ME 152 : BASIC MECHANICAL ENGINEERING
(L=4, T=0, P=2 Credits: 5)

1. **Properties of steam:** State & properties of steam.
2. **Internal combustion engines:** Classification, working of petrol & diesel engines, performance parameters.
3. **Steam generator:** Fire tube & water tube. Boiler mountings & accessories.
4. **Turbine, compressor and pump:** Steam turbine, compounding of steam turbine, reaction turbine, condenser, gas turbine, hydraulic turbine. Classification & application of compressor & pump.
5. **Refrigeration & air conditioning:** Introduction to refrigeration & air conditioning
6. **Introduction to machine tools:** Turning, drilling, shaping, slotting, planning, milling & grinding.
7. **Principal & application of conventional manufacturing processes:** Casting, forging & sheet metal work.
8. **Metal joining processes:** welding, soldering, & brazing
9. **Measuring and Gauging:** Basic measuring instruments & gauges.
10. **Non conventional energy sources:** Solar, wind, tidal & biomass.
11. **Elements of power transmission:** Introduction, different types of drives, bearings, clutches & brakes.

References Books:

1. R.P.Arora, B.K.Ragunath & J.P.Patel
   Basic Mechanical Engineering, 2nd Ed
   Atul Prakashan

2. G D Rai
   Non conventional energy sources
   Khanna publishers

3. Campbell J S
   Principles Of Manufacturing Materials & Process
   T M H, Reprinted 1989

4. Joel Raynor
   Basic Engineering Thermodynamics
   ELBS, Fourth Ed., Reprinted 1989