

C 26899

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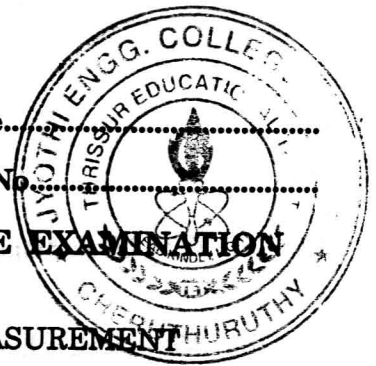
Name.....

Reg. No.....

**FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION  
MAY 2012**

AI 09 406—ELECTRONIC INSTRUMENTATION AND MEASUREMENT

(2009 Admissions)



Time : Three Hours

Maximum : 70 Marks

**Part A**

*Answer all questions.*

1. What is mean by systematic error ?
2. Name the basic blocks of a digital instrumentation system.
3. What is the necessity of curve fitting ?
4. What are the advantages of flash ADC ?
5. What do you mean by baby sitting mode in a DSO ?

(5 × 2 = 10 marks)

**Part B**

*Answer any four questions.*

6. Define the terms :
  - (a) Threshold.
  - (b) Hysteresis.
7. A 0 – 100 V voltmeter has 200 scale divisions which can be read to  $\frac{1}{2}$  division. Determine the resolution of the meter in volt.
8. Explain the impulse response of a first order system.
9. With schematic explain R – 2R ladder DAC.
10. What a note on LCD ?
11. What is the basic principle of sampling oscilloscope.

(4 × 5 = 20 marks)

**Part C**

**Module I**

12. (a) With block schematic explain the functional elements of a measuring system.

*Or*

(b) Explain :

- (a) Line fitting.
- (b) Curve fitting.
- (c) Goodness of fit test.

Turn over

**Module II**

13. (a) With block diagram explain a pulse generator.

Or

- (b) With block schematic describe the working of sweep frequency generator.

**Module III**

14. (a) With schematic explain Successive Approximation ADC.

Or

- (b) Explain the principle of weighted capacitor DAC. Compare its performance with weighted resistor DAC.

**Module IV**

15. (a) With block schematic explain true RMS meter.

Or

- (b) Explain the principle of operation of X - Y recorder with the help of block diagram.

(4 × 10 = 40 marks)