

8. Write short technical notes on the following :

- (a) Creep and its avoidance 8
- (b) Meggar 9
- (c) Instrument chassis. 3

No. of Printed Pages : 04

Roll No.

314

B. Tech. EXAMINATION, Dec. 2018

(Third Semester)

(Old Scheme) (Re-appear Only)

(EE, EEE)

EE209

ELECTRICAL MEASUREMENTS AND
MEASURING INSTRUMENTS

(Common with 4th Sem. in IC, AEI)

Time : 3 Hours]

[Maximum Marks : 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all. Assume any missing data.

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P.T.O.

1. (a) Distinguish clearly by giving example(s) between Threshold and Resolution; Accuracy and Precision. **12**
- (b) Define True Value. Is it practically attainable ? **4**
- (c) State remedies for gross errors and random errors. **4**
2. (a) What is the necessity of controlling and damping forces ? **6**
- (b) Describe fluid friction and eddy current forms of damping and compare them. **12**
- (c) What are tant-band supports ? **2**
3. How are electrodynamic and moving iron instruments similar in certain aspects and dissimilar in some respects ? Describe the working of electro-dynamometer types ammeter. **20**
4. State the principle of operation and derive the torque equation of an induction type wattmeter. Can it measure D.C. power too ? **20**
5. Derive the torque equation of ferrodynamic types frequency meter. Also describe its working. **20**
6. (a) Is there any resistance that has four terminals ? If yes, which one and why ? **3**
- (b) Explain the use of Kelvin double bridge. **17**
7. The arms of a 4-arm bridge abcd, supplied with sinusoidal voltage, has the following values :
 Arm ab : Resistance of 200Ω in parallel with a capacitance of $1 \mu\text{F}$.
 Arm bc : 400Ω resistance.
 Arm cd : 1000Ω resistance
 Arm da : A resistance R_2 in series with a $2 \mu\text{F}$ capacitance.
 Determine the value of R_2 and the frequency at which the bridge will have balance. **20**