

22407

23124

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 :
 - i) Accuracy
 - ii) Drift
 - b) Define turndown of control valve.
 - c) List any four basic control action.
 - d) State principle of ultrasonic level transmitter.
 - e) Define open loop control system.
 - f) Draw sketch of air to open valve.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Describe with neat sketch RTD.
 - b) Draw the diagram of dead weight tester and explain its construction and working.
 - c) Describe with neat sketch heat transfer type mass flow meter.
 - d) Explain cascade control system.
- 3. Attempt any THREE of the following:** **12**
- a) With the help of diagram, explain working of radiation pyrometer.
 - b) Draw labelled diagram of McLeod gauge. Give its principle.
 - c) Draw sketch of following level measuring methods.
 - i) Radioactive level detector
 - ii) Capacitance level indicator
 - d) Describe distributed control system.
- 4. Attempt any THREE of the following:** **12**
- a) Explain functional elements of instruments.
 - b) Define thermistor. Explain NTC and PTC.
 - c) Describe construction and working of C type burden tube pressure gauge.
 - d) Describe electromagnetic flowmeter with neat sketch.
 - e) Explain factor to be considered in valve selection.

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

- a) With the help of neat diagram, give principle and construction of spiral bimetallic thermometer.
- b) Explain construction and working of LVDT for pressure measurement.
- c) With the help of diagram explain air purge method for level measurement.

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

- a) Explain piston type variable area flowmeter with neat sketch.
 - b) Describe PLC architecture.
 - c) Explain valve characteristics.
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