LIB
3/11/15 AN

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

Question Paper Code : 21461

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

Sixth Semester

Electronics and Communication Engineering

EC 2351/EC 61/10144 EC 602 — MEASUREMENTS AND INSTRUMENTATION

(Regulations 2008/2010)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Give the difference between accuracy and precision.

2. Give the schematic of Maxwell Bridge.

3. Compare CRO and DSO.

4. What is True RMS?

5. What is harmonic distortion?

6. Give the application of sweep generator.

7. Give the merits and limitations of DVM.

8. What is virtual instrumentation?

9. What is a data logger?

10. What is an IEEE 488 standard?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Briefly explain the static and dynamic characteristics of a measurement system. (8)

(ii) Discuss the errors involved in a measurement system. (8)

Or

(b) (i) With a neat diagram explain the working of moving coil voltmeter. (8)

(ii) Briefly explain the importance of calibration and standards in a measurement system. (8)

12. (a) With a neat diagram explain the construction and working of cathode ray oscilloscope. (16)

Or

(b) With a neat diagram explain the construction and working of digital storage oscilloscope. (16)

13. (a) (i) With a neat diagram explain the working of Spectrum analyzer. (8)

(ii) Write short notes on LCR meters. (8)

Or

(b) (i) Briefly explain the construction and working of RF signal generator. (8)

(ii) Write short notes on frequency synthesizers. (8)

14. (a) With a neat functional block diagram and schematic explain the working of digital multimeter. (16)

Or

(b) (i) What is computer controlled instrumentation? Explain its role in data acquisition systems. (8)

(ii) Write short notes on virtual instrumentation. (8)

15. (a) (i) Briefly explain the elements of digital data acquisition system. (8)

(ii) Write short notes on IEEE488 bus standard. (8)

Or

(b) (i) What is data logger? Explain the role of data loggers in data acquisition system. (8)

(ii) Write short notes on optical time domain reflectometer. (8)