Reg. No. : | | | | | | | | | | |

Question Paper Code: 31453

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Fifth Semester

Electronics and Communication Engineering

01UEC503 – ELECTRONIC MEASUREMENTS AND INSTRUMENTATION

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What are the standards of measurement and lists their classification.
2. Differentiate Accuracy and Precision.
3. Why delay line is used in CRO?
4. Define Q-meter.
5. Differentiate Function generators from Signal generators.
6. What is frequency synthesizer?
7. What are the functions of multimeter?
8. Differentiate Virtual Instrument and Traditional Instrument?
9. Point out the analog elements used in digital data acquisition system.
10. List out the uses of data logger.

PART - B (5 x 16 = 80 Marks)

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

(ii) Derive an expression for torque and angle of deflection in moving iron instruments. (8)

Or

(b) Which measurements can be carried out by Maxwell bridge? Derive the balance equation and expressions for the unknown components. (16)

12. (a) Draw and explain the block diagram of digital storage oscilloscope and the modes of operation of digital storage oscilloscope. (16)

Or

(b) Explain briefly the vector voltmeter with neat diagram. (16)

13. (a) Explain the Block Diagram, Working and Applications of Sweep Frequency Generator. Draw the linearizing circuit used in a Sweep Generator. (16)

Or

(b) (i) What are the wave analysers? Brief about the wave analysers used for RF ranges and above. (8)

(ii) Discuss about digital RLC meter. (8)

14. (a) Explain the principle of time period measurement with a basic block diagram and show how its accuracy can be improved. (16)

Or

(b) Explain how audio amplifier and radio receiver are to be tested by means of computer controlled system. (16)

15. (a) Draw the schematic representation of IEEE 488 bus transceiver and explain briefly. (16)

Or

(b) What is the use of optical time domain reflectometer? Explain the working of optical time domain reflectometer. (16)

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