

S.E. sem III CBS 95 Electrical Nov-Dec-15

EEM

QP Code : **5202**

(3 Hours)

[Total Marks : 80

- N. B. :** (1) Question No. 1 is **compulsory**.
 (2) Attempt any **three** out of remaining question.
 (3) **Figure to the right** indicate **full marks**.
 (4) Assume suitable data if necessary.

1. Solve any **four** :- 20
- (a) Differentiate between indication & integrating instruments.
 - (b) Explain a suitable bridge to measure medium resistance.
 - (c) Explain basic block diagram of DVM
 - (d) Give classification of transducer and explain mechanical and electrical transducer.
 - (e) Explain how temperature can be measured with the use of thermister.
2. (a) Explain in detail different types of error that occur during measurement. 10
 (b) Explain the working principal and basic block diagram of digital frequency meter in detail. 10
3. (a) Explain De sauty's bridge with circuit diagram and phasor diagram; derive the expression for measuring the capacitance of a capacitor and write in details how the bridge can be modified to measure dielectric loss of a capacitor. 10
 (b) Explain how DC potentiometer is used to calibrate the following meters 10
 1. Voltmeter 2. Ammeter 3. Wattmeter.
4. (a) Explain with neat sketch Piezoelectric transducers and derive the expression for magnitude voltage across the load by making simplifying assumptions. 10
 (b) Describe the construction and working of PMMC instrument. Derive the equation for deflection if the instrument is spring controlled. 10
5. (a) Describe the working of a low voltage Schering bridge. Derive the equation for capacitance and dissipation factor. 10
 (b) Explain in detail construction and operation of LVDT 10
6. Write a short notes on 20
 (a) Linear Ramp type DVM (b) Megger (c) RTD (d) Tachometer

MD-Con. 10466-15.