



Code No. : 6201/O/S

FACULTY OF ENGINEERING
B.E. IV/IV (Mech.) I – Semester (Old) Examination, July 2014
THERMAL TURBO MACHINES

Time: 3 Hours]

[Max. Marks: 75

- Note:**
- i) Answer **all** questions in Part **A** and **any five** questions from Part – **B**.
 - ii) Answer to the questions of Part – **A** must be at **one** place and in the **same** order as they occur in the question paper.
 - iii) Candidate is advised **not** to attempt more questions than **required**.
 - iv) Missing data if **any** may suitably be **assumed**.
 - v) **Use** of data of book is **permitted**.

PART – A (Compulsory)

(10×2.5=25 Marks)

1. Define impulse function.
2. If the flow is sub-sonic, how area of cross sections of nozzle and diffuser will vary.
3. How normal shock is formed ?
4. Define Rayleigh line and represent it on p-v plane the T-s plane.
5. Draw outlet velocity diagram for centrifugal compressor with radial blade, backward and forward impellers.
6. Draw inlet and outlet velocity diagrams for axial flow compressor.
7. Draw pressure-velocity variations across the blades in two row velocity compounded impulse turbine.
8. How blade efficiency, nozzle efficiency and gross stage efficiency of steam turbine are related ?
9. Draw the configuration diagram and temperature-entropy diagram for open-cycle gas turbine with inter cooling.
10. State the advantages and disadvantages turbo-jet system.