Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

EE/EX-221 (CBCS)

B.E. III Semester

Examination, December 2017

Choice Based Credit System (CBCS)

Electrical Measurements and Instrumentation

Time : Three Hours

Maximum Marks : 60

Note: i) Total number of questions eight.
ii) Attempt any five questions.
iii) All questions carry equal marks.

1. a) Discuss various types of errors in measuring electrical quantities. How these errors can be minimized?
   b) Discuss static and dynamic characteristics of measurement systems.

2. a) Explain principle of operation and construction of ballistic galvanometer.
   b) What do you understand by digital instruments? Explain with the help of block diagram.

3. a) Derive the expression for torque in an electrodynamometer type instruments.
   b) Describe the general requirements for a material to be used for shunts for ammeter and multipliers for voltmeters.

4. a) Write down the characteristics of potential transformer in details.
   b) Explain the shape of scale and errors in electrodynamometer Wattmeters.

5. a) Explain in detail the working principle of Tri-vector meter.
   b) What is Phantom Loading? Explain with an example how it is more advantageous then testing with direct loading?

6. a) Explain the working of single phase moving iron type power factor meter.
   b) Explain the theory and operation of Resonance type frequency meter.

7. a) Explain the loss of charge method for measurement of insulation resistance of cables.
   b) How the resistance are classified? Explain the method to measure a low resistance.

8. a) Explain with circuit diagram the Lloyd-Fisher square for measurement of Iron loss in a Iron Specimen.
   b) Explain the advantage of digital instruments over analog instruments.

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