

2123
B.E. (Electronics & Comm. Engineering)
Third Semester
EC-306: Electronics Measurement and Instrumentation

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit. Missing data (if any) can be appropriately assumed.

x-x-x

I. Explain in brief:-

- a) Define any two static characteristics.
- b) Write any two limitations of wheat stone bridge.
- c) Compare and contrast active and passive transducers.
- d) How could one overcome gross errors while making measurements?
- e) Define Local & Global variables. (5x2)

UNIT - I

- II. a) Explain the terms accuracy, sensitivity and resolution as under indicating instruments. (2x5)
b) What is standard? Explain the different types of standards?
- III. a) Explain how a multi-meter can be used as (i) DC voltmeter & (ii) AC volt meter.
b) Explain the working of Moving coil instrument and derive its torque equation. (2x5)
- IV. a) Draw the block diagram of a general purpose oscilloscope (CRO) and explain function of each block in detail. Also list the applications of CRO.
b) Draw the block diagram of a function generator and explain its operation. (2x5)

UNIT - II

- V. a) Discuss the principle of operation of piezoelectric transducers. What are the applications of this sensor?
b) Explain the construction and working of fibre optic sensor. (2x5)

P.T.O.

(2)

- VI. a) Compare Graphical programming with traditional programming.
b) Build a VI to execute the following expression using stacked sequence structure:
 $(A+B)/[(A+B)]*2$
The three cases are:
Case: A+B
Case2: (A+B)/2
Case3: ((A+B)/[(A+B)*2] (2x5)
- VII. a) Write a short note on the virtual instrumentation.
b) What is module or Sub VI? Also write the syntax for two types of WHILE loop. (2x5)

x-x-x