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

Question Paper Code: 36601

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

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. Define resolution and sensitivity of digital meters.
3. List the various controls on the front panel of a signal generator.
4. List the various controls on the front panel of a signal generator.
5. Compare RS 422 and RS 485.
6. State the advantages of RS 485 interface.
7. Define the term flexibility in Virtual Instrumentation.
8. State the advantages of sub VI.
9. List the operations of DAQ assistant.
10. State the role of signal conditioning.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Explain with the help of block diagram, the basic principle of a successive approximation type DVM. (8)

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

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

Or

(b) With suitable diagram, explain the basic components and working of magnetic tape recorder. List out the advantages and applications. (16)

13. (a) Explain in detail about EIA 232 interface standard with necessary diagrams. (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) Discuss the steps involved in designing a digital voltmeter using voltage transducer. (16)

Or

(b) Develop the VI program for ON-OFF control of temperature and explain in detail. (16)

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