Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(EE) (2011 Onwards E-III)
B.Tech.(Electrical & Electronics) (2011 & 2012 Batch E-III)
(Sem.–7,8)

VIRTUAL INSTRUMENTATION

Subject Code : BTEE-805C
Paper ID : [A3043]

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a. Why Lab VIEW is called a modular programming language?

b. What is GPIB?

c. What are the advantages of shift registers and feedback nodes in VI?

d. Define digital image and image resolution.

e. What is the difference between placing the terminals inside and outside the loop?

f. What are the main objectives of DAQ?

g. Compare the virtual instruments with standard instruments.

h. State the basic requirements of DAQ cards used in VI applications.

i. Define cluster to array and array to cluster.

j. How can a new case be added in the case structure?

SECTION-B

2. What are the major components of PC- Based DAQ? Also explain what the role of DAQ software is in PC based measurement system.

3. Build a VI to compute the following equations and plot the results on a waveform graph.

$$y1 = x^3 + x^2 - 5$$

$$y2 = x^2 + 4$$

where, x varies from 0 to 10 in steps of 0.2.

4. Explain in detail Ethernet Transmission Control Protocols and Internet Protocols.

5. Explain the operation of a digital storage oscilloscope with necessary diagrams and explain how it can be used real time control in VI.

6. Build a VI that prints the number and prints the squares and cubes of only even numbers from 0 to 100.

SECTON-C

7. Build a VI that simulates the roll of dice (possible values 1 to 6) and keeps the track of the number of lines that the dice rolls each values. What will be the I/P and O/P of such a VI?

8. Create a VI to find the factorial of a given numbers using for loops and shift registers.

9. Explain in detail distributed monitoring and control devices used in real time analysis in VI.