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

**IV B.Tech II Semester Regular/Supplementary Examinations, April - 2015**

# PRODUCTION PLANNING AND CONTROL

**(Common to Mechanical Engineering & Automobile Engineering**

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

**Answer any FIVE Questions**
**All Questions carry equal marks**
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1 a) Define and explain the role of production planning and control in an organization. [8]
b) Explain different types of production briefly. [7]

2 a) Define forecasting. Discuss the importance of demand forecasting in an industry. [8]
b) Distinguish between the qualitative and quantitative methods of sales forecasting techniques. [7]

3 a) What do you understand by the term 'Economic Order Quantity'? On what factors does it depend explain. [8]
b) Explain about various inventory costs. [7]

4 a) Explain various steps of line of balancing technique. [8]
b) Explain the concept of MRP system. [7]

5 What is routing? What are the factors responsible for proper routing? Explain. [15]

6 What is Gantt chart? Discuss the use of Gantt chart for scheduling purpose with an example. [15]

7 What is aggregate planning? What are its objectives? What is the need for aggregate planning and explain various steps in aggregate planning? [15]

8 a) What is dispatching? What are the various activities of a dispatcher? [8]
b) Explain the applications of computer in PPC. [7]

Code No: **R4203A** **R10** **Set No. 2**

**IV B.Tech II Semester Regular/Supplementary Examinations, April - 2015**

**PRODUCTION PLANNING AND CONTROL**

**(Common to Mechanical Engineering & Automobile Engineering)**

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

**Answer any FIVE Questions**

**All Questions carry equal marks**

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1 a) Explain the different functions of production planning and control. [8]

b) Write any sven differences between job shop, batch type and continuous production systems. [7]

2 a) List and explain the general principles of forecasting. [5]

b) Explain about the method of least squares. Write its merits and demerits. [5]

c) Reliance Ltd. has achieved the exports during 1992-93 to 1996-97 exhibited in the following table. Compute the exports during 2001 -2002 by the method of least squares. [5]

| Year | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 |
|---|---|---|---|---|---|
| Exports(crores) | 1.49 | 1.24 | 1.69 | 1.70 | 3.11 |

3 a) Explain the functions of inventory management. [8]

b) Write any seven differences between P and Q systems. [7]

4 a) Explain the concept of JIT system and MRP II. [8]

b) Explain about the concept of ERP system. [7]

5 a) Distinguish between route card and route sheet. [5]

b) What do you understand by BOM? Why they are prepared and explain with an example. [10]

6 a) Explain the objectives of scheduling. [8]

b) Explain Johnson's rule of scheduling the sequence of jobs. [7]

7 a) What is aggregate planning? What are the different approaches to aggregate planning? Explain. [8]

b) What is line balancing? Explain line balancing procedure. [7]

8 a) What is dispatching? Explain the dispatching procedure in detail. [8]

b) What is follow up and explain various types of follow up briefly. [7]

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

**IV B.Tech II Semester Regular/Supplementary Examinations, April - 2015**

**PRODUCTION PLANNING AND CONTROL**

**(Common to Mechanical Engineering & Automobile Engineering)**

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

**Answer any FIVE Questions**

**All Questions carry equal marks**

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| | | | |
|---|---|---|---|
| 1 | a) | Explain the objectives of production planning and control. | [8] |
| | b) | Explain the internal organization of PPC department. | [7] |
| 2 | a) | 'Forecasting is essential not only in business but in our daily life also'- support the statement with brief explanation. | [8] |
| | b) | Explain about method of least square and exponential smoothing method. | [7] |
| 3 | a) | Explain about ABC and VED analysis. | [8] |
| | b) | Explain the different functions of inventory. | [7] |
| 4 | a) | Explain about KANBAN system with an example. | [8] |
| | b) | Explain about inputs and outputs of MRP system. | [7] |
| 5 | | What is route sheet? How are they prepared and give factors affecting routing procedure. | [15] |
| 6 | | What is scheduling? Explain different scheduling techniques and their significance. | [15] |
| 7 | a) | Explain the concept of chase planning. | [8] |
| | b) | What is expediting and explain its importance in production planning. | [7] |
| 8 | a) | Write any four advantages and disadvantages of dispatching–centralized. | [4] |
| | b) | Write any four advantages and disadvantages of dispatching–decentralized. | [4] |
| | c) | Explain the role of computers in production planning and control. | [7] |

Code No: **R4203A** **R10** **Set No. 4**

**IV B.Tech II Semester Regular/Supplementary Examinations, April - 2015**

**PRODUCTION PLANNING AND CONTROL**

**(Common to Mechanical Engineering & Automobile Engineering)**

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

**Answer any FIVE Questions**

**All Questions carry equal marks**

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1 a) Explain the basic elements of production control system. [8]

b) Discuss the place of PPC department in the organization set up. [7]

2 What are different types of forecasting? Explain their significance, merits and demerits. [15]

3 a) Explain about fixed order quantity system and fixed order period system. [8]

b) Explain about ABC and VED analysis. [7]

4 a) Discuss the basic principles of JIT manufacturing system. [8]

b) Explain the techniques of Line of Balancing process. [7]

5 a) Write any six differences between loading and scheduling. [6]

b) Explain about the factors affecting the routing procedure briefly. [9]

6 a) Explain about forward and backward scheduling. [8]

b) Explain about scheduling using different scheduling norms. [7]

7 The precedence and the time requirements for each element are shown in table. The line operates for 7 hrs per day and an output of 550 units per day is desired.

a) Draw the precedence diagram for the production process.

b) Calculate i) cycle time and

ii) Theoretical minimum number of workstations required.

c) Group the tasks into number of workstations.

d) Calculate balance efficiency.

| Work element | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| Precedence | - | A | B | C | C | D,E | F |
| Time(min.) | 0.65 | 0.40 | 0.30 | 0.20 | 0.45 | 0.40 | 0.30 |

[15]

8 a) Explain any eight applications of computer in PPC. [8]

b) Explain the importance of a dispatcher in production and various activities of a dispatcher. [7]