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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 atleast 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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