SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E. - EEE
Title of the paper: Instrumentation Systems
Semester: V Max. Marks: 80
Sub.Code: 14503 (2002/2004) Time: 3 Hours
Date: 19-04-2007 Session: AN

PART – A (10 x 2 = 20)

Answer ALL the Questions

1. List the functional elements of a measurements system with diagram.
2. What are the types of "Errors"?
3. List out the selection of Transducers.
4. Distinguish between digital sensors and optical encoders.
5. Write the features of Instrumentation amplifiers.
6. What are the elements of a data acquistation system?
7. Define: Telemetry, TDM, FDM.
8. Distinguish: FM, AM, PM.
9. Write the working principle of Tape recorders?
10. What is LED?

PART – B (5 x 12 = 60)

Answer All the Questions

11. Explain in detail static and dynamic characteristics of measurements systems.

(or)

12. How the Errors are classified. Explain in detail.

13. Explain the construction and working of LVDT.

(or)

14. Explain in detail optical sensors and digital sensors.

15. Draw the circuit diagram of Instrumentation amplifier and operational amplifier and also explain it.

(or)

16. Explain briefly ADC and DAC.

17. Explain the following:
    (i) Voltage and position telemetry
    (ii) FM, PM.

(or)

18. Explain with block diagram the following:
    (i) Time division Multiplexing (ii) Frequency division Multiplexing.

19. Write the construction and working of CRT.

(or)

20. Explain briefly the strip chart and XY recorders.