

22443

11920

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****
- State the parameters for selection of displacement transducer.
 - Enlist the applications of load cell.
 - State the law of intermediate metal.
 - State the materials of tube and float of rotameter.
 - Define gauge factor.
 - State the principle of working of slipping clutch tachometer.
 - State the characteristics of force measurement.

P.T.O.

2. Attempt any THREE of the following: 12
- a) Define :
 - (i) Fidelity
 - (ii) Threshold
 - (iii) Overshoot
 - (iv) Drift
 - b) Explain with neat sketch working of Eddy current dynamometer.
 - c) Explain with neat sketch Pirani gauge. State advantages also.
 - d) Describe the working principle of “Dall tube”. Also state applications.
3. Attempt any THREE of the following: 12
- a) Explain radiation pyrometer with neat sketch.
 - b) Classify transducers.
 - c) Differentiate :
 - (i) Range and Span
 - (ii) Accuracy and Precision
 - d) Draw a creep curve for force transducer. State significance.
4. Attempt any THREE of the following: 12
- a) Explain the working of slip ring sensor with neat sketch.
 - b) Describe the working of platinum resistance thermometer with neat sketch.
 - c) Explain with neat sketch photoelectric pressure transducer. State advantages.
 - d) State any four desirable characteristics of bonded type resistance strain gauges.
 - e) Explain with neat sketch carbon microphone. State disadvantages.

- 5. Attempt any TWO of the following:** **12**
- a) Classify errors and explain any two types of errors.
 - b) State the necessity of contactless electrical tachometer and describe with neat sketch photoelectric tachometer.
 - c) Explain with neat sketch Coriolis Flowmeter. State advantages and applications.
- 6. Attempt any TWO of the following:** **12**
- a) Draw a labelled block diagram of FFT analyser. State advantages and applications.
 - b) Describe with neat sketch working of Hair Hygrometer. Enlist disadvantages.
 - c) Define ultrasonic flow measurement. Describe working principle of Doppler flow meter with two advantages.
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