22227

24225

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

Instructions : (1) All Questions are *compulsory.*

(2) Figures to the right indicate full marks.

(3) Assume suitable data, if necessary.

Marks

1. Attempt any FIVE : **10**

(a) State any four methods of measurements.

(b) Define – Fidelity, Dynamic Error.

(c) State seeback effect.

(d) State any four applications of Potentiometer.

(e) State any four merits of turbine meter.

(f) List non-electrical type of temperature measuring devices.

(g) Name any four speed measuring instruments.

2. Attempt any THREE : **12**

(a) A thermometer has range 0 °C to 100 °C. It has accuracy of ±1% of full scale value. Find the error in reading of 67 °C.

(b) Explain the working principle of McLeod gauge with diagram.

(c) State the principle of Bimetallic thermometer. State its any two applications.

(d) Compare RTD & Thermistor.

3. Attempt any THREE : **12**

(a) Explain with neat sketch Bourdon tube pressure gauge.

(b) Explain the classification of transducers.

(c) Explain the working of Ultrasonic flow meter with neat sketch.

(d) Name the various strain gauge materials. Write its composition.

4. Attempt any THREE : **12**

(a) Explain working of Eddy Current Dynamometer with neat sketch.

(b) Explain flow measurement using anemometer with neat sketch.

(c) Describe the pressure measurement using Piezoelectric transducer.

(d) Describe working of Stroboscope with neat diagram.

(e) Explain with neat sketch Inductive Pickup Tachometer.

5. Attempt any TWO : **12**

(a) Draw a neat labelled diagram of LVDT & explain its working.

(b) Explain construction and working of Optical Pyrometer.

(c) Explain construction & working of contact less electrical tachometer with neat sketch.

6. Attempt any TWO : **12**

(a) Explain working of Strain gauge transmission dynamometer with neat labelled diagram.

(b) Explain construction & working of Hair Hygrometer with neat sketch.

(c) Draw a neat labelled diagram of Pirani gauge for vaccum measurement. Explain its construction & working.
