

Subject: Maintenance & Utility Engineering

CHE-455	Maintenance & Utility Engineering	2CH	
		Theory+Lab (2+0)	
Pre-req.	Nil	Category	Foundation Course
Course Contents			
Role of maintenance in plant operation - Types of maintenance: preventive, predictive, and corrective, break down and total productive maintenance. - Individual versus group replacement: infernal versus Eternal maintenance. Scheduling and maintenance planning. Management of maintenance - Hierarchy and training in the maintenance workforce. - Organizational structure, human resource management, - Design considerations; layout and construction. - Production planning methods, capacity planning and control: production control systems. job shop scheduling. quality control. production control charts scheduling techniques: software for project management, purchasing and procurement, - Computerized maintenance. inspection techniques, non-destructive testing techniques, - Maintenance of rota1y and stationery equipment, inspection techniques; non-destructive. testing techniques. - Basics of rigging and lifting, lubrication and lubricants, industrial management. process layout analysis and comparison, material handling considerations in layout. Importance of utilities in process industries - Basic utilities of process, selection criteria. and economical utilization. - Flare network, instrument & plant air, boiler feed water, steam, cooling water supply - Types of fire. Firefighting system.			

Weekly plan/ Reference Books	
1	Role of maintenance in plant operation Types of maintenance: preventive, predictive, and corrective, breakdown and total productive maintenance.
2-3	Individual versus group replacement: infernal versus Eternal maintenance. Scheduling and maintenance planning. Management of maintenance Hierarchy and training in the maintenance workforce
4	Organizational structure, human resource management, Design considerations; layout and construction.
5	Production planning methods, capacity planning and control: production control systems. job shop scheduling. quality control. production control charts scheduling techniques: software for project management, purchasing and procurement,
6	Computerized maintenance. inspection techniques, non-destructive testing techniques,
7-8	Maintenance of rota1y and stationery equipment, inspection techniques; non-destructive. testing techniques.
9-10	Mid Term Exams
11-12	Basics of rigging and lifting, lubrication and lubricants, industrial management. Process layout analysis and comparison, material handling considerations in layout.
13	Importance of utilities in process industries
14	Basic utilities of process, selection criteria. and economical utilization. Types of fire. Firefighting system.
15-16	Flare network, instrument & plant air, boiler feed water, steam, cooling water supply
17	Revision
18	End Semester Exam
TEXT AND REFERENCE BOOKS: • Maintenance Manager's Standard Mlanual by Thomas A. Wester-Kamp,Prentice-Hall. • A Guide to Effective Industrial Safety by Jack W. Boley,Gulf Publishing Company	

