

S.B. Roll No.....

ELECTRICAL MEASUREMENTS AND INSTRUMENTS
4th/Electrical/2052/2525/May'16

Duration: 3 hrs

M. Marks=75

Note: - Attempt all questions

SECTION A

Q.1) Fill in the blanks:-

10x1.5= 15

- a. A device that converts a physical quantity into an electrical signal is called _____.
- b. The instruments which are used to measure _____ are called electrical instruments.
- c. The dynamometer type wattmeter can be used to measure _____.
- d. In PMMC instruments, the moving coil is wound on the former made of _____.
- e. The internal resistance of voltmeter is _____.
- f. Meggar is used for the measurement of _____.
- g. The range of an ammeter can be extended by using _____.
- h. Moving Coil instruments have _____ scale.
- i. LVDT is used to measure _____.
- j. One unit of Electrical energy means _____.

SECTION B

5x6=30

Q.2) Attempt any FIVE questions in this section:

- a. Differentiate between ammeter and voltmeter.
- b. Explain the working of LVDT for the measurement of displacement.
- c. Write short note on digital multimeter.
- d. Discuss merits and demerits of dynamometer type wattmeter.
- e. What is P.T? Draw and explain the circuit diagram for measurement in power system using CT and PT.
- f. How indicating and integrating instruments differ?
- g. Explain methods provided for damping torque.

SECTION C

Q.3) Attempt any THREE questions:

3x10=30

- a. Explain with the help of neat diagram .construction and principle of dynamometer type wattmeter.
- b. Explain with the help of circuit diagram, how the phase power is measured by two wattmeter method.
- c. Discuss construction and working of single phase energy meter. What are errors in energy meter? How are they compensated?
- d. Discuss construction and working of moving instruments.
- e. Explain Maxwell's bridge method for measurement of inductance and Schering Bridge for measurement of capacitance.