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

Question Paper Code : 51535

B.E./B. Tech. DEGREE EXAMINATION, MAY/JUNE 2016

Sixth Semester

Electronics and Instrumentation Engineering

EA 2351/EI 61/10133 EI 601 – MODERN ELECTRONIC INSTRUMENTATION

(Common to Instrumentation and Control Engineering)

(Regulations 2008/2010)

Time : Three Hours **Maximum : 100 Marks**

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. List the advantages of digital instruments.

2. What is known as auto ranging in a measuring instrument ?

3. List the major components of a magnetic tape recorder.

4. Why storage scopes are necessary in measurements ?

5. Mention the applications of virtual instrumentation.

6. Write a short note on for and while loops in virtual instrumentation.

7. What is known as serial interface converter ?

8. What is meant by cluster ?

9. What is the overview of DAQ software ?

10. Define buffered I/O and its advantages.

PART – B (5 × 16 = 80 Marks)

11. (a) With a neat block diagram explain the operation of an automated instrumentation system for a generalized case. **(16)**

OR

(b). With necessary diagrams explain any one method of frequency and time interval measurement. **(16)**

12. (a) With a neat block diagram explain the function of a Cathode ray oscilloscope. (General purpose type). **(16)**

OR

(b) (i) Distinguish between the signal generator and function generator. **(8)**

(ii) Describe how does the seven segment display is functioning with required sketch. **(8)**

13. (a) Discuss the significance 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) Explain the operation of EIA 485 interface standard with necessary diagrams. **(16)**

14. (a) (i) Explain the 25 pin connector and frame format of RS232. **(8)**

(ii) Describe the communication between two nodes in RS232. **(8)**

OR

(b) (i) Explain the two modes of operation of RS485. **(6)**

(ii) Describe the function of seven layers of OSI model. **(10)**

15. (a) (i) Discuss in detail about PCI and its features. **(4)**

(ii) Discuss the different types of GPIB hardware configurations. **(4)**

(iii) Explain the techniques used in IMAQ for acquiring and display images. **(8)**

OR

(b) (i) Explain in detail about DAQ system components and DAQ software overview with the help of neat block diagram. **(8)**

(ii) Draw the block diagram to explain the motion control system development software for configuration, prototyping and development. **(8)**