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Question Paper Code: 35403

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

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. List the sources of error.
2. Differentiate Accuracy and Precision.
3. Why delay line is used in CRO?
4. List the applications Q meter.
5. Differentiate Function generators from Signal generators.
6. Give the importance of L, C and R measurements.
7. List the different types of digital voltmeter.
8. What is meant by automatic zeroing?
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) How RF power and voltage are measured? Explain in detail. (16)
13. (a) Explain in detail about sweep generators. (16)

Or

- (b) Give a detailed account of spectrum analyzers. (16)
14. (a) Explain the working principle of any two types of digital voltmeter. (16)

Or

- (b) (i) Draw the block diagram of frequency counter and explain. (8)
- (ii) Explain how digital instruments are automated. (8)
15. (a) Explain the generalized diagram of a digital data acquisition system and give the uses of data acquisition system. (16)

Or

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