8th Sem EE

April 2015

M 26855

VIII Semester B.Tech. Degree (Reg./Supple./Including Part Time) Examination, April 2015

(2007 Admn. Onwards)

PT2K6/2K6 EE801 : INSTRUMENTATION SYSTEMS

Time : 3 Hours
Max. Marks : 100

Instruction : Answer all questions.

I. a) Describe a transducer that can be used for measuring humidity.

 b) Discuss any two applications of Hall effect transducer.

 c) Draw the circuit of a differential amplifier using operational amplifier and explain its operation.

 d) Discuss about frequency modulation.

 e) Explain probability error and combined error.

 f) What are the display system building blocks ?

 g) How do you classify instruments based on their order ? Give examples.

 h) Sketch the response of a second order instrument subjected to an impulse input. **(8×5=40)**

II. a) Explain the working of transducers (one each) that can be used for measuring the following : **15**
 i) acceleration
 ii) torque and
 iii) liquid level.

 OR

 b) Explain the dynamic characteristics of transducers and calibration. **10**

 c) Describe a transducer that can be used for measuring pressure. **5**

P.T.O.

III. a) What are the different methods of data transmission ? With a block diagram explain a general telemetry system. **10**

b) With a circuit diagram explain a band pass filter. **5**

OR

c) With circuit diagrams explain the operation of following bridges :

i) Deflection type bridge

ii) AC bridge using push pull transducers. **15**

IV. a) Explain any three display devices. **15**

OR

b) Discuss about galvanometric recorders. **15**

V. a) Explain the various components of an analog data acquisition system. **15**

OR

b) Describe a process control system for temperature. **15**