

Course Number and Name	
BME004 - PLANT LAYOUT AND MATERIAL HANDLING	
Credits and Contact Hours	
3 & 45	
Course Coordinator's Name	
Mrs.C.M.Meenakshi	
Text Books and References	
TEXT BOOKS : 1. S. C. sharma, Plant layout and material handling, Khanna publishers. 2. Agarwal, Plant layout and material handling, Jain brothers publication. REFERENCES : 1. Shubin J A, Plant layout, P H I publications.1965 2. Oberman. Ya, Material handling, Mir publishers.1980 3. S.C. Sharma, Material Management And Material Handling, Khanna Publishers.1995. 4. https://books.google.com/.../Plant_Layout_and_Material_Handling.html?...	
Course Description	
To equip students with adequate knowledge for running an organization and to understand the integration of material handling systems.	
Prerequisites	Co-requisites
MANUFACTURING TECH I	MANUFACTURING TECH II
required, elective, or selected elective (as per Table 5-1)	
Core elective	
Course Outcomes (COs)	
CO1	Understand the procedures for systematic integration of organization.
CO2	Will understand various techniques and tools of layout planning.
CO3	Students will be able to get knowledge on industrial layouts.
CO4	Understand material handling systems
CO5	Learn the concepts of industrial building
CO6	Learn the concepts of industrial utilities

Student Outcomes (SOs) from Criterion 3 covered by this Course
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List of Topics Covered

UNIT 1 PLANT LOCATION AND FACILITIES	8
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8

Factors to be considered – influence of location on plant layout, selection of plant site, Consideration in facilities planning and layout. Equipments required for plant operation, Capacity, serviceability and flexibility and analysis in selection of equipments, space requirements, and man power requirements.

UNIT II PLANT LAYOUT	8
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8

Need for layout, types of layout, factors influencing product, process. Fixed and combination layout: tools and techniques for developing layout, process chart, flow diagram, string diagram, template and scale models – machine data. Layout planning procedure. Visualization of layout, revision and improving existing layout, balancing of fabrication and assembly lines.

UNIT III MATERIAL HANDLING	10
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10

Importance and scope. Principles of material handling. Planning, operating and costing Principles, types of material handling systems, factors influencing their choice.

UNIT IV	INDUSTRIAL BUILDING AND UTILITIES	12
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12

Centralized electrical, pneumatic water line systems. Types of buildings, lighting, heating, air conditioning and ventilation utilities - planning and maintenance, waste handling, statutory requirements. Packing and storage materials: Importance of Packaging, layout for Packaging – Packaging machinery – wrapping and Packing materials, cushion materials.

UNIT V ANALYSIS OF MATERIAL HANDLING 7

7

Motion analysis, flow analysis, graphic analysis, safety analysis, equipment cost analysis, palletization analysis, analysis of operation, material handling surveys.