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BIEE-007

01088

B.Tech. IN ELECTRICAL ENGINEERING (BTELVI)

Term-End Examination

December, 2012

BIEE-007 : ELECTRICAL MEASUREMENTS AND MEASURING INSTRUMENTS

Time : 3 Hours *Maximum Marks : 70*

*Note : Attempt **any seven** questions. All questions carry **equal** marks.*

1. Explain the different types of static and dynamic characteristics of a Measurement System. **10**

2. What are the sources of errors? Explain the different types of errors in Measurement Systems. **10**

3. Explain the loss of charge method for measurement of insulation resistance of cables. **10**

4. Explain the construction and working of **any two** of the following : **5x2=10**

   (a) Weston type frequency meter

   (b) Ratiometer-type frequency meter

   (c) Saturable core frequency meter.

5. Describe the constructional details of an electrodynamometer type wattmeter. What are the errors in such a wattmeter ? 10

6. Describe the working of a Carey-Foster slide Wire Bridge. 10

7. Derive the equations of balance for an Anderson's bridge. Draw the Phasor Diagram for conditions under balance. Discuss the advantages and disadvantages of the bridge. 10

8. Explain the operation of a dual trace Oscilloscope. 10

9. With the help of a neat sketch, explain the three forces involved in the moving system of a deflection instrument. Discuss the function of each force and how it is produced ? 10

10. Draw circuit diagram to show how a PMMC instrument can be used as a DC Voltmeter. Explain its functioning. 10