

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: 414503

Date: 26-04-2008

Max. Marks: 80

Time: 3 Hours

Session: AN

PART – A

(10 x 2 = 20)

Answer All the Questions

1. Name the basic functional elements of an Instrumentation System.
2. Define the term Linearity.
3. What is Hall effect?
4. What is a Photo emissive cell?
5. What do you understand by a notch filter?
6. Draw the Sample and Hold circuit?
7. What is the need for modulating a signal?
8. What is Radio telemetry?
9. What is the necessity of delay line in an Oscilloscope?
10. List the applications of X-Y recorders.

PART – B
Answer All the Questions

(5 x 12 = 60)

11. Discuss about the various types of errors in a measurement system and how it can be rectified?
(or)
12. What are Zero, First and Second Order Instruments? Give examples with their transfer functions and compare their performances.
13. Explain about the bonded and unbonded types of strain gauges with neat sketches.
(or)
14. Explain the principle of operation of LVDT with diagrams.
15. Derive the output expression of an Instrumentation Amplifier with neat circuit List its advantages and applications.
(or)
16. What is successive approximation method of A/D conversion? Explain with neat diagram.
17. Explain the Amplitude modulation and Frequency modulation techniques with diagrams.
(or)
18. Explain the Time Division Multiplexing Technique of telemetry.
19. Explain the working principle of a Liquid Crystal Display with neat sketch. List its advantages and limitations over LED's.
(or)
20. Describe the operation of a Magnetic Tape Recorder with neat diagram Compare this recorder with graphical recorders.

