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

Question Paper Code: 31661

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Sixth Semester

Instrumentation and Control Engineering

01UIC601 - MODERN ELECTRONIC INSTRUMENTATION

(Common to Electronics and Instrumentation Engineering)

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. What are the general characteristics of digital voltmeter?
2. Classify of digital voltmeters.
3. List out the applications of storage oscilloscope.
4. Analyze the purpose of blanking circuit in cathode ray oscilloscope.
5. Compare RS 422 and RS 485.
6. Give the interface standard for EIA 232.
7. Compare virtual instruments and traditional instruments.
8. Distinguish Chart and graph.
9. Illustrate the major components of pc based data acquisition system with block diagram?
10. What is the need for DAQ?

PART - B (5 x 16 = 80 Marks)

11. (a) Describe briefly with neat diagrams the working of the ramp type DVM and dual slope integrating type DVM. (16)

Or

(b) Describe the operation of a microprocessor based digital multimeter with auto ranging and self diagnostic features, with necessary diagram. (16)

12. (a) Describe in detail about the different methods of magnetic tape recording. (16)

Or

(b) Illustrate the operation of frequency synthesizer with schematic block diagram. (16)

13. (a) Discuss the role of bus interface standards in an instrumentation system. Also, explain the operation of RS-232 C with its signal definitions and pin configuration. (16)

Or

(b) What are the serial interfaces available? Explain any one of them. (16)

14. (a) Illustrate the architecture of a virtual instrumentation system with a neat block diagram. (16)

Or

(b) Explain how lab view can be used to acquire, analyze and present a measurement and automatic application. (16)

15. (a) Explain with a neat VI diagram how temperature is controlled? Use appropriate DAQ cards for obtaining real time data. (16)

Or

(b) Discuss the steps involved in designing a digital voltmeter using voltage transducer. (16)