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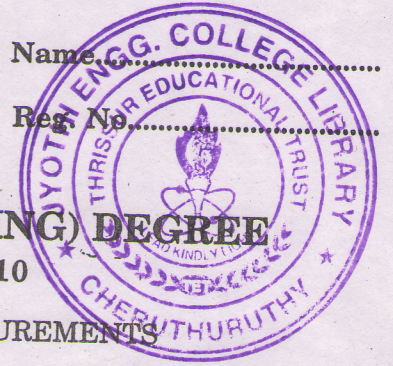
FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2010

AI 04 405 – ELECTRONIC INSTRUMENTS AND MEASUREMENTS

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

I. (a) What is curve fitting? Explain.

(b) What are Random Errors and Gross Errors? Explain.

(c) Differentiate periodic input transient input signals.

(d) Explain the characteristics of digital instruments in detail.

(e) Draw weighted resistor DAC and explain its principle in detail.

(f) Differentiate ADC from DAC.

(g) Give an account on special purpose Oscilloscopes.

(h) Write short notes on 'Q meter'.

(8 × 5 = 40 marks)

II. (a) List and explain in detail all the static characteristics of instruments.

Or

(b) Explain the following : (i) Probability distributions ; (ii) Analog and Digital Modes of Instruments.

(7 + 8 = 15 marks)

III. (a) Explain in detail the digital stimulation methods of an Instrument.

Or

(b) Draw a neat block diagram of sweep generator and explain its functioning in detail.

IV. (a) Explain the principle of Integrating type ADC with a neat diagram.

Or

(b) Explain the principle of operations of (i) Bipolar DAC ; (ii) Master-slave DAC.

(7 + 8 = 15 marks)

V. (a) Explain the principle of sampling oscilloscopes and DSO in detail with neat diagrams.

Or

(b) Explain the following in detail :

(i) Plotter ; (ii) Watt-hour meter ; (iii) Instrument transformers.

(5 + 5 + 5 = 15 marks)

[4 × 15 = 60 marks]