SE-EE
Sem III (CBSGS)
Sub : EEM 8/12/14

QP Code :14635

(3 Hours) **[Total Marks : 80**

N.B. : (1) Question No.**1** is **compulsory.**
(2) Solve any **three** questions from the **remaining** questions.

1. Answer the following questions. **20**
   (a) Explain Ml Iron Instrument is unpolarized Instrument.
   (b) Why the HAY'S bridge is used for the measurement of self inductance of coil whose Quality factor is greater than ten i.e Q > 10 ?
   (c) What is the resolution of a 3½ digit display on 1V and 10V ranges?
   (d) What is the difference between thermocouple and thermistor?

2. (A) Explain the construction and working of PMMC Instrument. Also derive the equation for deflecting Torque T_d and deflection θ. What is the shape of scale? **10**
   (B) Explain the construction and working of L VDT. **10**

3. (A) Explain the Construction and working of Practical Kelvin double bridge. And show that measurement of unknown resistance is independent of resistance of connecting lead. **10**
   (B) Explain the construction and working of RTD. **10**

4 (A) Explain the Construction and working of Electrodynamics type wattmeter. Also Show that the deflection of the pointer is an indication of the active power. **10**
   (B) Explain how de Potentiometer is used to calibrate the following instrument. **10**
   (A) Ammeter (B) Voltmeter (C) Wattmeter

5. (A) Explain the Construction and working of Maxwell -Inductance -Capacitance Bridge? Also derive the equation for unknown inductance. Draw the phasor diagram. **10**
   (B) Explain the Construction and working of thermocouple. Also Mention the Advantages and disadvantage. **10**

6. Write a short note on the following :– **20**
   (a) Production of Controlling Torque through spring Control method
   (b) Digital frequency meter
   (c) Measurement of high resistance using Megger.
   (d) Extension of Range of Ammeter (Shunt)
