

FACULTY OF ENGINEERING

B.E. 4/4 (E&EE) II-Semester (Main) Examination, June 2012

Subject : **Electronic Instrumentation Systems**
(Elective - III)

Time : 3 Hours

Max. Marks: 75

Note: Answer **all** questions of Part - A and answer any **five** questions from Part-B.

PART – A (25 Marks)

1. Define active and passive transducers with two examples. (3)
2. Write DAC specifications. (2)
3. Compare parallel type ADC and successive approximation ADC. (3)
4. Explain the working principle of current to voltage converter. (3)
5. How are DVMs classified? (2)
6. List the applications of spectrum analyzer. (2)
7. State the advantages of computer controlled test systems. (3)
8. What is the purpose of Delay line in CRO? (2)
9. What are the different applications of C.R.O.? (2)
10. Mention one sample example of Automatic Instrumentation? (3)

PART – B (5x10=50 Marks)

11. Explain the working of instrumentation amplifier with neat diagram and derive an expression for O/P voltage. (10)
12. Explain the principle and working of
 - (a) R-2R Ladder DAC (5)
 - (b) Parallel ADC (5)
- 13.(a) Explain the principle and working of Resistance to voltage converter. (5)
(b) Explain the working of Digital Frequency Meter with block diagram. (5)
- 14.(a) Explain the principle and working of Heterodyne harmonic Analyzer with diagram. (5)
(b) Explain the working principle of spectrum analyzer with neat diagram. (5)
15. Explain testing of an audio amplifier and radio receiver instruments used in computer controlled systems. (10)
16. Explain the working of Digital storage oscilloscope with neat diagram. (10)
17. Write a short notes on the following :
 - (a) Cathode Ray Oscilloscope. (5)
 - (b) Measurement of Time interval and pulse width (5)

