Reg. No. :

Question Paper Code: 31661

B.E. / B.Tech. DEGREE EXAMINATION, MAY 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. Define resolution and sensitivity of digital meters.

2. Classify of digital voltmeters.

3. List out the applications of storage oscilloscope.

4. State the advantages of digital data recording.

5. Compare RS 422 and RS 485.

6. State the advantages of RS 485 interface.

7. Compare virtual instruments and traditional instruments.

8. Write the advantages of sub VI.

9. State the role of signal conditioning.

10. What is the need for DAQ?

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

Or

(b) (i) Describe with the help of block diagram, the operation of a basic digital multimeter. (8)

(ii) Explain with the help of block diagram, the operation of period measurement. (8)

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

Or

(b) (i) Describe the operation of an X-Y recorder. With the help of a block diagram list four applications of an X-Y recorder. (8)

(ii) Explain the operation of a data logger with block diagram. State the functions of each block. (8)

13. (a) Describe the functions of seven layers of ISO/OSI model. (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) (i) Build a VI to find the sum and product of array elements and explain. (8)

(ii) Draw and explain the importance of the basic elements of graph. (8)

15. (a) Describe the major components of a PC-based data acquisition system. (16)

Or

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

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