

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

P. Pages : 2

Time : Three Hours



GUG/W/23/13109

Max. Marks : 50

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

1. a) Explain the construction and working of a DC voltmeter using PMMC. State the advantage of multirange voltmeter. 7

b) Differentiate between the series type and shunt type ohmmeter. 3

OR

c) Explain the working of a digital voltmeter with a suitable diagram. 5

d) Explain the general condition of bridge balance. 5

2. a) Draw the block diagram of CRO and explain the function of each block. 6

b) Explain the Horizontal deflection system of CRO. 4

OR

c) Explain the procedure to measure the AC and DC voltage using CRO. 6

d) Explain the functional block diagram of digital storage CRO. 4

3. a) Explain the functional block diagram of PLL. 5

b) Explain the working of a phase detector using an XOR gate. 5

OR

c) Draw the block diagram of the function generator and explain it. 6

d) Define. 4
i) Lock range ii) Captured range.

4. a) Explain the active and passive transducer with a suitable example. 4

b) Explain the construction and working of the capacitive transducer. 6

OR

c) Explain the working of piezoelectric transducer with a suitable diagram. 5

d) Explain the photoresistor as a transducer with a suitable diagram. 5

5. Attempt **any ten** of the followings.

1x10
=10

- a) What is the use of ohmmeter?
- b) State the advantages of digital multimeter.
- c) What is the use of Schering Bridge.
- d) State the application of CRO.
- e) State the advantage of digital storage CRO.
- f) What is the use of Aquadag coating in CRT?
- g) State the application of PLL.
- h) What is VCO?
- i) What is signal generator?
- j) What is transducer?
- k) Differentiate between thermistor and thermocouple?
- l) State the application of photovoltaic cell.
