# Electronic Instruments and Measurements VTU CBCS Question Paper Set 2018

CBCS Scheme

USN | | | | | | | | | | |

15NT44

# Fourth Semester B.E. Degree Examination, June/July 2017
## Electronic Instruments and Measurements

Time: 3 hrs. Max. Marks: 80

**Note:** *Answer FIVE full questions, choosing one full question from each module.*



### Module-1

1 a. Write a short note on Probability of errors and limiting errors. **(06 Marks)**
b. Brief about extending of ammeter ranges. **(04 Marks)**
c. Discuss on true RMS voltmeter, with the help of a neat circuit diagram. **(06 Marks)**

**OR**

2 a. What is an Error? Mention types of errors. **(04 Marks)**
b. Describe about Multirange voltmeter and explain how the range of a voltmeters can be extended to measure high voltages. **(06 Marks)**
c. Explain differential voltmeter with the help of a neat circuit diagram. **(06 Marks)**

### Module-2

3 a. Explain the most commonly used principles of ADC. **(08 Marks)**
b. Describe about the following : i) Digital Tachometer ii) Digital pH meter. **(08 Marks)**

**OR**

4 a. Write a note on Continuous balance DVM. **(04 Marks)**
b. What is 3½ - digit display? Write a note on resolution and sensitivity of digital meters. **(04 Marks)**
c. Discuss about Universal Counter and explain how it works. **(08 Marks)**

### Module-3

5 a. Explain about simple CRO, with neat sketch. **(05 Marks)**
b. Write about the Horizontal Deflecting system. **(06 Marks)**
c. Brief about Fixed and variable AF Oscillator. **(05 Marks)**

**OR**

6 a. Discuss about different types of Probes for CRO. **(06 Marks)**
b. Explain about AF Sine and Square wave generator, with a neat sketch. **(10 Marks)**

### Module-4

7 a. Discuss about Q – Meter and state its advantages. **(08 Marks)**
b. Write a brief note on Wheatstone's bridge with a neat circuit diagram and advantages. **(08 Marks)**

**OR**

8 a. Explain how a Phase sensitive detector works. **(08 Marks)**
b. Describe about Vector Impedance meter with circuit diagram. **(08 Marks)**

### Module-5

9 a. Write a short note on Transducers and Actuators. **(04 Marks)**
b. Brief on Capacitive transducer. **(06 Marks)**
c. Explain the working of Photo – transistor, with the help of neat diagrams. **(06 Marks)**

**OR**

10 a. With the help of a neat diagram, explain the working of LVDT and mention the advantages and limitations. **(10 Marks)**
b. Explain about piezo electrical transducer, with a neat sketch. **(06 Marks)**

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