Reg. No. :

Question Paper Code: 35403

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Fifth Semester

Electronics and Communication Engineering

01UEC503 – ELECTRONIC MEASUREMENTS AND INSTRUMENTATION

(Regulation 2013)

Duration: One hour   Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

1. The most common method for measurement of low resistance is

    (a) Wheatstone bridge   (b) Potentiometer method
    (c) Voltmeter-ammeter method   (d) Kelvin's double bridge

2. As the deflection of the moving system increases, the controlling torque in an indicating instrument_____.

    (a) remains the same   (b) increase
    (c) decrease   (d) becomes zero

3. A pattern displayed by oscilloscopes which has a steady characteristic is called

    (a) Lissajous pattern   (b) Nyquist pattern
    (c) Barkhausen's criterian   (d) Fermat's pattern

4. A true rms reading voltmeter uses two thermocouples in order

    (a) to increase sensitivity
    (b) that the second thermocouple cancels out the no-linear effects of the first
        thermocouple
    (c) to prevent drift in the d.c amplifier
    (d) all the above

5. In signal generators

    (a) energy is created
    (b) energy is generated
    (c) energy is converted from a simple d.c source into a.c energy at some specific
        frequency
    (d) all the above

6. Harmonics are very closed in signal frequency hence _____ to distinguish.

    (a) difficult   (b) easy   (c) very simple   (d) uncomplicated

7. The period mode preferred for measurement of _____frequency in a frequency
    counter

    (a) very High   (b) high   (c) very low   (d) low

8. The device used to measure the voltage, current and resistance is known as

    (a) Voltmeter   (b) Ammeter   (c) Wattmeter   (d) Multimeter

9. The main component of data acquisition system is a

    (a) Function generator   (b) Ammeter   (c) Sensor   (d) Voltmeter

10. _____ instrument is used in computer controlled instrumentation

    (a) Signal generator   (b) Spectrum analyzer
    (c) Sweep generator   (d) Q mete

PART – B (3 x 8= 24 Marks)

(Answer any three of the following questions)

11.   Describe about errors and its types in measurement with means adopted to
      minimize them.   (8)

12.   Draw and explain the block diagram of digital storage oscilloscope and the modes of
      operation of digital storage oscilloscope.   (8)

13.   Explain in detail about sweep generators.   (8)

14.   Explain the working principle of any two types of digital voltmeter.   (8)

2

35403

15. Explain the generalized diagram of a digital data acquisition system and give the uses of data acquisition system. (8)