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.
(7) Preferably write the answers in sequential order.

Marks

1. Attempt any **FIVE** of the following: 
   10
   a) Enlist different types of high pressure gauges.
   b) Classify dynamometer’s,
   c) List the different applications of potentiometer.
   d) Name material used for diaphragms.
   e) Define Reynolds number. State its formula.
   f) List the different types of vibration measuring devices.
   g) State the advantages of stroboscope.

2. Attempt any **THREE** of the following: 
   12
   a) Explain term-fidelity and overshoot.
   b) Compare infra-red sensor and frequency modulation transmitter.
   c) Describe the working principle of RTD. Explain with neat sketch.
   d) Draw the construction and explain working of nutating disc type positive displacement meter.
3. Attempt any THREE of the following:  
   a) Distinguish between Threshold and Resolution.  
   b) List the different types of errors in measurement system and explain any one.  
   c) Explain construction and working of R.V.D.T.  
   d) Explain radiation pyrometer with neat sketch.

4. Attempt any THREE of the following:  
   a) Draw creep curve for force transducer. State its significance.  
   b) Explain the construction and working of thermocouple vacuum gauge.  
   c) Describe working principle of C-type Bourdon tube. List material used in it.  
   d) Explain FFT analyser with block diagram of the FFT spectrum analyser.  
   e) Explain how sound is measured by carbon-microphone.

5. Attempt any TWO of the following:  
   a) State the working principle of piezo-electric transducer and its applications.  
   b) State the application of orifice meter Venturi tube and Pitot tube.  
   c) Draw the constructional details of hair hygrometer? State its application.

6. Attempt any TWO of the following:  
   a) Draw and explain the working of coriolis flowmeter.  
   b) Explain the working and application of bonded strain gauge.  
   c) Explain with neat sketch working principle of Eddy current generation type tachometer.