Code No. 3195

FACULTY OF ENGINEERING

B.E. 4 / 4 (E & EE) II – Semester (Main) Examination, May / June 2011

Subject: Electronic Instrumentation Systems (Elective – III)

Time: 3 Hours **Max. Marks: 75**

Note: Answer all questions from Part A. Answer any Five questions from Part B.

PART – A (25 Marks)

1. Define passive transducers and give two examples. 3
2. A successive approximation A/D converter has a resolution of 20 mV. What will be its digital output for an analog input of 2.17 V? 2
3. Write ADC specifications. 3
4. Find crest factor of a sine wave. 3
5. Define spectrum analysis. 2
6. What are various types of distortions caused by amplifiers? 3
7. Define relay switch attenuator. 2
8. What is the purpose of time base generator in CRO? 2
9. State the advantages of computer controlled test systems. 2
10. What are the applications of wave analysers. 3

PART – B (5x10 = 50 Marks)

11.(a) Explain the principle and working of programmable gain amplifier wing neat diagram. 5

(b) What are the different types of isolation amplifiers and write its specifications. 5

12. Explain the principle and working of
    a) Successive approximation ADC 5
    b) Dual slope ADC 5

13.(a) Explain the principle of automatic ranging and automatic zeroing RMS detector in DMM. 5

(b) Explain the principle and working of current to voltage converter. 5

14. Explain the principle and working of spectrum analyzer with the help of block diagram. 10

15. Explain the testing of an audio amplifier and radio receiver instruments used in computer controlled systems. 10

16. What are the different components in a magnetic tape recorder and explain its working. 10

17. Write short notes on:
    a) IEEE 488 bus 5
    b) Time base generator 5