SATHYABAMA UNIVERSITY

(Established under section 3 of UGC Act, 1956)

Course & Branch: B.E – EEE/ETCE
Title of the paper: Measurements and Instrumentation
Semester: IV Max. Marks: 80
Sub.Code: 6C0096 Time: 3 Hours
Date: 17-11-2008 Session: AN

PART – A (10 x 2 = 20)

Answer All the Questions

1. What is the need for measurement?

2. Write the need for calibration.

3. What two conditions must be satisfied to make an ac bridge balance?

4. Define Transducers. Bring out the advantages of electric transducers.

5. State any four advantages of digital instruments over analog instruments.

6. What is a self balancing potentiometer? Where it is used?

7. How are the digital voltmeter classified?

8. What is the advantage of “pre trigger view” mode of operation in DSO?

9. Give any two applications of wave analyzer.

10. List the controllers normally found on XY recorder.

PART – B (5 x 12 = 60)

Answer All the Questions

11. Describe in detail the different types of dynamic errors in a measurement system.

(or)

12. Draw the block diagram of a function generator and explain the method of producing sine waves.

13. Draw the circuit of a wheat stone bridge and explain how medium resistances are measured using the same.

(or)

14. What is temperature transducer? How are they classified and explain any one in detail?

15. With a neat diagram explain the various parts of CRO.

(or)

16. With a neat diagram, explain the construction, working, torque equation and advantages and disadvantages of a PMMC instrument.

17. With a neat sketch discuss how the waveform is stored in digitized format in a DSO.

(or)

18. (a) With neat sketches explain the measurement of time interval and pulse width.

(b) Write short notes on the accuracy of digital meters.

19. Define spectrum analysis and explain the working of basic spectrum analyzer with a block diagram.

(or)

20. What are the various classifications of recorders and explain galvanometer type strip chart recorder with a neat diagram.