

(DEE 314)

B.Tech. DEGREE EXAMINATION, MAY - 2015

(Examination at the end of Third Year)

ELECTRICALS AND ELECTRONICS

Paper - IV : Electrical Measurements

Time : 3 Hours

Maximum Marks : 75

Answer question No.1 compulsory

(15)

Answer ONE question from each unit

(4 × 15 = 60)

- 1) a) Define power factor.
- b) What is meant by creeping?
- c) What is calibration?
- d) What is the difference between LED & LCD?
- e) Give the applications of CRO.
- f) What is the function of delay line in CRO?
- g) What do you mean by “Graticules” in CRO?
- h) Give general characteristics of DVM’s.
- i) Define guage factor.
- j) Define Loss factor.
- k) What is Galvanometer?
- l) What is the difference between moving coil & moving Iron?
- m) What is the basic function of oscilloscope?

- n) What is basic classification of instruments?
- o) What are the precaution to be taken while operating the bridge circuit?

UNIT – I

- 2) a) Draw synchroscope internal circuit diagram & explain the working & uses. In a synchroscope it is observed that the pointer is revolving once in every second. What is frequency of the incoming machine?
- b) How the power factor of a single phase circuit is measured.

OR

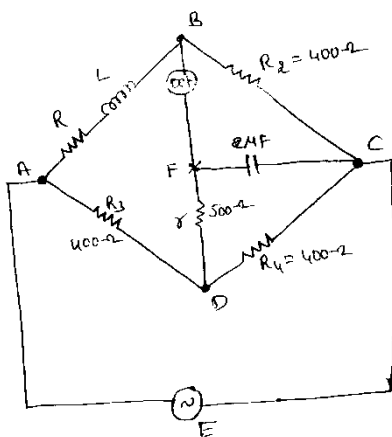
- 3) a) Write short notes on frequency meter.
- b) Discuss the various types of error's & their methods of compensation in the dynamometer type wattmeter.

UNIT - II

- 4) a) Explain the following in relation to a CRT.
 - i) Effect of change in secondary burden.
 - ii) Effect of change in frequency.
 - iii) Effect of power factor & secondary burden.
- b) Explain the theory & working principle of Kelvin's double bridge method for measurement of low resistance.

OR

- 5) a) An A.C bridge is connected as shown in fig. below. Determine the resistance & inductance of 'AB'.



- b) What is “bridge circuit”? Give the applications & advantages of bridge circuits.

UNIT - III

- 6) Prove that the change in value of flux is directly proportional to the change in the deflection in case of flux meter.

OR

- 7) Explain with a neat circuit diagram the Epstein square method of testing core loss of laminated sheet steel. Make necessary derivations & explain how eddy current & hysteresis losses may be evaluated separately.

UNIT - IV

- 8) a) Explain the operation of thermistor for the measurement of temperature.
b) Draw the block diagram of CRT & explain working principle.

OR

- 9) a) Write short notes on RVDT, Digital voltmeter & chop modes.
b) Explain in detail about thermocouple.

