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

Question Paper Code: 36061

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

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. List four general specifications of DVM.
2. Classify of digital voltmeters.
3. List out the applications of storage oscilloscope.
4. List the various controls on the front panel of a signal generator.
5. List few interface standards.
6. State the advantages of RS 485 interface.
7. Compare virtual instruments and traditional instruments.
8. Define virtual instrumentation.
9. State the role of signal conditioning.
10. List the operations of DAQ assistant.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain with the help of block diagram, the operation of frequency measurement. (16)

Or

(b) Describe with the help of block diagram, the operation of a basic digital multimeter. (16)

12. (a) Describe with diagram the operation of a sampling CRO. (16)

Or

(b) Explain the operation of a data logger with block diagram. State the functions of each block. (16)

13. (a) Describe the functions of seven layers of ISO/OSI model. (16)

Or

(b) Describe the operation of 4-20 *mA* converters. (16)

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

Or

(b) Explain different types of loops used in Lab VIEW. (16)

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

Or

(b) Create a VI to acquire an analog signal (Voltage output) of LM35 temperature sensor on the DAQ signal accessory. Using a scaling factor (vx100 = ^{o}C) convert the voltage to temperature and display both voltage and temperature values. (16)

———————