

SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E – EEE

Title of the paper: Instrumentation Systems

Semester: V

Sub.Code: 14503(2002/2004)

Date: 15-11-2007

Max. Marks: 80

Time: 3 Hours

Session: FN

PART – A

(10 x 2 = 20)

Answer All the Questions

1. Define Resolution and Linearity.
2. Draw any zero order system and its step response.
3. What are the causes for residual voltage in LVDT?
4. What is pH value and write its significance?
5. Write the features of Instrumentation amplifier over operational amplifier.
6. What is a Data acquisition system?
7. State the disadvantages of frequency modulation.
8. What is frequency shift keying?
9. Mention the disadvantages of LCD.
10. What are the features of digital CRO?

PART – B
Answer All the Questions

(5 x 12 = 60)

11. With neat diagrams explain the various functional elements of Bourdon tube pressure gauge.
(or)
12. Briefly explain various types of errors in measurement.
13. List out various types of strain gauges and explain bonded wire strain gauge also derive the expression for gauge factor.
(or)
14. Explain the following.
i) Electromagnetic flow meter.
ii) Capacitive type level sensor.
15. Explain voltage to frequency and frequency to voltage converters.
(or)
16. With a neat diagram explain the following
i) Principle of operation of function generator. (8)
ii) Explain any one type of D/A converter. (4)
17. Briefly explain the various types of Landline telemetering systems.
(or)
18. Briefly explain about time division multiplexing.
19. Explain the following
(a) Seven segment displays (4)
(b) LED (4)
(c) Nixie tubes (4)
(or)
20. With neat diagram explain the operation of X – Y recorder and state its applications.