Roll No. | | | | | | | | |

B.E (Full Time) End Semester DEGREE EXAMINATION, NOV / DEC 2011

Third Semester / Mechanical Engineering

ME 271 – ENGINEERING THERMODYNAMICS

(Regulation 2004)

Time : 3 Hours Answer ALL Questions Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Why control volume is assumed in thermodynamic processes?
2. Define thermodynamic equilibrium.
3. What is meant by COP? Why it is not called efficiency?
4. Why the practical thermodynamic processes are irreversible?
5. Draw the PVT surface of a pure substance.
6. Define Psychrometric propertie.
7. Define Virial expansions.
8. Write the equations of Maxwell and claypron's relation.
9. Why air fuel ration is considered during composition?
10. Which instrument is used for flue gas analysis?

Part – B (5 x 16 = 80 marks)

11. a) When a system is taken from state I to state m, in Fig.A, along path Iqm, 168 kJ of heat flows into the system, and the system does 64 kJ of work:
    i) How much will be the heat that flows into the system along path Inm if the work done is 21 kJ?
    ii) When the system is returned from m to I along the curved path, the work done on the system is 42 kJ. Does the system absorb or liberate heat, and how much of the heat is absorbed or liberated?
    iii) If $U_I = 0$ and $U_n = 84$ kJ, find the heat absorbed in the processes I-n and n-m.

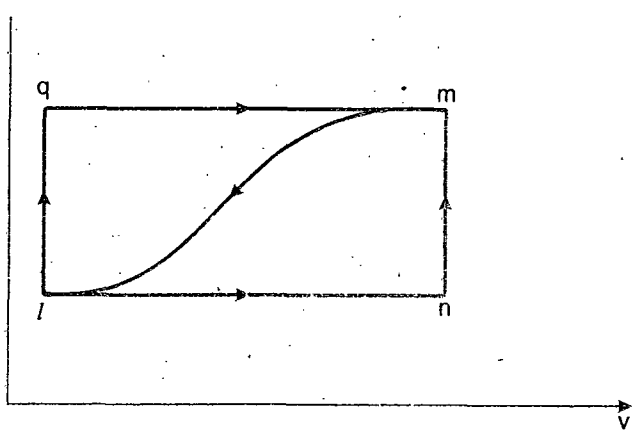

Fig. A