

B. Tech Degree VIII Semester (Supplementary) Examination September 2010

EE 803 ELECTRONIC INSTRUMENTATION (2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

PART - A

(All questions carry EQUAL marks)

(8 x 5 = 40)

- I. (a) Explain piezo electric effect. Give the properties of piezo electric transducers
 (b) Explain the principle of operation of a shaft encoder.
 (c) Draw the circuit of a differential amplifier and explain.
 (d) Draw the circuit of a band pass filter and explain its working.
 (e) Draw the block diagram of a basic measuring system and explain.
 (f) Draw the block diagram of a digital frequency counter and explain.
 (g) Differentiate between Accuracy and Precision.
 (h) What is self balancing system of recording?

PART - B

(4 x 15 = 60)

- II. (a) With necessary diagrams, explain the principle of operation of an LVDT. (10)
 (b) Write a note on magnetostrictive materials. (5)
- OR**
- III. (a) Explain Hall effect. Show how a proximity meter can be made using Hall effect. (10)
 (b) What is a thermistor? Sketch and explain its characteristics curve. (5)
- IV. (a) With the help of a diagram, explain Instrumentation amplifier. (7)
 (b) What are the different types of modulation techniques used in telemetry? (8)
- OR**
- V. (a) What is telemetry? Draw the block diagram of a general telemetry system and explain. (7)
 (b) Explain the principles of time division and frequency division multiplexing. (8)
- VI. (a) Explain the principle of a successive approximation type DVM. (8)
 (b) Draw and explain the block diagram of a data acquisition system. (7)
- OR**
- VII. (a) Explain the working of a vector impedance meter. (10)
 (b) Explain electronic multimeter with a neat diagram. (5)
- VIII. Explain the construction and working principles of
 (i) LED (ii) LCD (15)
- OR**
- IX. Write short notes on :
 (i) galvanometric recorders (15)
 (ii) magnetic recorders