

**PRODUCTION PLANNING AND CONTROL**

**Course objectives:**

This subject provides students with

1. An understanding of the concepts of production and service systems;
2. The ability to apply principles and techniques in the design, planning and control of these systems to optimise/make best use of resources in achieving their objectives.
3. Identify different strategies employed in manufacturing and service industries to plan production and control inventory.
4. Measure the effectiveness, identify likely areas for improvement, develop and implement improved planning and control methods for production systems.

**UNIT – I**

Introduction: Definition – objectives and functions of production planning and control – elements of production control – types of production – organization of production planning and control department – internal organization of department.

**UNIT – II**

Forecasting – importance of forecasting – types of forecasting, their uses – general principles of forecasting – forecasting techniques – qualitative methods and quantitative methods.

**UNIT – III**

Inventory management – functions of inventories – relevant inventory costs – ABC analysis – VED analysis – EOQ model – Inventory control systems – P-Systems and Q-Systems.

Introduction to MRP I, MRP II, ERP, LOB (Line of Balance), JIT and KANBAN system.

**UNIT – IV**

Routing – definition – routing procedure –route sheets – bill of material – factors affecting routing procedure, schedule –definition – difference with loading.

## **UNIT – V**

Scheduling policies – techniques, standard scheduling methods.

Line Balancing, aggregate planning, chase planning, expediting, controlling aspects.

## **UNIT – VI**

Dispatching – activities of dispatcher – dispatching procedure – follow up – definition – reason for existence of functions – types of follow up, applications of computer in production planning and control.

### **TEXT BOOKS:**

1. Elements of Production Planning and Control / Samuel Eilon.
2. Manufacturing, Planning and Control, Partik Jonsson Stig-Arne Mattsson, Tata Mc Graw Hill.

### **REFERENCES:**

1. Inventory Control Theory and Practice / Martin K. Starr and David W. Miller.
2. Production Planning and Control, Mukhopadyay, PHI.
3. Production Control A Quantitative Approach / John E. Biegel.
4. Production Control / Moore.

### **Course outcome:**

Upon completion of the subject, students will be able to

1. Apply the systems concept for the design of production and service systems.
2. Make forecasts in the manufacturing and service sectors using selected quantitative and qualitative techniques.
3. Apply the principles and techniques for planning and control of the production and service systems to optimize/make best use of resources.
4. Understand the importance and function of inventory and to be able to apply selected techniques for its control and management under dependent and independent demand circumstances.