Reg. No. :

Question Paper Code: 35403

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 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. Mention the basic requirements of measurement.

2. State the advantages of moving iron type instruments.

3. What is a true RMS meter?

4. What is the difference between analog and digital storage oscilloscope?

5. Draw the block diagram of RF signal generator.

6. Give the importance of L, C and R measurements.

7. List the different types of digital voltmeter.

8. Define virtual instruments.

9. What is the importance of sample and hold circuit in digital data acquisition system?

10. How do you measure the power loss in a fiber optic measurement?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the static and dynamic characteristics of a measurement system. (16)

Or

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

12. (a) Explain in detail about the cathode ray oscilloscope. (16)

Or

(b) How RF power and voltage are measured? Explain in detail. (16)

13. (a) (i) Draw the block diagram of an indirect type frequency synthesizer and explain. (8)

(ii) Describe the basic circuit of spectrum analyzer. How the spectrum of frequency modulated wave is displayed? (8)

Or

(b) Give a detailed account of spectrum analyzers. (16)

14. (a) Explain 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 IEEE 488 bus with a neat diagram. (16)

Or

(b) Explain the generalized diagram of a digital data acquisition system and give the uses of data acquisition system. (16)

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