

22650

23242

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) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) 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 specific weight
 - b) List two applications of venturimeter in automobile sector.
 - c) State Bernoulli's theorem.
 - d) List valves for pneumatic systems.
 - e) Enlist the application of hydraulic motors (any two).
 - f) List application of bleed off circuit (any two)
 - g) Draw the symbol for:
 - i) Single acting cylinder
 - ii) 4/3 DCV

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain Bourdon's tube pressure gauge with neat sketch.
 - b) Explain working of orifice-meter with sketch.
 - c) State function and advantages of air vessels in reciprocating pump.
 - d) Compare reciprocating pump and centrifugal pump on the basis of:
 - i) Discharge
 - ii) Speed
 - iii) Cost
 - iv) Applications
- 3. Attempt any THREE of the following:** **12**
- a) Explain alongwith suitable example types of fluid.
 - b) Explain with neat sketch the working principle of hydraulic lift.
 - c) Explain working of swash plate pump with neat sketch.
 - d) Differentiate between vane pump and swash plate pump on the basis of:
 - i) Construction
 - ii) Speed
 - iii) Power density
 - iv) Pressure

- 4. Attempt any THREE of the following: 12**
- a) Explain working of gear type hydraulic motor with sketch.
 - b) Explain construction and working of 3/2 DCV with neat sketch.
 - c) Sketch and explain the working of non-return valve.
 - d) Explain hydraulic double acting cylinder with neat sketch.
 - e) Differentiate between spool and poppet type valves (four points).
- 5. Attempt any TWO of the following: 12**
- a) Explain construction and working of a centrifugal pump with neat sketch.
 - b) Explain FRL unit with neat sketch.
 - c) Classify seals and explain any one type of seal with neat sketch. Also state their applications.
- 6. Attempt any TWO of the following: 12**
- a) Explain hydraulic press circuit with neat sketch.
 - b) Differentiate between Meter-In and Meter-Out circuits. (six points)
 - c) State and describe pin lift of pneumatic moulding machines circuit.
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