

314339

12526

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers 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) Define density.
 - b) State the function of pump.
 - c) Classify the actuators.
 - d) Identify the 3/2 direction control valve.
 - e) Sketch the symbol of hydraulic motor.
 - f) List the types of sequencing circuit.
 - g) Sketch the symbol of 3/2 direction control valve with solenoid operated.
- 2. Attempt any THREE of the following :** **12**
- a) Describe the unbalanced type of vane pump.
 - b) Explain with neat sketch of double acting cylinder with single piston rod.
 - c) Explain the 4/2 directional control valve.
 - d) Explain the general layout of an oil hydraulic system.

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- 3. Attempt any THREE of the following : 12**
- a) Explain the construction and working of pressure relief valve.
 - b) Explain the gear motor in hydraulic system.
 - c) Describe any one type of Accumulator.
 - d) Explain the reciprocating air compressor.
 - e) Sketch impulse operated pneumatic circuit.
- 4. Attempt any THREE of the following : 12**
- a) Differentiate between hydraulic system and pneumatic system.
 - b) Describe the selection criteria for hydraulic pump.
 - c) Explain the piston type of pump.
 - d) Classify the control valve.
 - e) Sketch the sequencing circuit for simple operation in a pneumatic system.
- 5. Attempt any TWO of the following : 12**
- a) Explain Bernoulli's theorem in details.
 - b) Explain meter in circuit.
 - c) Explain automation circuits using OR gate.
- 6. Attempt any TWO of the following : 12**
- a) Explain basic electropneumatic circuits for single acting cylinder.
 - b) Sketch automation circuits using time delay valve.
 - c) Describe hazards and safety in hydraulic and pneumatic system.
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