

B.Sc. (CBCS Pattern) Semester-V
USELT09 - Electronics Paper-I : Electronic Instrumentation

P. Pages : 2

Time : Three Hours



GUG/S/25/13109

Max. Marks : 50

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

Either:

1. a) What is an ammeter? How will you convert galvanometer into an ammeter? Explain. 5
- b) Write short note on- 5
 - i) Voltmeter Sensitivity
 - ii) Loading effect

OR

- c) Explain shunt type ohmmeter with suitable diagram. 5
- d) Explain the construction of Schering bridge and obtain the equation for unknown capacitance. 5

Either:

2. a) Draw a block diagram for CRO and explain its function. 5
- b) What is delay line? State its types. Explain the necessity of delay line. 5

OR

- c) Define deflection sensitivity and deflection factor of CRT. Explain on what factors it depends? 5
- d) Explain the use of CRO for ac and dc voltage measurement. 5

Either:

3. a) Draw block diagram of phase locked loop (PLL) and explain function of each block. 5
- b) What is Phase detector? Explain the various types of phase detectors. 5

OR

- c) Explain working of VCO. 5
- d) Draw the block diagram of a function generator and explain the function of each block. 5

Either:

4. a) Define active and passive transducers with suitable examples. 5
- b) What is strain gauge? Explain bonded and unbounded type strain gauge. 5

OR

- c) Explain construction and working of LVDT with suitable diagram. 5
- d) Draw its output characteristics of LVDT and explain. 5
5. Attempt **any ten** of the followings. 1
- a) What is voltmeter?
- b) Write the formula for series resistor to use galvanometer for voltage measurement.
- c) Define loading effect.
- d) State the use of Intensity and focus control in CRO.
- e) What is aquadag coating?
- f) On what factors Luminescence depends?
- g) What is the use of XOR phase detector?
- h) What is pulse generator?
- i) Draw a diagram of XOR phase detector.
- j) What is thermocouple?
- k) State any two uses of thermistor.
- l) Why LDR is called photo resistor?
