



Pimpri Chinchwad Education Trust's
Pimpri Chinchwad College of Engineering
Sector No. 26, Pradhikaran,
Nigdi, Pune – 411 044



COURSE OUTLINE

Department: Mechanical Engineering
Class: TE Mechanical

A.Y.:2021-22 Sem-I

Date:21 Oct 2021

Name of the Course: **Skill Development**

Relevance of the course:

Students should have knowledge of Construction and working of IC engine / compressor / gear box / centrifugal pump/tail stock. Working principles of any type of mechanism / power plants. Working of electric and hydraulic systems of 4 wheeler vehicle. Working of machine tools, engine and transmission of different automotive and home appliances.

Prerequisites:-

1. Manufacturing Processes
2. Solid Mechanics
3. Design of Machine Elements.

Course Outcomes

CO No	CO Statement	No. of Lectures Planned	No. of Practical planned	Content Delivery method	Assessment tools Planned
1.	APPLY& DEMONSTRATE procedure of assembly & disassembly of various machines.	NA	10	Presentation, Lecture with Interaction,	Skill development Diary
2.	DESIGN & DEVELOP a working/model of machine parts or any new product	NA	10	Presentation, Lecture with Interaction,	
3.	EVALUATE fault with diagnosis on the machines, machine tools and home appliances.	NA	10	Presentation, Lecture with Interaction,	
4.	IDENTIFY & DEMONSTRATE the various activities performed in an industry such as maintenance, design of components, material selection	NA	10	Presentation, Lecture with Interaction,	

Assignment:

Assignment Planned	CO Mapped	Tentative schedule
1. Assembly and Disassembly of any of the following mechanical systems/ subsystems: bicycle (geared), e-Bikes, e-Motor Cycles, Drones, Flying devices, gear box, IC engines, centrifugal pump etc	CO1, CO2	July 2021
2. Assembly- Disassembly/ Fault diagnosis of home appliances such as mixer, grinder, washing machine, fan, ovens, gas geyser, chopping machine, kneading machine, exercise machines, etc.	CO1, CO2	July 2021
3. Development and demonstration of working/animation model of	CO1, CO2	July 2021

any mechanism		
4. Design a circuit of electric and hydraulic system of 4 wheelers and its verification. OR Circuit design /PCB design using software for control of BLDC electric motors used in eVehicles	CO1, CO2	Aug 2021
5. Undertake total preventive maintenance for any machine tool or mechanical system.	CO1, CO2, CO3	Aug 2021
6. Visit to an industry for awareness about preventive maintenance.	CO1, CO2	Aug 2021
7. Use of ergonomic principles for the design of hand tools, control in automobile dashboards, human operated mobile devices.	CO1, CO2	Aug 2021
8. Use of alternative materials in the construction of daily activity machine and tool components	CO1, CO2, CO3	Sept. 2021
9. Interpretation of Drawings; Exercises in identifying the type of production, extracting important functional dimensions, checking the number of parts in an assembly. Checking and listing missing dimensions.	CO1, CO2	Sept. 2021
10. Exercises in -preparation of detailed production drawings as per BIS standard of simple machine parts having relevant notes and indications (limits/tolerances, surface finish, the process of production, relevant tools, materials, measuring instruments).	CO1, CO2, CO4	Sept. 2021

Course Faculty TE A
Mr. Jitendra Ganeshkar

Course Faculty TE B
Mr. Shriyash Shinde

Course Faculty TE C
Mr. Chandan R. Ingole

Course Coordinator

Module Coordinator