B.Sc.- III (CBCS Pattern) Sem-V

USELT09 - Electronics Paper-I : Electronic instrumentation

P. Pages : 1 **GUG/W/22/13109**

Time : Three Hours * 3 7 6 3 * Max. Marks : 50

Either

1. a) Explain how will you convert PMMC galvanometer into DC Ammeter? **10**
A 1mA meter movement with an internal resistance of 100 Ohm is to be converted into 0 to 100mA Ammeter. Calculate the value of shunt resistance.

OR

b) Explain the construction of series type Ohmmeter using PMMC? State the advantages of multimeter? **10**

Either

2. a) Draw the block diagram of oscilloscope and explain the function of each block in detail? **10**

OR

b) Draw the diagram of CRT and explain it? Explain how the CRO is used to measure the frequency? **10**

Either

3. a) Draw the block diagram of function generator and explain the function of each block. State the application of function generator? **10**

OR

b) Draw the block diagram of PLL and explain the function of each block? What are the advantages of PLL? **10**

Either

4. a) What is transducer? Explain active and passive transducer with an example? Explain the working of piezoelectric transducer? **10**

OR

b) Draw the diagram of LVDT and explain its working with wave form? State its advantages and disadvantages of LVDT? **10**

5. Attempt **any ten** out of twelve questions. **10**

a) What is voltmeter?
b) What are the merits of multimeter?
c) Define sensitivity of multimeter?
d) What is CRO probe?
e) State the function of aquadag coating in CRT?
f) State the advantages of digital storage oscilloscope?
g) Define capture range of PLL?
h) State the application of PLL?
i) What is VCO?
j) What is thermistor?
k) State the application of capacitive transducer?
l) What is photovoltaic cell?

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