

Registration No. :

--	--	--	--	--	--	--	--	--	--

Total number of printed pages – 2

B. Tech
CPEN 5303 (Old)

Sixth Semester (Back) Examination – 2013
ELECTRONICS INSTRUMENTATION AND MEASUREMENT

BRANCH : AEIE

QUESTION CODE : B348

Full Marks – 70

Time : 3 Hours

*Answer Question No. 1 which is compulsory and any **five** from the rest.
The figures in the right-hand margin indicate marks.*

1. Answer the following questions : 2 × 10
- (a) Write the advantages of analog electronic voltmeter.
 - (b) Draw equivalent circuit of multimeter probes.
 - (c) What is meant by $3\frac{1}{2}$ digit display in digital voltmeter?
 - (d) Write the role of triggering circuit in oscilloscope.
 - (e) What is dual trace oscilloscope?
 - (f) Write the specification of oscilloscope.
 - (g) Why potentiometer is used as a standard instrument?
 - (h) Write the function of using clock signal in digital circuits.
 - (i) Write frequency range of RF generator.
 - (j) What is calibration?
2. (a) Draw circuit diagram of a FET input voltmeter and explain its operation. 5
- (b) Draw circuit diagram and explain operation of a rms responding voltmeter. 5

P.T.O.

3. (a) Draw a block diagram and explain operation of dual slope integration type digital voltmeter. 5
- (b) Describe working of cathode ray tube. Explain how focus and intensity of the display is controlled? 5
4. (a) Describe principle of operation of a digital multimeter. 5
- (b) Explain principle of operation of digital storage oscilloscope. 5
5. (a) With suitable diagram, explain principle of operation of function generator. 5
- (b) With suitable diagram, explain operation of frequency synthesizer. 5
6. (a) Draw circuit diagram and describe calibration of voltmeter using potentiometer. 5
- (b) With a simple block diagram, describe operation of spectrum analyzer. 5
7. (a) Explain method of measurement of frequency using standard broadcast by radio stations. 5
- (b) Briefly explain measurement of noise figure of a communication receiver. 5
8. Answer any **two** of the following : 5×2
- (a) Digital frequency meter
- (b) Sampling oscilloscope
- (c) Square wave testing of an amplifier.

