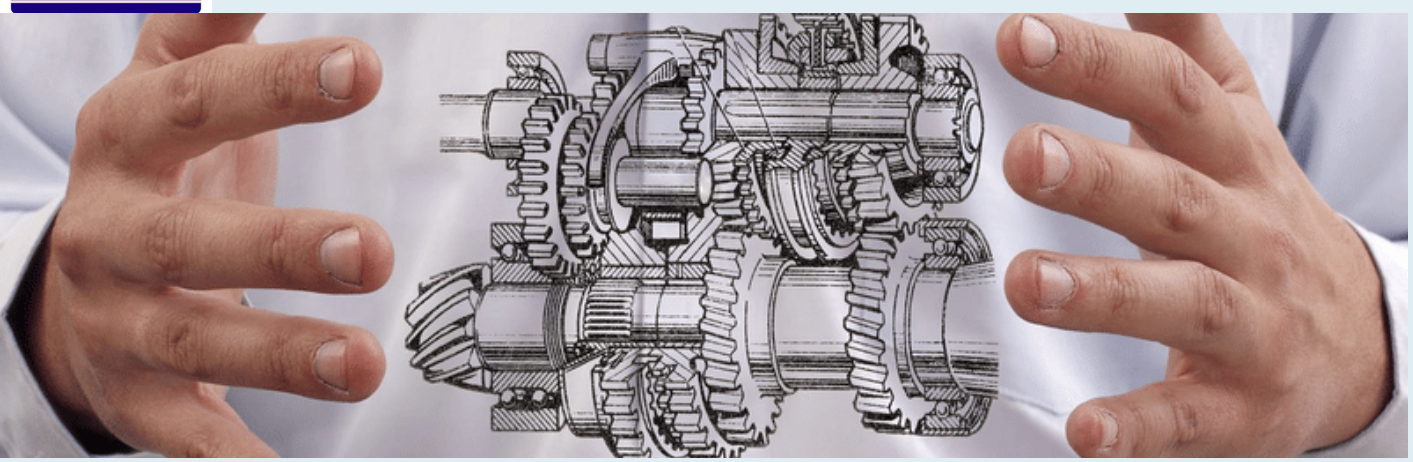
Dr. D. Y. Patil Pratishthan's

DR. D. Y. PATIL INSTITUTE OF ENGINEERING, MANAGEMENT & RESEARCH AKURDI PUNE

DEPARTMENT OF MECHANICAL ENGINEERING



BASIC MECHANICAL ENGINEERING LABORATORY

COURSE OBJECTIVES

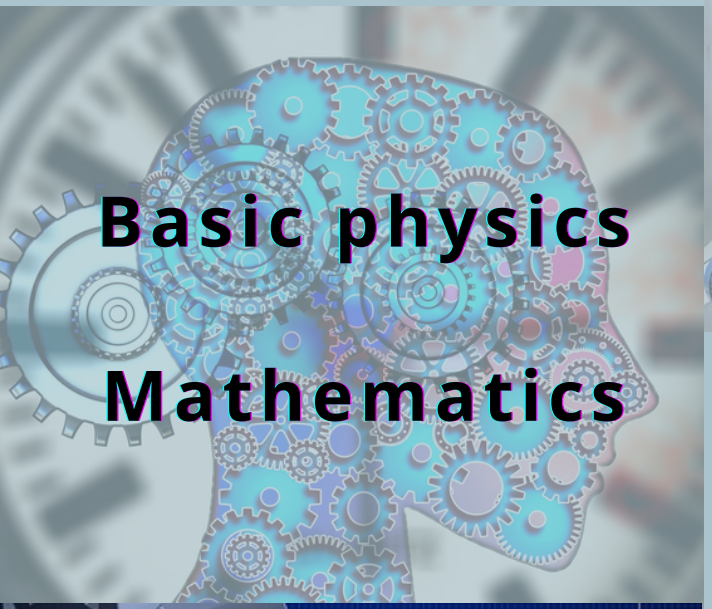
1. To identify different energy sources and conversions of energy sources.
2. To explain basic concepts of thermodynamics and heat transfer.
3. To describe the vehicle specification.
4. To illustrate various systems of vehicle.
5 To get acquainted with different manufacturing processes.
6 To acquire basic knowledge about the mechanism and its application in various domestic appliances.

COURSE OUTCOMES

1. Describe different energy sources and their conversion and solve basic problems of efficiency and power calculations.
2. Explain laws of thermodynamics, heat transfer and solve simple numerical of efficiency calculation.
3. Compare different vehicle on the basis of their specifications.
4. Explain various vehicle systems.
5. Explain various manufacturing processes and identify suitable process.
6. Describe various domestic appliances.

