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

Total No. of Pages : 02

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

VIRTUAL INSTRUMENTATION

Subject Code : BTEE-805C
M.Code : 71944

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 Sub VIs form important part of Virtual Instrumentation and how are they saved?

(b) What are controls and indicators in a VI?

(c) What are the major components of PC based data acquisition system?

(d) What is the use of waveform generator for real time control processes in VI?

(e) What are the common applications of strings?

(f) Is signal conditioning needed while dealing with signals in VI? Justify.

(g) What is polymorphism in a VI?

(h) What is the use of shift registers in a VI?

(i) What is hard ware triggering in a DAQ system of VI?

(j) What is the use of clusters in VI?

SECTION-B

2. Write short notes on :

   (a) PXI

   (b) SCXI

3. Create a VI to find determinant of a 2x2matrix.

4. Explain the use of following tabs of devices and interfaces for configuring a DAQ device

   (a) System

   (b) Base I/O Address

   (c) DMA

5. Build a VI that uses formula node to calculate the following equations:

$$Y1 = x^3 + x^2 + 5$$

$$Y2 = (m*x) + b$$

6. Explain with a suitable example how parallel loops are controlled in Lab VIEW?

SECTION-C

7. Explain how serial communication is achieved in VI?

8. How analog input devices are configured for specified set of channels with DAQ in VI. Explain by considering A1 read and AI start.

9. Create a VI to read a temperature data from a thermocouple by creating a look up table of voltages and temperature equivalent.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.