22407

12425

03 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) 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) Sensitivity

b) State seeback effect.

c) Give any two applications of ultrasonic flow meter.

d) Give the principle of electromagnetic flow meter.

e) Define control valve characteristics.

f) Give the principle of positive displacement flow meter.

g) Define Rangeability and turndown of control valve.

Marks

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

a) Explain the working of air purge method of liquid level measurement.

b) Give the principle of RTD. Explain its working.

c) Describe different functional elements of on instrument with suitable example.

d) Explain open loop and closed loop control system with block diagram.

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

a) Name the gauge which is used to measure vaccume. Explain its working with neat sketch.

b) Explain control valve selection.

c) Explain the working of any one method used for solid level measurement.

d) Explain different control actions.

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

a) Explain what do you mean by direct and indirect method of measurement. Give one example each.

b) Explain with neat diagram, working of high pressure sight glass level indicator.

c) Explain the working of bimetallic thermometer.

d) Explain air to open and air to close type valve.

e) Explain principle of programmable logic controller with block diagram.

Marks

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

a) Explain distributed control system, with block diagram.

b) Explain working of radiation pyrometer, with neat sketch. Give its any two limitations.

c) Explain the working of rotating vane flow meter with neat diagram. Give its two applications.

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

a) Draw the neat diagram of 'C' type bourdon tube. Explain its working. Give its two advantages and disadvantages.

b) Explain the working of LVDT with neat diagram. Give its any two applications.

c) Explain in detail, different types of control valve characteristics. Also draw their plots.

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