TIC-505 Printed Pages: 2

Roll No. to be filled in your Answer Book
Roll No

B.Tech

End Semester Examination Dec. 2014 (Semester-V)

Transducer, Sensors and Display devices

Time: Three Hours} {Max. Marks: 100

Note: Attempt all questions, the marks assigned to each question is indicated at question itself.

Q No.1 Attempt any four 5x4=20

a) What is the difference between accuracy and precision? Define with example.

b) A strain gauze with gauze factor =2 is fastened to steel has subject to a stress of 1050kg/cm^2.The modulus of the elasticity of steel is 2.1.x 10^6 kg/cm^2.Calculate the % change in R of strain gauze due to applied stress State the different types of error present in during a measurement?

c) Explain the following terms: resolution, accuracy, dynamic error, static error, sensititivity.

d) Classify different errors of measurement?.

e) Explain Digital frequency measurement method?

Q No.2 Attempt any four 5x4=20

a) Define working principal of LVDT

b) Explain Hay Bridge and its application?

c) The value of the capacitance of the capacitor is specified as 1μF±5% by the manufacturer. The limits between which the value of the capacitance can be guaranteed are?

d) Write a short note on active and passive method of pressure measurement.

e) What is transducer? Give classification and application of transducer.

Q No.3 Attempt any two **10x2=20**

a) Explain Strain gauze and its types? Derive the expression for Gauss factor?

b) What is distortion analyzer? Explain total harmonic distortion?

c) Define working and construction of digital Ramp type of DVM. ?

Q No.4 Attempt any two **10x2=20**

a) Explain in detail working principal of function generator.

b) Explain N1/2 digit display with suitable examples.

c) Define working principal of LED and LCD.

Q No.5 Attempt any two **10x2=20**

a) How Lissajous pattern is used for frequency and phase measurement.

b) Explain working and construction of dual trace oscilloscope.

c) What are recorders? How X-Y recorders work.