

**B.TECH. SEM -V (E & TC ENGG.) 2014 COURSE (CBCS) :
WINTER - 2017**

SUBJECT: ELECTRONIC INSTRUMENTS AND MEASUREMENT SYSTEM

Day: Saturday
Date: 13/01/2018

**W-2017-2145-
A**

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

N.B:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Neat diagram must be drawn **WHEREVER** necessary.
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Q.1 a) Which are the static and dynamic properties of measurement? **(05)**

b) Explain auto zeroing in detail with block schematic. **(05)**

OR

a) What are the types of errors? Explain all in detail. **(07)**

b) How calibration is useful for measurement? **(03)**

Q.2 a) Describe vector impedance meter in detail with block schematic. **(08)**

b) Which meter is useful to measure values of passive components? **(02)**

OR

a) Explain True RMS meter in detail. **(06)**

b) What is the working principle of vector voltmeter? **(04)**

Q.3 a) State various types of frequency generators with need of each. **(05)**

b) What are the high frequency measurement techniques? **(05)**

OR

a) Specify functioning of universal counter in detail. **(06)**

b) What is the principle of frequency measurement? **(04)**

Q.4 a) Describe analog CRO in detail, with it's need. **(06)**

b) Which meter is useful to find output characteristic of two-three terminal devices? **(04)**

OR

a) Specify functioning of DSO with it's important specifications. **(06)**

b) What are the types of CRO probes? **(04)**

P.T.O.

Q.5 a) Explain communication measurement parameters at transmitter and receiver in detail. (08)

b) Specify the need of network analyzers. (02)

OR

a) Describe vector network analyzers in detail. (05)

b) What is the need of S-parameters in measurement? (05)

Q.6 a) Explain spectrum analyzers in detail. (06)

b) What is the need of computer controlled test measurements. (04)

OR

a) Describe logic analyzers in detail. (05)

b) What is the need of PCI/PCI express bus? (05)

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