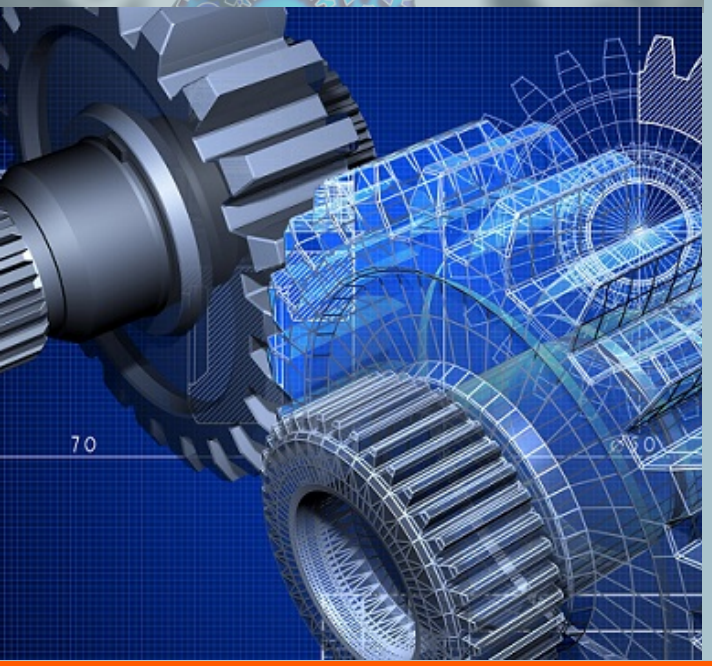
BASIC MECHANICAL ENGINEERING COVERS A WIDE RANGE OF TOPICS AND ENGINEERING CONCEPTS THAT ARE REQUIRED TO BE LEARNT AS IN ANY UNDERGRADUATE ENGINEERING COURSE. DIVIDED INTO THREE PARTS, THIS BOOK LAYS EMPHASIS ON EXPLAINING THE LOGIC AND PHYSICS OF CRITICAL PROBLEMS TO DEVELOP ANALYTICAL SKILLS IN STUDENTS

