D 42162

Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION DECEMBER 2007

EC 04 505—ELECTRONIC INSTRUMENTATION

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Answer **all** *questions.*

I. (a) Define Gauge factor. Explain the significance of gauge factor.

(b) Give an account on 'Random Error'.

(c) Differentiate Analog Electronic Vom from its Digital Version.

(d) What are wavemeters ? Explain the need for wavemeters.

(e) Draw a neat block diagram of digital RLC meter and explain its principle.

(f) Explain the features of strip chart.

(g) Explain the characteristics of Oscilloscope probes.

(h) What is a low level Voltmeter /ammeter ? Explain.

(8 × 5 = 40 marks)

II. (a) (i) Describe in detail the classification of Errors. (7 marks)

(ii) Give an account on 'sensing elements'. (8 marks)

Or

(b) Explain in detail the static and dynamic characteristics of piezoelectric sensing elements with neat sketches.

III. (a) Explain in detail the applications of frequency meter for the measurement of frequency and time parameters.

Or

(b) Draw a neat block diagram and circuit diagram of Vom and explain its principle.

IV. (a) Explain the principle of pulse and RF generators in detail with neat block diagrams.

Or

(b) Explain the principle of operation of digital waveform recorders and digital waveform analyzers with neat block diagrams.

V. (a) Draw a neat block diagram of spectrum Analyzer and explain its principle of operation.

Or

(b) Write technical notes on :

1 Distortion meter. (7 marks)

2 Storage Oscilloscopes *vs* CRO. (8 marks)

(4 × 15 = 60 marks)