

C 15219

Name.....

Reg. No.....

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

EE 04 403—ELECTRICAL MEASUREMENTS AND MEASURING INSTRUMENTS

(2004 admissions)



Time : Three Hours

Maximum : 100 Marks

Part A

- I. (a) Write notes on the different types of errors that occur in indicating instruments.
- (b) Briefly explain the extension of instrument range.
- (c) Explain the principle of operation of single phase electro-dynamometer power factor meter.
- (d) Explain the compensation for inductance of pressure coil in wattmeters.
- (e) Discuss about earth's resistance.
- (f) Explain about the localisation of cable fault by Murray test.
- (g) Explain the general principle of potentiometer working.
- (h) Discuss the application of d.c. and a.c. potentiometers.

(8 × 5 = 40 marks)

Part B

- II. (a) Explain the construction and working of a permanent magnet moving coil instrument. Derive the torque equation.

Or

- (b) (i) Explain the working of electro-dynamometer ammeters and electro-dynamometer voltmeters.
- (ii) Discuss the advantages and disadvantages of electro-dynamometer type instruments.

- III. (a) Explain the working of a power factor meter.

Or

- (b) Explain the working of a three phase energy meter.

- IV. (a) Explain the working of Wheatstone's bridge and Kelvin's double bridge to measure resistance.

Or

- (b) (i) Explain the working of Maxwell's bridge to measure inductance.
- (ii) Explain the working of Schering bridge to measure capacitance.

- V. (a) (i) Explain a method to measure flux.
- (ii) Explain the working of a Ballistic Galvanometer.

Or

- (b) Write notes on :
 - (i) Vernier potentiometer.
 - (ii) Standardisation of potentiometer.

[4 × 15 = 60 marks]