

22655

12425

03 Hours / 70 Marks

Seat No.

--	--	--	--	--	--	--	--

-
- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answer with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Assume suitable data, if necessary.
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following:** **10**
- a) State any two advantages of oil hydraulic systems.
 - b) State the common applications of pneumatic system.
 - c) Draw ISO symbol of pressure relief valve and heat exchanger.
 - d) State the use of twin pressure valve and shuttle valve.
 - e) List the types of positive displacement pumps.
 - f) State different types of control valve.
 - g) State function of seal and gaskets.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) State any two methods of actuation of DC valve with their symbols.
 - b) Sketch and explain construction of pressure reducing valve.
 - c) Explain the working of vane motor with a neat sketch.
 - d) Explain the construction and working of external gear type pump.
- 3. Attempt any THREE of the following:** **12**
- a) Compare gear pump and piston pump.
 - b) Give the classification of control valves used in fluid system.
 - c) Explain working of telescopic cylinder with neat sketch.
 - d) Draw a sketch of 4/2 way direction control valve and explain its working.
- 4. Attempt any THREE of the following:** **12**
- a) State any four types of accessories used in pneumatic system along with their function.
 - b) Draw a cross sectional diagram of time delay valve and explain its working.
 - c) Explain with neat sketch of Pilot operating pressure relief valve.
 - d) Draw a neat sketch of a lubricator used in Pneumatic system.
 - e) What is FRL? state its importance.
- 5. Attempt any TWO of the following:** **12**
- a) Explain with neat sketch of hydraulic circuit used in milling machine.
 - b) Explain with neat sketch of travel dependent sequencing circuits with cam.
 - c) Explain with neat sketch of pneumatic circuit used for speed control of air motor.

6. Attempt any TWO of the following:**12**

- a) What is accumulator? Give the types of accumulator and explain any one type of accumulator with sketch?
 - b) List common faults observed in Hydraulic system and state their remedies.
 - c) Draw and explain 'Time delay circuit' in pneumatic system.
-