F. Y. B.Sc. (Part-I) Semester-II 2SELE-T2

Electronics-II (Measuring Devices)

Paper - II

P. Pages : 3

Time : Three Hours Max. Marks : 50

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

1. Either :

a) Explain how will you convert PMMC galvanometer into voltmer. Design voltmeter to measure voltage of 10V range, having full scale deflection current 1mA and meter resistance of 100 Ω. **5+5**

OR

b) Explain series type ohmeter with suitable diagram. Explain the concept of loading effect and sensitivity. **5+5**

2. Either :

a) Explain construction and working of Electronic voltmeter (EVM) using FET. State its advantages. Explain the working of owen's bridge and obtain the balance condition. **4+2+4**

OR

b) Draw block diagram of a digital multimeter and explain function of each block. State any six advantages of DMM. **7+3**

3. Either :

a) Draw block diagram of CRO and explain the function of each block in brief. CRO has deflection sensitivity 3mm/v. It produces the vertical deflection of 3cm find the voltage applied to deflecting plates. **7+3**

OR

b) What is time base circuit ? Explain the working of time base circuit using UJT. Explain the concept of synchronization in CRO. **7+3**

4. Either :

a) Explain the use of CRO for frequency measurement using
a) Time base circuit
b) Lissajous figure method. **8+2**

Find unknown frequency using Lissajous figure which has 4 vertical tangencies and 1 Horizontal tangency and frequency given to X- plate is 500 Hz.

OR

b) Explain working of dual trace CRO with block diagram. Differentiate between dual trace and dual beam CRO. **7+3**

5. a) Explain how to convert PMMC galvano meter in an ammeter. **2½**

b) Obtain general condition of balance of AC bridge. **2½**

c) Explain the needs of delay line. **2½**

d) Explain use of CRO for ac voltage measurement. **2½**

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