

Production & Operations Management

Semester IV	✓ Subject Code: BB41601	Lectures: 60
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Objectives:

- A detailed understanding of manufacturing technology and its role in developing business strategy
- To identify the role of Product Design and Product Development in Production Management
- To guide students about techniques of production Planning and control
- To understand the influence of work system on the physical and psychological health of the workers through Ergonomics
- To acquaint students with contemporary Quality management issues under Production and Operations management

Unit 1: Introduction	10
<ul style="list-style-type: none"> • Meaning, Nature and Scope of Production Management • Objectives of Production Management • Functions of Production Management • Qualities and Responsibilities of a Production Manager • Plant Location: <ul style="list-style-type: none"> ➤ Importance and Need for selecting suitable Locations ➤ Advantages of Urban, Suburban and Rural Locations ➤ Factors responsible for Plant Location Decision • Classification or Types of Production System: <ul style="list-style-type: none"> ➤ Job Shop Production ➤ Batch Intermittent Production ➤ Continuous Production and Cellular Production 	

Unit 2: Product Design and Product Development	10
<ul style="list-style-type: none"> • Product Design <ul style="list-style-type: none"> ➤ Definition of Product Design ➤ Factors affecting Product Design ➤ Product Policy of an Organization • Product Development: <ul style="list-style-type: none"> ➤ Meaning of Product Development 	



<ul style="list-style-type: none"> ➤ Relationship between research, development and design ➤ Stages of Product Development ➤ Techniques or Tools of Product Development ➤ Factors responsible for Product Development 	
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Unit 3: Production Planning and Control	08
<ul style="list-style-type: none"> • Meaning, Nature, Objectives, Functions • Importance and Problems of Production Planning and Control • Process of Production Planning • Factors determining Production Planning and Control • Techniques or Tools of Production Planning and Control 	

Unit 4: Productivity and Ergonomics	10
<ul style="list-style-type: none"> • Productivity: <ul style="list-style-type: none"> ➤ Concept and Definition of Productivity ➤ Importance of Productivity, Techniques of Productivity Improvement ➤ Factors influencing Productivity • Ergonomics: <ul style="list-style-type: none"> Introduction and Definition of Ergonomics Objectives of Ergonomics, Components of Ergonomics Ergonomics is Multidisciplinary • Man Machine System (Display Design, Design of Control, Environmental factors) 	

Unit 5: Quality Control	10
<ul style="list-style-type: none"> • Quality System • Need for Controlling Quality • Total Quality Management (TQM): <ul style="list-style-type: none"> ➤ Scope of Total Quality Management, ➤ Benefits of TQM ➤ Fundamental Factors Affecting Quality ➤ Quality Control Activities During Product Cycle ➤ Initiatives under TQM – Kaizen, Just-In-Time, Quality Circle, Six Sigma (Concept & Methodology) • ISO 9000: 	



- Introduction & Meaning, ISO Standards for Quality System
- Essential Steps in implementing an ISO
- Benefits of ISO 9000 Series

Recommended Text Books:

1. *Production and Operations Management*, Dr. Anjali Kalar & Prof. Sharad .S.Kadam, Thakur Publication
2. *Production and Operations Management*, Anil Karanjkar, Nirali Publication

Recommended Book:

1. K.Aswhappa K.ShridharaBhat, *Production and operations management* Himalaya
2. L.C.Jhamb, *Production and operations management* Everest
3. James Apple & John Wileysons, *Plant Layout and Material Handling*
4. R S Goel, *Production and operations management* - 2
5. KalyaniPublicaion, Ludhiyana, *A Key to Production Management*
6. S N Chavy, *Production and operations management*, TMH Delhi
7. Elwood S Butta, *Modern Production and Operation Management* - 2
8. Ajay Garg, *Production and operations management* McGrawhill
9. MartandTelsang, *Industrial Engineering and Production Management*, S. Chand Publications.

