

# **RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL**

## **New Scheme Based On AICTE Flexible Curricula**

### **Mechanical Engineering, VIII-Semester**

#### **Departmental Elective ME 802(D) Production Planning and Control**

##### **OBJECTIVES**

After studying this course, students will be able to;

- 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)
- To learn work study,time study, work measurement

##### **Unit-I**

Introduction: Types and characteristics of production systems Objective and functions of Production, Planning & Control, Place of production, Planning in Engineering, manufactures organization. Preplanning: Forecasting & Market Analysis. Factory Location & Layout, Equipment policy and replacement. Preplanning production, capacity planning.

##### **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**

Production Planning: Aggregate Planning, MPS, Material Resource Planning, Selection of material methods, machines & manpower. Routing, Scheduling and Dispatching and its sheets & charts, ProductionLineBalancing.

##### **Unit-IV**

Production and Inventory Control: Progress control through records and charts. Types of inventories, Inventory Classification. Inventory Control under constraints Economic lot (batch) size. Trends in purchasing and store keeping, JIT production MRP II, comparison of Push & Pull systems, ERP, CAPPC.

##### **Unit-V**

Productivity: Importance, Productivity patterns, productivity measurements & ratios, improvement-maintenance process. 3 Human Factors & Ergonomics: Human abilities, Training & motivation safety programs,workplacedesign&workingconditions.

**Reference Books :**

1. Elements of Production Planning & Control –Eilon
2. Production Planning & Control – Jain and Agarwal
3. Operations Management – Buffa and Sarin.
4. Project Management, S.C. Sharma, Khanna Publishing House
5. Production System – J.L. Riggs.
  
6. Industrial Engineering and Production Management : Martand Telsang, First edition, S. Chand and Company, 2000.
  
7. Theory and Problems in Production & Operations Management: Chary. S.N, Tata McGraw Hill, 1995