2SELE-T2-Electronics-II : Paper-II (Measuring Devices)

_____

Notes : 1.   All questions are compulsory and carry equal marks.
           2.   Draw neat and well labelled diagram wherever necessary.
           3.   Use of log table/calculator is allowed.

Either :

1. a)   What is PMMC?   **1+6+3**

           Explain conversion of PMMC into series type ohmmeter.

           State atleast three applications of ohmmeter.

OR

      b)   Design an Ayrton shunt to provide an ammeter with current ranges 1A, 5A and 10A, if   **10**
           PMMC meter has internal resistance of $50\,\Omega$ and full scale current of 1mA.

Either :

2. a)   Draw block diagram of digital multimeter and describe in brief.   **7+3**

           State advantages of digital multimeter.

OR

      b)   Obtain balance conditions of ac bridge.   **5+5**
           Find Z_x for the following bridge.
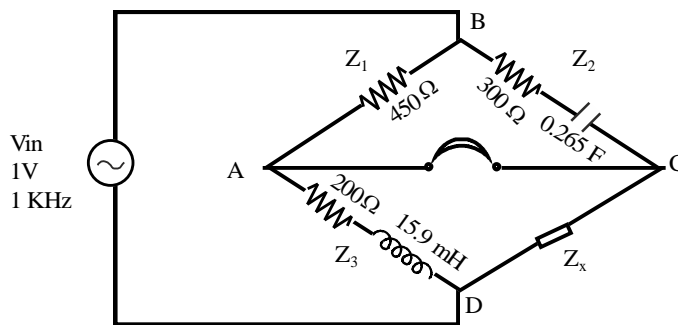
Either :

3. a)   Draw block diagram of CRO and explain the working of each block.   **7+3**

           Explain deflection sensitivity in CRO.

OR

      b)   Explain electrostatic focussing in CRO with suitable diagram.   **10**

Either :

4. a) Explain passive probe used for CRO.   **4+6**

Explain how the phase and frequency can be measured with CRO.

OR

b) Draw block diagram of dual – trace CRO and explain.   **10**

5. a) Explain the loading effect of voltmeter.   **2½**

b) Obtain the balance condition in Owen's bridge.   **2½**

c) Explain time base circuit using UJT.   **2½**

d) A lissajous pattern obtained on CRO has 5 horizontal tangencies and one vertical tangency. Calculate unknown frequency, if known frequency is 300Hz. Draw such figures.   **2½**

****