313338

12526
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 answer with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Use of Non-programmable Electronic Pocket Calculator is permissible.

(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) Precision.

b) List any four temperature measuring devices.

c) Give the names of any four pressure gauges used for pressure measurement.

d) State the principle of ultrasonic flow meter.

e) Enlist the names of different controller's. (Any four names)

f) List any two dynamic characteristics and define any one of them.

g) Convert 98°F to degree centigrade.

P.T.O.

Marks

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

a) Explain functional element of instruments with neat sketch.

b) Draw neat sketch of mercury in glass thermometer. Explain it's working.

c) List the different level measuring instruments. Draw any one of them.

d) Draw the neat sketch of C-type Bourdon tube.

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

a) Draw neat sketch of optical pyrometer.

b) Explain construction and working of electromagnetic flow meter.

c) Draw and explain closed loop control system.

d) Define IoT and explain it's features.

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

a) Draw the neat sketch of bellows pressure gauge.

b) Explain with sketch, the air purge method of level measurement.

c) Explain with sketch of ratio controller.

d) Construct and explain a neat labelled diagram to measure flow rate of viscous fluid.

e) Describe with graph equal % valve characteristic's.

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

a) Explain with neat sketch principle and construction of spiral bimetallic thermometer.

b) Describe the construction and working of Thermal mass flow meter with neat diagram.

c) Explain DCS architecture with the help of block diagram.

Marks

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

a) Describe the block diagram of PLC, Programmable Logic Control with its architecture.

b) Explain with sketch the construction and working of McLeod gauge for low pressure measurement.

c) Describe the construction and working of pneumatic PID controller with neat sketch.