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10IT35

**Third Semester B.E. Degree Examination, June/July 2014**  
**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. Explain with a neat block diagram of TRUE RMS voltmeters: (10 Marks)
- b. Convert a basic D'Arsonal movement with an internal resistance of  $50\Omega$  and a full scale deflection current of  $2\text{mA}$  into a multirange dc voltmeter with voltage range of  $0 - 10\text{V}$ ,  $0 - 50\text{V}$ ,  $0 - 100\text{V}$  and  $0 - 250\text{V}$ . Connect the multiplier resistances in series with D'Arsonal movement. (10 Marks)
- 2 a. With a neat block diagram, explain the successive approximation DVM. (10 Marks)
- b. With a neat block diagram, explain the digital frequency meter. (10 Marks)
- 3 a. With a neat block diagram, explain the general purpose CRO. (10 Marks)
- b. With a neat block diagram, explain the typical CRT connections. (10 Marks)
- 4 a. With a neat block diagram, explain the digital storage oscilloscope. (10 Marks)
- b. With a neat block diagram, explain the sampling oscilloscope. (10 Marks)

**PART – B**

- 5 a. With a neat block diagram, explain the working principle of pulse generator. (10 Marks)
- b. With a neat block diagram, explain the working principle of function generator. (10 Marks)
- 6 a. With a neat block diagram, explain the Wein's bridge to measure the frequency. (10 Marks)
- b. With a neat block diagram, explain the Wagner's earth connections. (10 Marks)
- 7 a. Explain the construction and working of LVDT. (10 Marks)
- b. Explain the construction and working of thermistor. What are the salient features of it. (10 Marks)
- 8 Explain the following with relevant sketch:
  - a. Photo electric transducer. (07 Marks)
  - b. Piezo electro transducer. (06 Marks)
  - c. RTD. (07 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.