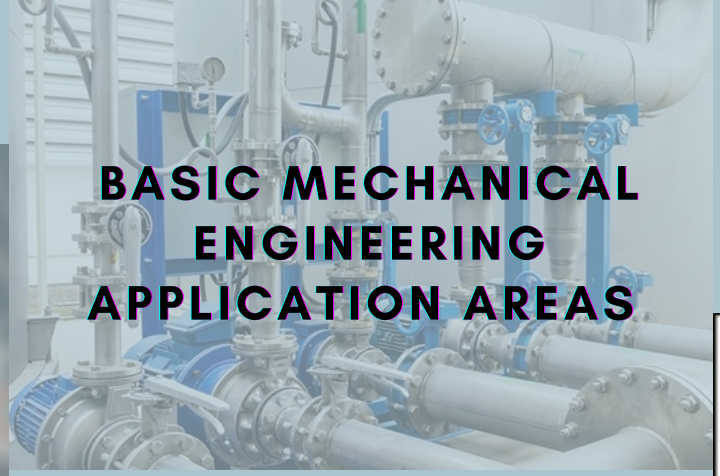
PREREQUISTITES



Basic physics

Mathematics





BASIC MECHANICAL ENGINEERING APPLICATION AREAS

Thermal Engineering
Laws of Thermodynamics
Modes of Heat Transfer

Automobile Engineering
Introduction to different
Vehicle Systems

Manufacturing Processes
Introduction to Conventional
Manufacturing Processes

BASIC MECHANICAL ENGINEERING INDUSTRIAL SCOPE

KALYANI BHARAT FORGE

Volkswagen

Mahindra

LG

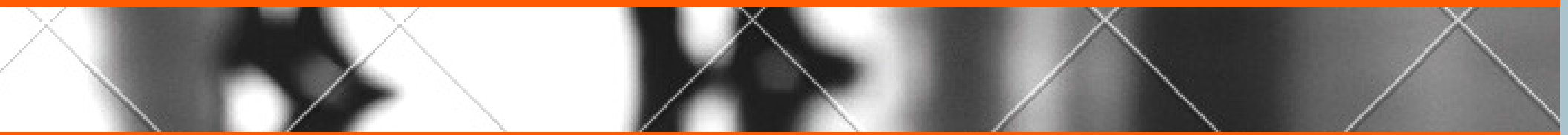
Cummins

THERMAX
Sustainable solutions
Energy & Environment

FORCE MOTORS

Atlas Copco

JINDAL STEEL & POWER



BASIC MECHANICAL ENGINEERING LAB FACILITIES

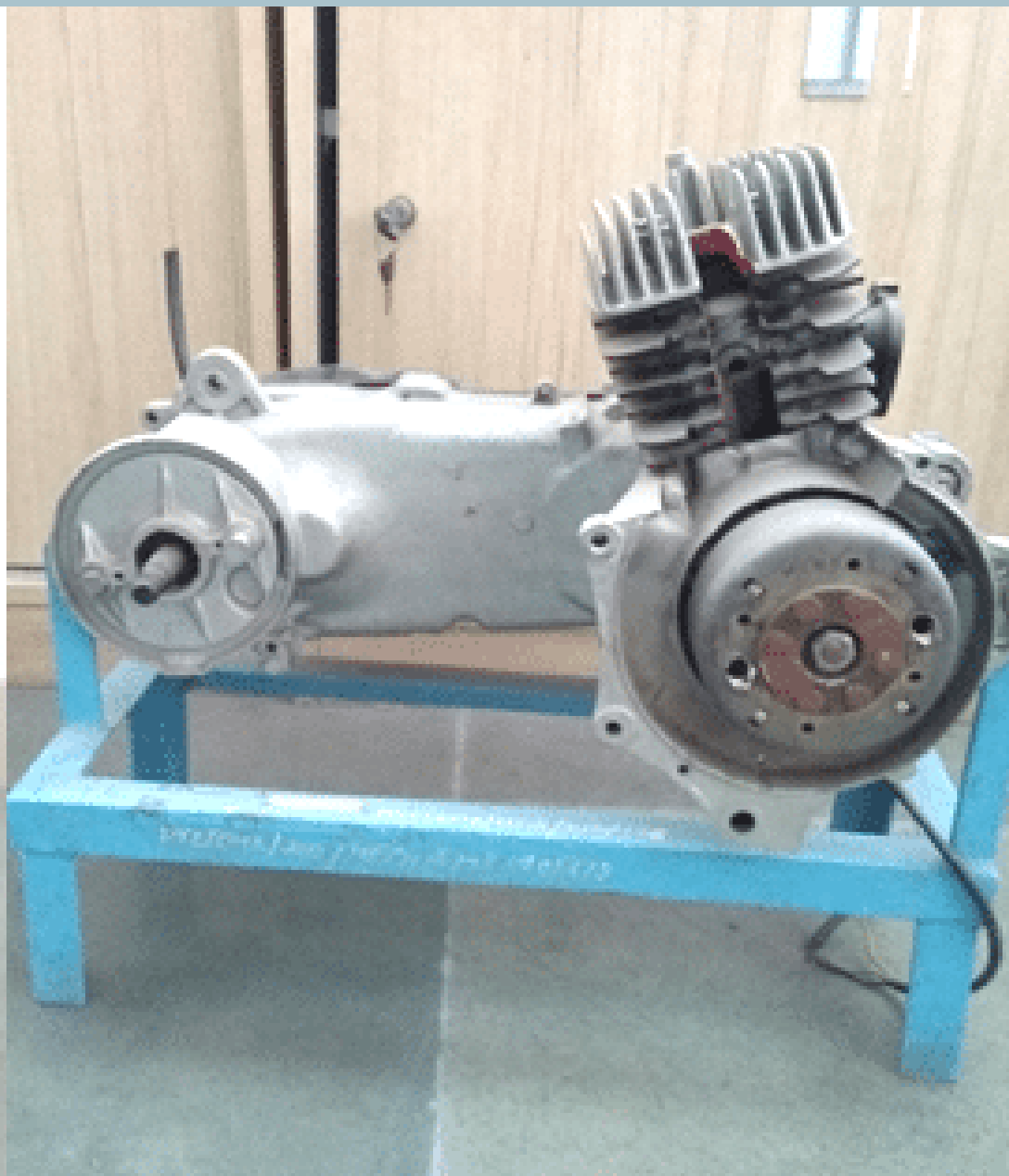
Prototypes of Different Drives, Gear Trains, Mechanisms, Couplings, etc

BASIC MECHANICAL ENGINEERING LAB FACILITIES

Diesel Engine Model

BASIC MECHANICAL ENGINEERING LAB FACILITIES

Two Stroke and Four Stroke Engine Model



BASIC MECHANICAL ENGINEERING LAB FACILITIES

Cut Section of SI and CI - 2 stroke and 4 stroke Engine Model

BASIC MECHANICAL ENGINEERING LAB FACILITIES

Cut Section of Boiler Model

BASIC MECHANICAL ENGINEERING LAB FACILITIES

Refrigeration and Air Conditioning Unit