Code No: **RT42031** **R13** **Set No. 1**

IV B.Tech II Semester Regular Examinations, April/May - 2017

PRODUCTION PLANNING AND CONTROL

(Common to Mechanical Engineering and Mining Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) What is job order production? [3]
   b) State the objectives of short term forecasting. [4]
   c) Give a short note of ABC analysis. [3]
   d) Define routing. List out limitations of routing. [4]
   e) What is scheduling? What are its objectives? [4]
   f) Discuss any four applications of computer in PPC. [4]

PART–B *(3x16 = 48 Marks)*

2. a) Describe the functions of Production planning and control. [8]
   b) State the purpose of a manufacturing organization in an industry. Give a typical organization structure of a manufacturing organization. [8]

3. a) Describe 'Exponential Smoothing Method' of sales forecasting. State its advantages and limitations. [8]
   b) Find the trend using least square method for the date below. Also estimate demand for 1984. [8]

Year	1975	1976	1977	1978	1979	1980	1981
Demand in 1000 units	85	75	80	72	65	60	55

4. a) Explain the significance of EOQ formula. What are its Limitations? [8]
   b) What is meant by VED analysis? What is its significance? [8]

5. a) Explain how the routing differs in job order, intermittent and continuous production systems. [8]
   b) List out and explain the objectives of routing. [8]

Code No: **RT42031** **R13** **Set No. 1**

6. Following data is available for processing three orders: A, B and C. Order AJ712 was received two days after receipt of order AJ600 and AJ720 was received one day after receipt of order AJ712. One day is required for setting up and material handling between each operation. Prepare a Gantt schedule chart. There are no machine restrictions.

	Estimated time(days)		
Operation No.	Order No. AJ712	Order No. AJ 720	Order No. AJ 600
10	7	8	3
20	5	2	5
30	3	4	5
40	2	-	-
50	1	-	-
60	1	-	-

[16]

7. a) Explain about the dispatching procedure. [8]
   b) Explain the necessity of close control in dispatching activities? [8]

Code No: **RT42031** **R13** **Set No. 2**

IV B.Tech II Semester Regular Examinations, April/May - 2017

PRODUCTION PLANNING AND CONTROL

(Common to Mechanical Engineering and Mining Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) What is batch production? [3]
   b) State the objectives of long term forecasting. [4]
   c) Give a short note of KANBAN system. [3]
   d) What is the importance of route sheet? [4]
   e) Describe master scheduling. [4]
   f) Discuss the advantages of decentralized dispatching. [4]

PART–B *(3x16 = 48 Marks)*

2. a) Explain the relationship between 'Production planning' and 'control'. [8]
   b) Describe the activities in follow up or control phase of PPC. [8]

3. a) Forecast the demand for the following series by exponential smoothing method:

Period	1	2	3	4	5	6	7	8	9	10
Actual Demand	10	12	8	11	9	10	15	14	16	15

   [8]
   b) Name and describe the various factors affecting sales forecasting. [8]

4. a) How can load reports be used to develop material requirement plans? [8]
   b) Explain the factors affecting the inventory costs. [8]

5. a) Explain the bill of material with design specification chart. [8]
   b) Define routing. Explain the routing procedure in brief. [8]

Code No: **RT42031** **R13** **Set No. 2**

6. A machine operator processes five types of products and must choose sequence for them. The set-up cost per change (Rs.) depends on the products presently on the machine and the set-up be made according to the following table. Changeovers from A to D and C to E are not allowed. How should one sequence the products in order to have minimum total set-up cost?

From Product	To Product				
	A	B	C	D	E
A	-	4	7	-	4
B	4	-	6	3	4
C	7	6	-	7	-
D	3	3	7	-	6
E	4	6	4	5	-

[16]

7. a) What is meant by Dispatching? [4]
   b) Explain the different types of follow ups? [8]
   c) Give a list of records maintained by Dispatching Department? [4]

Code No: **RT42031** **R13** **Set No. 3**

IV B.Tech II Semester Regular Examinations, April/May - 2017
PRODUCTION PLANNING AND CONTROL
(Common to Mechanical Engineering and Mining Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A *(22 Marks)*

1. a) What is continuous production? [3]
   b) Describe moving average method. [4]
   c) Give a short note of JIT system. [3]
   d) What are the factors affecting routing procedure. [4]
   e) Describe production scheduling. [4]
   f) Discuss the advantages of centralized dispatching. [4]

PART–B *(3x16 = 48 Marks)*

2. a) Describe in brief, planning in manufacture organization. [8]
   b) Define production planning. State its objectives. List the information required for production planning. [8]

3. a) State the advantages and limitations of sales forecasting. [8]
   b) Project the trend of sales for the next four years.

Year	1983	1984	1985	1986	1987
Sales in Lakh	120	140	150	170	190

[8]

4. a) Explain the principles of MRP system. [8]
   b) Classify inventory models? Discuss briefly any one of them? [8]

5. a) What do you meant by bill of material? Explain in detail. [8]
   b) Discuss different routing procedure. [8]

6. For the following data, find the schedule that minimizes the mean flow time, if the number of parallel machines is 2.

Job	1	2	3	4	5	6	7	8
Processing Time (hr)	4	6	3	7	2	1	5	9

[16]

7. a) What is dispatching? State the various activities of dispatching in brief. [8]
   b) Name and describe the common forms used for dispatching. [8]

Code No: **RT42031** **R13** **Set No. 4**

IV B.Tech II Semester Regular Examinations, April/May - 2017
PRODUCTION PLANNING AND CONTROL
(Common to Mechanical Engineering and Mining Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
*****

PART–A ***(22 Marks)***

1.	a)	What are the objectives of PPC.	[3]
	b)	Explain the objectives of forecasting.	[4]
	c)	Give a short note on Line of Balance.	[3]
	d)	What is the importance of loading?	[4]
	e)	What is the role of LOB in project scheduling?	[4]
	f)	Briefly explain dispatching rules.	[4]

PART–B ***(3x16 = 48 Marks)***

2.	a)	State the advantages of better Production planning and control.	[8]
	b)	Name the various types of production systems. Describe the production system suitable for job work.	[8]
3.	a)	Explain the importance of sales forecasting.	[8]
	b)	Describe 'Least square method' of sales forecasting with its advantages and limitations.	[8]
4.	a)	Compare VED analysis with ABC analysis.	[8]
	b)	Explain the terminology involved in MRP system.	[8]
5.	a)	Describe route sheet with a suitable example.	[8]
	b)	Explain the importance of bill of material in production line.	[8]

Code No: **RT42031** **R13** **Set No. 4**

6. A bomb squad faces a terrible situation that the members wish had never happened. A terrorist has planted five bombs in an airport building, endangering lives and property. The squad has located all five bombs and must now proceed to dismantle them. Because of limited staffing, the bombs can be dismantled only sequentially. Unfortunately, there is not much time left and the squad must choose judiciously the order in which the bombs will be dismantled. The following data represents a reliable estimate by the squad. What sequence for dismantling the bombs would you recommend to the squad? What should be the criterion that the squad optimizes?

Bomb	1	2	3	4	5
Time to dismantle (hours)	3	1	2	4	1
Time remaining before the bomb will explode (hours)	9.0	11.25	11.0	6.0	5.0

[16]

7. a) List out and briefly explain the activities of dispatcher. [8]
   b) Explain the applications of computer in production planning and control. [8]