

**B.TECH. SEM -V ELECTRONICS 2014 COURSE (CBCS) : WINTER
- 2017**

SUBJECT: ELECTRONIC INSTRUMENTS & MEASUREMENT SYSTEM

Day: **Saturday**
Date: **13/01/2018**

Time: **02.30 PM TO 05.30 PM**
Max. Marks: **60**

W-2017-2145

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Use of non-programmable **CALCULATOR** is allowed.
- 4) Assume suitable data, if necessary.

Q.1 The expected value of the voltage across a resistor is 80V. However, the measurement gives a value of 79V. Calculate (i) Relative accuracy (ii) Absolute error (iii) % Error (iv) % of accuracy. **[10]**

OR

Q.1 How auto ranging and auto zeroing is achieved in digital multimeter? **[10]**

Q.2 Draw neat block diagram of vector impedance meter and describe the function of each block in detail. **[10]**

OR

Q.2 Draw and describe true RMS voltmeter in detail and also state its advantages. **[10]**

Q.3 a) Discuss the operation of random noise generator with its block diagram. **[97]**
b) Draw block diagram of pulse generator. **[03]**

OR

Q.3 a) What is the function of a time base selector? How does it operate? **[05]**
b) Discuss time interval measurement mode. **[05]**

Q.4 a) Write a note on power scope **[05]**
b) Compare CRO and DSO. **[05]**

OR

Q.4 a) For DSO, describe following terms: **[10]**
a) Sampling speed b) Memory depth c) Bandwidth

Q.5 a) Discuss the following characteristics of receiver **[05]**
i) Phase jitter ii) SINAD Test
b) Write a note on scalar network analyzer. **[05]**

OR

Q.5 a) For receiver discuss following terms **[10]**
i) Selectivity ii) Sensitivity

Q.6 a) Discuss working principle of wave analyzer. **[05]**
b) Write a note on logic analyzer. **[05]**

OR

Q.6 a) Discuss working principle of spectrum analyzer. **[05]**
b) Write a note on IEEE 488 standard. **[05]**