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SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act,1956)

Course & Branch :B.E - EEE

Title of the Paper :Instrumentation Systems

Max. Marks :80

Sub. Code :414503

Time : 3 Hours

Date :06/11/2009

Session :FN

PART - A

(10 x 2 = 20)

Answer ALL the Questions

1. Define the term accuracy.
2. List down the sources of error.
3. Define a Strain gauge.
4. Name different types of photo electric transducer.
5. What are the important features of an Operational amplifier?
6. List the differences between Passive and Active filters.
7. List the advantages of TDM over FDM.
8. What is Pulse modulation?
9. What are the operating principles of LCD display?
10. What are the major components of a CRT?

PART – B
Answer All the Questions

(5 x 12 = 60)

11. Explain the different types of errors in measurement by giving suitable examples.
(or)
12. Determine the dynamic response of Zero, First and second order instruments.
13. What is an LVDT? Explain the operating principle of an LVDT with a neat sketch.
(or)
14. Write short notes on shaft encoders and optical encoders.
15. Describe in detail the successive approximation method of analog to digital converter.
(or)
16. Explain the operation of an instrumentation amplifier with a neat circuit and derive its output voltage equation.
17. Describe the pulse code modulation telemetry system.
(or)
18. Describe the salient features of AM and FM telemetry and compare and contrast them.
19. Discuss with a neat diagram, a method of realizing a 7 segment numeric display using LED's.
(or)
20. Explain the working of X-Y recorder with a neat block diagram and give its applications.