Code: ME7T2

**IV B.Tech - I Semester – Regular / Supplementary Examinations
JANUARY - 2022**

**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) Define Production Planning and control.
   b) Write types of forecasting.
   c) How would you differentiate between mass production and batch production?
   d) Write different inventory costs considered in inventory management.
   e) What is Material Requirement Planning (MRP)?
   f) What are different types of scheduling?
   g) Write different priority rules used in scheduling.
   h) Write various strategies of aggregate planning.
   i) What is cycle time in line balancing?
   j) Define dispatching.
   k) What is expediting?

PART – B

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

$$3 \times 16 = 48 \text{ M}$$

2. a) Explain functions of production planning and control. 8 M

b) The monthly demand for units manufactured by a Rocket Manufacturing Co. is as follows:

Month	May	June	July	August	September	October	November	December
Units	100	90	110	115	105	115	125	120

Use Single Exponential Smoothing method to forecast the number of units for June to January. Assume forecast for the month of May to be 100 units. 8 M

3. a) List various assumptions in EOQ model. Derive EOQ equation. 8 M

b) Explain the steps to be followed for ABC analysis. 8 M

4. a) Explain factors affecting routing procedure. 8 M

b) A book-binder has one printing press, one binding machine and the manuscripts of a number of different books. The time required to perform the printing and binding operations for each book are shown as follows.

Book	1	2	3	4	5	6
Printing time(hrs)	30	120	50	20	90	100
Binding time(hrs)	80	100	90	60	30	10

Determine the order in which the books should be processed in order to minimise the total time required to turn out all the books. **8 M**

5. a) Explain various costs considered in aggregate planning. **8 M**

   b) Explain Line balancing using Largest candidate rule. **8 M**

6. a) What is centralised and decentralised dispatching? Explain dispatching procedure. **10 M**

   b) Explain types of follow-up. **6 M**