HYDRAULICS AND PNEUMATIC CONTROL

(Code : AET-402)

Time : 3 hours

Full Marks : 80

Answer any **five** questions including **Q.Nos.1 & 2**

Figures in the right-hand margin indicate marks

2×10

1. Answer *all* the questions :
   (*a*) Define ideal fluid.
   (*b*) Define viscosity.
   (*c*) Define surface tension.
   (*d*) Define laminar flow.
   (*e*) Define steady and unsteady flow.
   (*f*) Define actuator.
   (*g*) Define seals and gaskets.
   (*h*) Define specific gravity.
   (*i*) Define coefficient of velocity.
   (*j*) Define function of hydraulic ram.

5×6

2. Answer any *six* questions :
   (*a*) Explain the Bernoulli's theorem and its application.
   (*b*) Explain the law of continuity and its application.
   (*c*) Explain the relation between the hydraulic coefficients.
   (*d*) Explain the different types of fluid flow.
   (*e*) Explain the construction and working of centrifugal pump.
   (*f*) Explain the construction and working of directional control valve.
   (*g*) Explain the simple pneumatic circuit used for air brake.

3. Explain the function of different types of manometers with sketch. *10*

4. Explain the function and operation of venturimeter with neat sketch. *10*

5. Explain the working principles, construction and application of hydraulic jack. *10*

6. Explain the construction and working of hydraulic motors. *10*

7. Explain the function and operation of Pneumatic power tools. *10*
