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BIEL-009

B.Tech. – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

Term-End Examination

00583

December, 2016

BIEL-009 : ELECTRONIC MEASUREMENT AND INSTRUMENTATION

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. Each question carries equal marks. Use of scientific calculator is allowed. Suitably assume any missing data.*

1. Define instrumentation scheme. Explain the functional elements of an instrumentation system with the help of a complete block diagram. *10*

2. A 0 – 25 A ammeter has guaranteed occurrence of 1% of full scale reading. The current measured by the ammeter is 10 A. Determine the limiting error in percentage. *10*

3. Explain in detail the different types of errors. How can these errors be minimized ? *10*

4. With a neat circuit diagram, explain the construction and operation of a digital voltmeter. *10*

5. Define electrical transducer. Explain the different factors affecting the choice of transducers for any application. *10*

6. How are telemetry systems classified ? Discuss briefly the working of a general telemetry system with the help of a block diagram. *10*

7. Describe the working of a basic type of strip chart recorder. Why is it called X-T recorder too ? *10*

8. What are the applications of a wave analyzer ? Describe the working of frequency selective wave analyzer and draw its complete block diagram. *10*

9. Write short notes on any ***two*** of the following : *2×5=10*

   (a) Gaussian Error Distribution

   (b) LVDT

   (c) Digital RLC Meter
