

# GUJARAT TECHNOLOGICAL UNIVERSITY

## B.E. SEMESTER : VIII

### PRODUCTION ENGINEERING

Subject Name: **FACILITIES PLANNING**

Sr. No.	Course Contents	Total Hrs
1.	<b>Plant Location</b> Nature of Location Decision, Need for facility location planning, General procedures and Factors influencing location decisions, Facility Location Models, economics and cost analysis, Rural and urban location pattern in India.	04
2.	<b>Facility Planning</b> Definition, Significance and objectives of facility planning, Facility planning process, Strategic Facilities Planning, Developing Facilities Planning Strategies, Flow system patterns like CRAFT, CORELAP, ALDEP & PLANET, Material flow system, Activity Relationships, Space requirements, Basic Lay out types, Lay out procedures, Algorithmic Approaches, Department Shapes and mail Aisles, The impact of changes, developing Layout Alternatives.	07
3.	<b>Facility design for Manufacturing system</b> Introduction, fixed automation system, Flexible manufacturing system, Reduction in work in process, Just-in-time manufacturing, Facilities planning trends.	04
4.	<b>Evaluating, Preparing and Maintaining the Facilities Plan</b> Introduction, Evaluating, selecting, preparing, presenting, implementing and maintaining the Facilities Plan.	04
5.	<b>Industrial Acts and Safety</b> Necessity of Industrial acts, The Indian Factories Act 1948, The industrial Dispute act 1947, The minimum Wage Act 1948. Introduction to Industrial safety, Causes and sources of accidents, Accident control, safety programme, investigation and analysis of accidents, Safety devices in Machines, Welfare and safety, safety and productivity.	06
6.	<b>Engineering Economics</b> Concept of Engineering economics, Risk and uncertainty, discounted cash flow techniques in changing economics, Purpose, type and requirements of depreciation methods and obsolesce, Reasons for replacement and it's models, Present worth method of comparison and future worth method.	06
7.	<b>Material Handling Equipments</b> Scope and functions of material handling , Manual mechanical handling ratio, Principles of material handling , Analysis of material handling problem, Classification of material handling system, Salient features and applications of general purpose material handling equipments , Material handling in stores and warehouses , Automation in part handling , Optimum allocation of material handling equipment.	05

#### Reference Books:

1. Facilities Planning by James A Tompkins
2. Facility Layout & Location By Richard L. Francis
3. Production and Operations Management By S.N.Chary
4. Engineering Economics By R. Panneerselvam
5. Engineering Economics By E Paul Degrams, William G. Sullivan