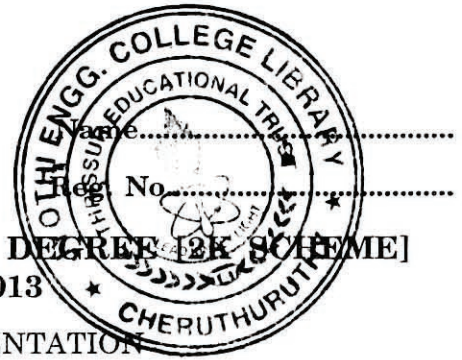**D 34526**

FOURTH SEMESTER B.TECH. (ENGINEERING) DEGREE [2K SCHEME] EXAMINATION, MARCH 2013

EC 2K 406—ELECTRONIC INSTRUMENTATION

Time : Three Hours　　　　　　　　　　　　　　　　　Maximum : 100 Marks

Answer all questions.

I. (a) Explain one method for voltage measurement.

　(b) Compare digital and analog multimeters.

　(c) Explain the construction, working and application of any one photo electric transducer.

　(d) Explain one scheme for flow measurement.

　(e) Illustrate the principle of IC tester.

　(f) Explain one method for inductance measurement.

　(g) Describe the operation of time interval counter.

　(h) Discuss the role of analog to digital converters in data acquisition systems.

$(8 \times 5 = 40 \text{ marks})$

II. (a) What are the types of errors in measurement ? How error is quantified using statistical methods ?

Or

　(b) With block diagram, explain the principle of digital multimeter.

III. (a) Explain one scheme for pressure measurement using stain gauge. Define gauge factor.

Or

　(b) With diagram, explain one scheme for temperature measurement and one for flow measurement.

IV. (a) With schematic diagram, explain the principle of DSO.

Or

　(b) Explain how Q meter works ?

V. (a) With block diagram, explain the structure of a microprocessor based pressure sensing system.

Or

　(b) With block diagram, describe the components of a generalized measurement system.

$(4 \times 15 = 60 \text{ marks})$