

00107

**B.Tech. IN ELECTRICAL ENGINEERING
(BTELVI)**

Term-End Examination

June, 2013

**BIEE-007 : ELECTRICAL MEASUREMENTS AND
MEASURING INSTRUMENTS**

Time : 3 Hours

Maximum Marks : 70

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

1. What is the principle of PMMC instrument? 10
Explain its construction with the help of a neat sketch. Also list the advantages and disadvantages of PMMC meters.
2. What do you understand by ammeter shunt and voltmeter multiplier? What are the main conditions to be fulfilled by shunts and multipliers? 10
3. What are the problems associated with measurement of low resistance ? How are they overcome through use of Kelvin's Double bridge ? 10
4. Describe the construction and principle of single phase power factor meter with a neat sketch. 10

5. What are the faults that usually occur in cables ? 10
Describe the Varley loop method of locating a fault on a cable.
6. Draw Hay's bridge and its phasor diagram. How 10
it can be used for measurement of inductance ?
7. Describe with the help of neat diagram the 10
principle and working of DC potentiometer.
Explain how this potentiometer is standardised.
8. What is Lambert's law ? Explain its significance. 10
9. Describe the principle of operation of Cathode Ray 10
Oscilloscope with a neat sketch. What are its
various applications ?
10. Write short notes on *any two* of the following : 10
- (a) Calibration
 - (b) Single phase Energy meter
 - (c) Instrument Transformers
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