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Question Paper Code: 31355

B.E. / B.Tech. DEGREE EXAMINATION, NOVEMBER 2015

Third Semester

Electronics and Instrumentation Engineering

01UEI305 – ELECTRICAL MEASUREMENTS

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define calibration.
2. Compare moving coil and moving iron instruments.
3. State Phantom loading.
4. What is meant creeping in energy meter?
5. Differentiate between DC and AC potentiometers.
6. List the applications of CT and PT.
7. Compare series and shunt type ohmmeter.
8. Define Megger.
9. Which are used as detectors in the AC bridges?
10. List the errors in AC bridge methods.

PART - B (5 x 16 = 80 Marks)

11. (a) Illustrate the constructional details and principle of operation of moving coil and moving iron instruments. (16)

Or

(b) With a neat diagram explain the principle and construction of dynamometer type and thermal type instruments. (16)

12. (a) Illustrate the construction and working principle of induction type single phase energy meter. (16)

Or

(b) With neat sketch, summarize the construction and working principle of electro dynamometer type wattmeter. (16)

13. (a) Examine the basic circuit, principle, operation and applications of DC and AC potentiometer. (16)

Or

(b) With phasor diagram explain the construction, operation and characteristics of C.T and P.T. (16)

14. (a) (i) Demonstrate the construction and working of Wheatstone bridge. (10)

(ii) Compare series type and shunt type ohmmeters. (6)

Or

(b) Describe the construction and working of Kelvin double bridge. (16)

15. (a) Point out the types of bridges used for measurement of inductance and explain any one bridge circuit with neat diagram. (16)

Or

(b) List the different types of bridges used for measurement of capacitance and explain any one bridge circuit with neat sketch. (16)
