

**B.Tech. - VIEP - ELECTRICAL ENGINEERING
(BTELVI)**

00246

Term-End Examination

June, 2016

**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 constructional features and working of attraction type moving iron instrument. 10

2. How can a galvanometer be converted into a voltmeter and an ammeter ? What is the process of extension of range of an ammeter ? 10

3. Describe the principle of operation of a single phase induction type energy meter with a neat diagram indicating all the constructional features. 10

4. What is the function of an instrument transformer ? Explain the operations of current transformer and potential transformer. 10

5. Explain the operation of Kelvin's Double Bridge for the measurement of low resistance. What are the advantages of Kelvin's double bridge over Wheatstone bridge ? 10
6. Derive the equations of balance for Schering bridge. Draw the phasor diagram for balance condition. 10
7. What are the laws of illumination ? Define the term 'Efficacy'. 10
8. Draw a neat diagram of a CRO clearly mentioning the various parts. What are the functions of horizontal and vertical plates ? 10
9. Write short notes on any *two* of the following : 10
- (a) Ballistic Galvanometer
 - (b) Hysteresis Measurement
 - (c) Random Error
 - (d) Earth Tester
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