Department of Mechanical Engineering

MED 2211 - Thermal Engineering

Assignment – 1

1. Explain the working of two stroke Petrol engine with neat sketches.
2. Explain the working principle of battery coil ignition system with a neat sketch.
3. Air at pressure of 1.2 bar and temperature 42°C is compressed adiabatically until the pressure is 7.5 bar in an Otto cycle engine. 365 KJ of heat per kg of air is now added at constant volume. Determine i) compression ratio ii) the temperature at the end of compression iii) the temperature at the end of heat addition.
4. The compression ratio of a Diesel cycle is 12 and cut off ratio is 2.3. The pressure and temperature at beginning of the cycle are 1.2 bar and 112°C. Find the following (i) The pressure and temperature at all salient points (ii) mean effective pressure (iii) Thermal efficiency of the cycle.