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Total No. of Questions : 5] *[Total No. of Printed Pages : 2*

Roll No .....

EI/IC-405

B.E. IV Semester

Examination, June 2016

Mechanical Measurement

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

v) Assume missing data suitably, if any.

1. a) What is Gyroscope?
   b) Explain the principle of Holographic technique.
   c) Give the classification of motion measuring instruments.
   d) Explain working of Accelerometer. State its applications.

   OR

   Discuss in detail: translational and rotational displacement using Potentiometers.

2. a) How torque measurement is done? Name any three instruments.
   b) State the classification of force measuring devices.
   c) State the classification of dynamometers.
   d) State the methods for torque measurement in rotating shaft. Discuss any one.

   OR

   Discuss about Gyroscopic force transducers. State its applications.

3. a) What is Viscosity Gauge? State its working principle.
   b) State devices for low and high pressure measurement.
   c) Discuss how thermal conductivity can be measured.
   d) Discuss working of deadweight gauge with neat sketch.

   OR

   State the classification of manometers. Discuss working of any one manometer.

4. a) State the functions of Venturimeter, Orifice meter and Pitot tube.
   b) What is Laser Doppler? How it works?
   c) How level measurement is done? Name any three instruments.
   d) Explain working of Anemometers.

   OR

   Explain working of Fluidic oscillator. State its applications.

5. a) State the working principle of thermocouples.
   b) Discuss the measurement of humidity and viscosity.
   c) Write short about thermistors.
   d) Explain brief about pyrometers.

   OR

   Discuss working of electrical resistance thermometer.

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