Code No: **R4203A**   **R10**   Set No. 1

IV B.Tech II Semester Regular/Supplementary Examinations, April/May - 2016
PRODUCTION PLANNING AND CONTROL
(Common to Mechanical Engineering and Automobile Engineering)

Time: 3 hours   **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1	a)	Explain various types of Production Systems with examples.	[8]
	b)	Explain the internal organization of department with neat diagram.	[7]
2	a)	Explain any two methods for forecasting demand for established products.	[7]
	b)	The demand for six consecutive periods for a product is as follows: 105,108,112,116,120,130. i) Establish a linear forecaster. ii) Determine the forecasted demand in 11th period.	[8]
3	a)	Discuss the various costs associated with inventory.	[8]
	b)	An item is produced at a rate of 100 units per day and the demand occurs at the rate of 75 units per day. If the set up cost is Rs90 per set up, holding cost is Rs0.10 per unit per day find the economic batch size per run and total cost per annum.	[7]
4	a)	Write about the Material Requirement Planning –I (MRP-I) in detail.	[8]
	b)	Explain about the concept of JIT and Kanban System.	[7]
5	a)	Draw the route sheets used in production shop.	[8]
	b)	Explain about the concepts of scheduling and difference with loading.	[7]
6		Explain about standard scheduling Techniques.	[15]
7	a)	Why aggregate planning is called as intermediate planning? Explain.	[8]
	b)	Explain about line balancing.	[7]
8	a)	Write the applications of Computers in Production Planning and Control.	[8]
	b)	Explain the necessity of close control in dispatching activities.	[7]

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Answer any FIVE Questions
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1 a) Explain about organization of production planning and control department. [8]
   b) Write about elements of production control in detail. [7]

2 a) Using the exponential smoothing technique, Compute the forecasts from the following data (time series) under the situations when α = 0.7.Compute the forecast for the 11th period.

Month	1	2	3	4	5	6	7	8	9	10
Demand	28	30	32	31	27	26	30	33	32	31

   [9]
   b) Write about the general principles of forecasting. [6]

3 a) What are the different methods of classifying items and compare them. [7]
   b) 20 units per year is the rate of use of particular raw material. The cost of placing an order is Rs35. and the cost of each unit is Rs 95/- the cost of carrying inventory is 20% per year and it depends on average stock. Calculate order point and EOQ if the lead time is 3 months. [8]

4 a) Write about the Material Requirement Planning-II (MRP-II) in detail. [7]
   b) Explain various benefits and demerits of Just-In-Time (JIT) system. [8]

5 a) Define Routing. Explain the procedure for Routing in a production shop. [8]
   b) What is a route sheet? What does it contain? Explain it with an example. [7]

6 a) Explain about standard scheduling methods. [8]
   b) Explain about Scheduling and Loading. [7]

7 a) Write about Chase planning in detail. [8]
   b) Explain the pure strategies of aggregate planning. [7]

8 a) Explain the activities of dispatcher. [8]
   b) Explain the reasons for existence of follow-up functions. [7]

Code No: **R4203A**   **R10**   Set No. 3

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Time: 3 hours   **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1 a) Explain the functions of production planning and control.   [8]
   b) Write about the scope of production planning and control.   [7]

2 a) A comparison of monthly sales of expensive item, against the total number
        of visits made by a salesman during the previous month, yields the following
        data. Find the Correlation coefficient and probable error? Is the correlation
        of the two variables good enough to enable the number of visits, to be
        adopted as an efficient indicator of future sales.

Sales	1	3	5	7	11
Visits made	2	4	8	9	10

                                                                               [8]
   b) Define Forecasting. Write about the importance of forecasting.   [7]

3 a) Compare P system and Q system type of inventory with applications.   [8]
   b) The annual demand is 25000 units, production rate is 40000 units. Set up
        cost in Rs225 per set up, carrying costs is Rs25/unit/year. Find EOQ and
        cycle time.   [7]

4 a) What are the factors involved in ERP implementation? What should be done
        to avoid failure in ERP implementation?   [8]
   b) What are the objectives of Line of Balance (LOB)?   [7]

5 a) Does the routing procedure of Job shop production system differ from batch
        production system? Explain.   [8]
   b) Explain about the bill of material (BOM) in MRP.   [7]

6 a) Why scheduling is essential? Enumerate its main purposes.   [8]
   b) Draw the different charts used for scheduling.   [7]

7   Explain about the Controlling aspects in production plant.   [15]

8 a) Define Follow up and Explain about the types of Follow up.   [8]
   b) Why dispatching is required on shop floor?   [7]

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Time: 3 hours   Max. Marks: 75

Answer any FIVE Questions
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*****

1 a) Explain the objectives of production planning and control.   [8]
   b) What are the activities in control phase of production planning and control? Explain in brief.   [7]

2 a) Find the MAD (Mean Absolute Deviation) and MSE (Mean Square Error) for the following forecast.

Period	1	2	3	4	5	6	7	8	9	10	11	12
Actual demand	97	93	110	98	130	133	129	138	136	124	139	125
Forecasted demand	100	100	100	100	102	104	106	108	110	112	114	116

[8]
   b) Explain about the types of forecasting and their uses.   [7]

3 a) Write about inventory management and explain the functions of inventories.   [8]
   b) If a product is to be manufactured within the company, the details are as follows: Annual demand rate, =24000 units
                    Production rate, = 48000 units
                    Setup cost = Rs. 200 per setup
                    Carrying cost = Rs.20/unit/year.
            Find the i) EOQ and ii) Cycle time   [7]

4 a) What are the different methods of lot sizing in MRP system? Explain   [8]
   b) Explain the difficulties faced in implementing ERP.   [7]

5 a) Explain the factors affecting the routing procedure.   [8]
   b) What are the contents to be mentioned in a route sheet? Explain with an example.   [7]

6 a) How does scheduling in Job shop differ from Batch shop? Explain in detail.   [8]
   b) Explain about scheduling policies.   [7]

7 a) Write about Aggregate planning in detail.   [8]
   b) Explain about Expediting in production plant.   [7]

8 a) Write about the Dispatching procedure in detail.   [9]
   b) What are the causes of production delays? Give examples.   [6]