

22443

23242

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

- (a) State the working principle of 'LVDT'.
- (b) State specifications of 'RVDT'.
- (c) Enlist different types of high pressure gauges.
- (d) List suitable applications of Hot Wire Anemometer.
- (e) List the types of strain gauge.
- (f) State advantages of Stroboscope.
- (g) State advantages of Potentiometer.

2. Attempt any THREE of the following :

12

- (a) Explain term – 'Resolution' and 'Threshold'.
- (b) Explain working principle of Eddy-current dynamometer with a neat sketch.
- (c) Compare Thermistor and Resistance Thermometer.
- (d) Explain the working of rotameter with a neat sketch.



- 3. Attempt any THREE of the following : 12**
- (a) Compare the term “Accuracy” and “Precision”.
 - (b) Compare “Active” and “Passive” transducer.
 - (c) Distinguish between “Threshold” and “Resolution”.
 - (d) Explain the working principle of optical pyrometer with neat sketch.
- 4. Attempt any THREE of the following : 12**
- (a) Explain with neat sketch working of Hydraulic load cell.
 - (b) Describe working principle of ‘C’ type “Bourdon Tube”. List materials used in it.
 - (c) Explain with neat sketch Bimetallic Thermometer.
 - (d) Explain FFT analyser with block diagram of the FFT spectrum analyser.
 - (e) Explain the working of hair hygrometer.
- 5. Attempt any TWO of the following : 12**
- (a) Classify ‘Errors’ and explain any two types of errors.
 - (b) Draw and explain working of “Ultrasonic Flow Meter”.
 - (c) State the necessity of contactless electrical tachometer and describe with neat sketch photoelectric tachometer.
- 6. Attempt any TWO of the following : 12**
- (a) Write any two applications of following :
 - (i) Orifice meter
 - (ii) Venturi tube
 - (iii) Pitot tube
 - (b) Explain the working and application of bonded strain gauge.
 - (c) Explain with neat sketch the working of slipping clutch tachometer.
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