



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

**1. Either**

- a) Explain the construction and working of PMMC with suitable diagram. **10**  
Explain the use of PMMC as a DC ammeter.

**OR**

- b) What is sensitivity of voltmeter? Explain the loading effect of voltmeter with suitable example. How can it be avoid? **10**

**2. Either**

- a) Draw the functional block diagram of digital multimeter and explain the function of each block. State its advantages. **10**

**OR**

- b) Obtain the expression for general condition of balanced AC bridge. Explain the Schering's bridge and obtain balance condition for it. **10**

**3. Either**

- a) Draw the block diagram of vertical deflecting system and explain each block. Explain the need of delay line. **10**

**OR**

- b) Draw the CRT diagram and explain the function of each part of CRT. **10**

- 4. a)** Explain the measurement of AC/DC voltage, frequency and phase by CRO. **10**

**OR**

- b) Explain the dual trace CRO with suitable block diagram. Compare the dual trace and single trace CRO. **10**

- 5. a)** Explain the concept of multimeter. **2½x4**  
**b)** Draw the diagram of EVM using FET **=10**  
**c)** Draw block diagram of CRO.  
**d)** Explain passive CRO probe.

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