

OBJECTIVES:

- To understand the various components and functions of production planning and control such as work study, product planning, process planning, production scheduling, Inventory Control.
- To know the recent trends like manufacturing requirement Planning (MRP II) and Enterprise Resource Planning (ERP).

UNIT I INTRODUCTION

Objectives and benefits of planning and Control-Functions of production Control-Types of production job- batch and continuous-Product development and design-Marketing aspect - Functional aspects-Operational aspect-Durability and dependability aspect aesthetic aspect. Profit consideration-Standardization, Simplification & specialization- Break even analysis -Economics of a new design.

UNIT II WORK STUDY

Method study, basic procedure-Selection-Recording of process - Critical analysis, Development - Implementation - Micro motion and memo motion study – work measurement - Techniques of work measurement - Time study - Production study - Work sampling - Synthesis from standard data - Predetermined motion time standards.

UNIT III PRODUCT PLANNING AND PROCESS PLANNING

Product planning -Extending the original product Information-Value Analysis-Problems in lack of product planning -Process planning and routing-Pre requisite information needed for process planning- Steps in process Planning-Quantity determination in batch Production-Machine capacity, balancing- Analysis of process capabilities in a multi-product system.

UNIT IV PRODUCTION SCHEDULING

Production Control Systems-Loading and Scheduling-Master Scheduling-Scheduling Rules-Gantt Charts-Perpetual Loading-Basic scheduling problems - Line of balance – Flow production scheduling- Batch production Scheduling-Product sequencing – Production Control systems-Periodic batch control-Material requirement planning kanban–Dispatching-Progress reporting and expediting- Manufacturing lead time-Techniques for aligning completion times and due dates.

UNIT V INVENTORY CONTROL AND RECENT TRENDS IN PPC

Inventory control-Purpose of holding stock-Effect of demand on inventories-Ordering procedures. Two bin system -Ordering cycle system-Determination of Economic order quantity and economic lot size- ABC analysis-Recorder procedure-Introduction to computer integrated production planning systems- elements of JUST IN TIME SYSTEMS-Fundamentals of MRP II and ERP.

TEXT BOOKS:

1. Martand Telsang, "Industrial Engineering and Production Management", First edition, S. Chand and Company, 2000.
2. James.B.Dilworth,"Operations management – Design, Planning and Control for manufacturing and services" Mcgraw Hill International edition 1992.