

[illegible]

Max. Marks : 60

SECTION-B

- Q2. Describe fanno flow in details.
- Q3. Explain the working of an axial flow compressor with the help of velocity triangles.
- Q4. Write early history of rocket flights.
- Q5. Explain the working of a solid rocket motor with the help a neat figure. Draw any two grain configurations.
- Q6. Describe subsonic inlets with the help of neat figures.

SECTION-C

- Q7. Discuss simple flows in details.
- Q8. Explain the working of subcritical and supercritical supersonic inlets, with the help of neat figures.
- Q9. The following particulars relate to a single stage turbine of free vortex design :

Inlet total-head temperature = 1000°K

Inlet total head pressure = 3.8 Kg/cm²

Static head efficiency = 88%

Nozzle efficiency = 96%

Outlet static pressure = 1.2 Kg/cm²

Outlet velocity = 280 m/sec.

Blade speed at root = 277 m/sec.

If there is outlet swirl and the turbine is designed for impulse conditions at the root radius, find the work output.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.