

**B.E.DEGREE EXAMINATIONS: APRIL/MAY 2010**

Third Semester

**ELECTRONICS & COMMUNICATION ENGINEERING**

U07EC304: Measurements &amp; Instrumentation.

**Time: Three Hours****Maximum Marks: 100****Answer ALL Questions:-****PART A (10 x 1 = 10 Marks)**

1. Dynamic characteristic of measurement system includes  
A. Zero drift                      B. Ramp I/P                      C. Step I/P                      D. Fidelity
2. The error caused due to external condition other than the measuring instrument is  
A. Gross Error      B. Instrumental Error      C. Environmental error      D. Systematic error
3. The meter which measures the amplitude of a signal at two points in a circuit and simultaneously the phase difference between voltage waveform is called  
A. Q meter              B. Vector Voltmeter      C. Differential Voltmeter      D. Digital Voltmeter
4. In CRO, if the frequency of signal is greater than 100MHz, it is referred to as  
A. Predeflection acceleration      B. Electrostatic deflection  
C. Postdeflection acceleration      D. Vertical deflection acceleration.
5. The maximum to minimum frequency ratio of the sweeping oscillator is,  
A. >1                      B. <2                      C. >2                      D. <1
6. The application of .....is found in the field of electrical measurement and sound and vibration analysis  
A. Spectrum Analyzer                      B. Wave Analyzer  
C. Harmonic Distortion Analyzer      D. Frequency Synthesizer
7. The frequency limit of a simple frequency counter is about ....counting speed  
A. 10 MHz              B. 100 MHz              C. 10 KHz                      D. 100 KHz
8. One very common instrumental error is  
A. Timing Error      B. Gating Error              C. Stability Error              D. Sensitive Error.
9. The range of wavelength used for fiber optic transmission is  
A. 370 to 750 nm              B. 800 to 1500 nm              C. 750 to 1500 nm              D. 300 to 800 nm
10. The element, which is not included in analog data acquisition system is  
A. Transducer                                      B. Signal conditioner  
C. Magnetic tape instrumentation              D. Analog to Digital Converter.



24. (a) Discuss in detail the working principle of the Staircase ramp DVM.

(OR)

(b) With necessary diagrams explain the working principle of frequency counter.

25. (a) Explain briefly the working principle of Optical Time Domain Reflectometer.

(OR)

(b) Write notes on

(i) Digital Data Acquisition System.

(7)

(ii) Digital to Analog Multiplexing.

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