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Question Paper Code: 31543

B.E. / B.Tech. DEGREE EXAMINATION, NOVEMBER 2015

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. Compare moving coil and moving iron meters.
2. List the sources of error.
3. List the applications Q meter.
4. Write the significance of triggering circuit in an oscilloscope.
5. Write a short note on sweep generators.
6. List the elements of harmonic distortion analyzer.
7. How will you categorize the digital voltmeter?
8. What is meant by automatic zeroing?
9. Point out the analog elements used in digital data acquisition system.
10. What are the instruments used in computer controlled instrumentation?

PART - B (5 x 16 = 80 Marks)

11. (a) Suggest suitable bridges to measure the following parameters and explain
(i) unknown capacitance (ii) unknown inductance. (16)

Or

- (b) (i) Discuss the types of error in measurement and instrumentation system. (10)
(ii) Explain units and standards. (6)

12. (a) (i) With a neat sketch, explain the working principle of digital storage oscilloscope. (12)
(ii) Write the applications of vector voltmeter. (4)

Or

- (b) (i) How RF power and voltage are measured? Explain in detail. (8)
(ii) Discuss the working principle of sampling oscilloscope. (8)

13. (a) Explain in detail about sweep generators. (16)

Or

- (b) (i) Construct a meter that measures RLC. (10)
(ii) Explain the applications of the spectrum analyzer. (6)

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) Draw the block diagram of digital data acquisition system and explain functions of each block. (16)

Or

- (b) Build a computer based spectrum analyzer using IEEE 488 bus and explain. (16)