii) Optimal total annual cost
 - iii) time between the orders.
- 8 M
4. a) Processing times and due dates for six jobs waiting to be processed at a work centre are given. Determine the sequence of jobs, average flow time, average tardiness and average number of jobs at the work centre for each of these rules

- i) FCFS
- ii) SPT
- iii) EDD
- iv) CR

Job	Processing time in days	Due date in days
A	2	7
B	8	16
C	4	4
D	10	17
E	5	15
F	12	18

Assume jobs arrive in the order shown. 8 M

b) Define routing & its significance. Explain about the important components of routing sheets. 8 M

5. a) Why aggregate planning is called as intermediate planning? Explain. 8 M

b) Explain the various steps of Line of Balance technique. 8 M

6. a) Explain about the applications of computer in production planning and control. 8 M

b) Explain the necessity of close control in dispatching activities. 8 M