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[4857]-1034

**S.E. (Electrical) (I Sem.) EXAMINATION, 2015**

**ELECTRICAL MEASUREMENTS AND**

**INSTRUMENTATION**

**(2012 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Solve Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 or Q. No. 6, Q. No. 7 or Q. No. 8, Q. No. 9 or Q. No. 10, Q. No. 11 or Q. No. 12.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.

(v) Assume suitable data, if necessary.

1. What is the need of Calibration ? Explain any *one* method of calibration with example. [6]

*Or*

2. What are essential conditions for any indicating instrument? [6]

3. Explain Earth Tester for measurement of Earth Resistance. [6]

*Or*

4. Explain Maxwell Inductance Capacitance Bridge. [6]

P.T.O.

5. Explain Dynamometer type wattmeter. Also state advantages and disadvantages. [6]

*Or*

6. Explain Trivector Meter. [6]
7. Explain range extension. How is the range extended in meters ? [6]

*Or*

8. What are different types of errors and adjustments in single phase Energy Meter ? [6]
9. (a) Draw block diagram of dual trace and dual beam CRO and Explain. [7]
- (b) Classify Transducers. Also state advantages of Electrical Transducer. [6]

*Or*

10. (a) How frequency, voltage and current can be measured in CRO ? [6]
- (b) Explain low pressure measurement by McLeod gauge. [7]
11. (a) Explain Ultrasonic flow meter. [6]
- (b) Explain Hydraulic measurement for level measurement. [7]

*Or*

12. (a) Draw and explain Semiconductor Strain gauge. [6]
- (b) Explain construction working and application of load cell. [7]