22332

24225

3 Hours / 70 Marks Seat No. | | | | | | | | |

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) List the four different types of pressure.

(b) Define : (i) Temperature (ii) Humidity

(c) List one example of analog & digital transducer.

(d) State the need of level measurement.

(e) Compare transducer & sensor (any 2 points).

(f) List two advantages of doppler type ultrasonic flow meter.

(g) State the materials used for Bourdon tube.

2. Attempt any THREE of the following : **12**

(a) Compare LED & LCD display (any 4 points).

(b) With neat sketch, explain working of LVDT.

(c) Explain with neat sketch, the working of Hair Type Hygrometer.

(d) Describe working principle of U-Tube manometer with neat diagram.

3. Attempt any THREE of the following : **12**

(a) With neat sketch, explain the working principle of light sensor.

(b) Differentiate between NTC & PTC (any 4 points).

(c) Draw construction of rotameter type flow meter. List any two applications of it.

(d) Describe working of voltage telemetry system.

4. Attempt any THREE of the following : **12**

(a) Describe working principle of inclined tube manometer with neat sketch.

(b) Compare hydraulic & pneumatic transmission (any 4 points).

(c) Give 4 points of comparison between primary and secondary transducers.

(d) With neat diagram, explain the working principle of RADAR type level measurement system.

(e) Explain with neat diagram working principle of bimetallic thermometer.

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

(a) Explain with neat sketch, the pressure measurement system with Bourdon Tube and LVDT. State the primary and secondary transducer in this system.

(b) State different types of Data Acquisition Systems with neat diagram, explain the working of multichannel Data Acquisition System.

(c) Draw block diagram of instrumentation system. State the function of each block.

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

(a) With neat sketch, describe working principle of dry & wet bulb thermometer.

(b) Describe working principle of venturimeter. Write advantages & disadvantages of it.

(c) List objectives of DAS (any 6).
