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Name.....

Reg. No.....

THIRD SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, DECEMBER 2007

EE 2K 306—ELECTRICAL MEASUREMENTS AND MEASURING AND INSTRUMENTS

Time : Three Hours Maximum : 100 Marks

Answer **all** *eight questions of Module* I.
Answer **one** *questions each of module* II-V.

I. 1 What are the various control arrangements made in indicating instruments ?

2 Draw the diagram of a true rms voltmeter circuit and explain.

3 Write about the error and compensation done in wattmeters.

4 What is a trivector meter ? Where is it used ?

5 Draw carry Foster slide wire bridge and write its merits.

6 What is meant by earth resistance ? How is it measured ?

7 Sketch the modern form of a potentiometer and say its merits.

8 What is core loss ? How is this measured ?

(8 × 5 = 40 marks)

II. 1 Draw a rectifier type meter and explain the factors influencing its performance.

Or

2 What are instrument transformers ? Where are they used ? How are they different from current transformers ?

III. 1 Explain the principle and working of 3 phase energy meter.

Or

2 Explain with diagrams : (i) frequency meter. (ii) p.f. meter.

IV. 1 Define sensitivity of dc bridges. What is the effect of interchanging battery and qalvanometer of a bridge ? Explain.

Or

2 How is localization of cable fault done using the Murray and Varley loop tests ? Explain with necessary diagrams.

V. 1 What are the principles of potentiometers ? Explain in detail.

Or

2 What is a Hall effect qaussmeter ? Explain its application.

(4 × 15 = 60 marks)