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10IT35

Third Semester B.E. Degree Examination, Dec.2016/Jan.2017
Electronic Instrumentation

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Discuss briefly : (i) Gross error (ii) Systematic error. (04 Marks)
b. Explain with neat circuit diagram full wave rectifier type AC voltmeter. (08 Marks)
c. Explain the working of true RMS voltmeter, with a neat block diagram. (08 Marks)
- 2 a. Write the advantages of digital instruments over analog instruments. (04 Marks)
b. Explain the ramp type digital voltmeter with the help of a block diagram. (08 Marks)
c. With a neat block diagram explain the digital frequency meter. (08 Marks)
- 3 a. Explain the function of various controls on the front panel of a CRO. (04 Marks)
b. With neat block diagram, explain dual trace oscilloscope. (10 Marks)
c. With the help of basic block diagram explain the working principle of electronic switch. (06 Marks)
- 4 a. Explain the operation of digital storage oscilloscope with the help of a block diagram. Mention the advantages. (10 Marks)
b. With a neat block diagram explain the sampling oscilloscope. (10 Marks)

PART – B

- 5 a. Explain in detail the working of sine and square wave generator. (10 Marks)
b. Explain with neat block diagram operating principle of function generator. (10 Marks)
- 6 a. Explain the Wheatstone bridge and derive the balance equation for Wheatstone bridge. Mention the limitations. (12 Marks)
b. With a neat block diagram explain the Wagner's earth connection. (08 Marks)
- 7 a. What are the factors to be considered for the selection of better transducer? Explain. (08 Marks)
b. Explain the construction, principle and operation of LVDT. (12 Marks)
- 8 a. Compare LED displays and LCD displays (Any four). (04 Marks)
b. Explain the procedure of measuring power using a Bolometer in a bridge circuit. (10 Marks)
c. Write an explanatory note on signal conditioning. (06 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8 = 50, will be treated as malpractice.