

**ANURAG GROUP OF INSTITUTIONS**  
**AUTONOMOUS**  
**VENKATAPUR, GHATKESAR, HYDERABAD – 500 088, TELANGANA STATE**  
**Department of Mechanical Engineering**  
**II Year B.Tech**  
**Thermodynamics**  
**II-Assignment Questions**

1. Derive an expression for efficiency of an Otto cycle and draw P-V and T-s diagrams in terms compression ratio?
2. Derive an expression for efficiency of a Diesel cycle and draw P-V and T-s diagrams in terms compression and cut-off ratio?
3. Calculate enthalpy and entropy of steam at 15bar, when it is
  - a) Dry saturated steam
  - b) 0.95 dry
  - c) Super heated steam at  $460^{\circ}$   
Take  $C_p$  of steam  $2.85\text{KJ/Kg-K}$ .
4. Explain the working principle of Barrel calorimeter and throttling calorimeter with neat sketch.
5. Draw Mollier and TS diagram and explain in detail?