

SE-EE.
Sem III (old)
EMMI.

(OLD COURSE)

QP Code :12306

[3 Hours]

Total Marks: 100

- N.B. :(1) Question no 1 is compulsory
(2) Solve any **four** out of remaining questions
(3) **Figures** to the **right** indicate **full** marks.
(4) Assume suitable **data** if necessary.

1. Solve any **four**:—
 - (1) Define creeping. Explain the method of its reduction. 20
 - (2) Define Measurement. Give its significance. Explain direct & indirect method of measurement.
 - (3) Explain why the wheatstone bridge is not used for measuring low value of resistance.
 - (4) Explain the different sources & detectors used in a.c. bridges.
 - (5) State the advantage & disadvantage of flux meter.

2. (1) Describe the working of Hay's bridge for measurement of inductance. Derive the equation for balance, draw the phasor diagram under balance condition & also explain why this bridge is suited for measurement of inductance of high Q coils. 10
(2) Derive the dimension of following quantities in L,M,T,I system. 10
 - (i) inductance (ii) capacitance (iii) charge (iv) mmf
 - (v) current

3. (1) Describe the construction & working of PMMC instrument. Derive the expression for the deflection of the instrument is spring controlled. 10
(2) Explain basic working principle of vibration type galvanometer with diagram & also derive the expression for amplitude of vibration. 10

4. (1) Explain with equivalent circuit & phasor diagram working of potential transformer also define ratio & phase angle error. 10
(2) Describe the electro-dynamometer type wattmeter & error in it. 10

5. (1) Explain diamagnetism, paramagnetism & Ferromagnetism in connection with Magnetic Measurement. 10
(2) Explain the construction & working of single phase induction type energy meter. 10

LM-Con.:10280-14.

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