Course code	Course Name	L-T-P-Credits	Year of Introduction
ME476	Material Handling & Facilities Planning	3-0-0-3	2016

Prerequisite : Nil

Course Objectives: :

- To understand the overall facilities planning process
- To educate product, process and schedule design and their effects on the facility layout
- To introduce concepts of material handling and safety in industries.

Syllabus:

Design of layout of factories, General equipment for amenities of working people, Computer applications in layout designs, Environmental aspects, Plant safety, Economical aspects

Expected Outcomes:

The students will be able to

i. Assess the value of facility planning on the strategy of a firm
ii. Develop a systematic plant layout
iii. Know the environmental and economical aspects in facilities planning
iv. Understand various material handling systems

Text books/Reference books:

1. A W Peymberton, Plant layout and Material Handling, John Wiley
2. James A Apple, Plant layout and Material Handlin, Krieger Pub Co,1998
3. John A Sehbin, Plant layout and Material Handling-
4. K C Arora & Shinde, Aspects of Material handling, Lakshmi Publications.
5. P B Mahapatra, Operations Management, PHI, 2010

COURSE PLAN

Module	Contents	Hours	End Sem. Exam. Marks
I	Design of layout of factories, Office, Storage area etc. on consideration of facilities of working people, Storage facilities and general equipment for amenities of working people – Product, Process and combination layout –Systematic layout planning, Design of Assembly lines, Line balancing methods.	8	15%
II	Computer applications in layout designs, Environmental aspects like lighting, Ventilation, dust control, humidity. Different type of Plant services like steam compressed air etc.	6	15%
	FIRST INTERNAL EXAMINATION		
III	Plant safety, Elements off Industrial safety- Causes and prevention of accidents – Pollution and environmental consideration.	6	15%
IV	Introduction, Material Handling systems, Material Handling principles, Classification of Material Handling Equipment, Relationship of material handling to plant layout.	8	15%

SECOND INTERNAL EXAMINATION			
V	Basic Material Handling systems: Selection, Material Handling method- path, Equipment, function oriented systems.	**7**	**20%**
V1	Methods to minimize cost of material handling- Maintenance of Material Handling Equipments, Safety in handling, Ergonomics of Material Handling equipment. Design, Miscellaneous equipment	**7**	**20%**
END SEMESTER EXAMINATION			

Question Paper Pattern

Maximum marks: 100 **Time: 3 hrs**

The question paper should consist of three parts

Part A
There should be 2 questions each from module I and II
Each question carries 10 marks
Students will have to answer any three questions out of 4 (3X10 marks =30 marks)

Part B
There should be 2 questions each from module III and IV
Each question carries 10 marks
Students will have to answer any three questions out of 4 (3X10 marks =30 marks)

Part C
There should be 3 questions each from module V and VI
Each question carries 10 marks
Students will have to answer any four questions out of 6 (4X10 marks =40 marks)

Note: Each question can have a maximum of four sub questions, if needed.