Code: 9A10803

1

B.Tech IV Year II Semester (R09) Regular Examinations, March/April 2013

VIRTUAL INSTRUMENTATION

(Common to E.Con.E and EIE)

Time: 3 hours   Max Marks: 70

Answer any FIVE questions
All questions carry equal marks
*****

1 (a) Explain how virtual instrumentation can help the real time systems.
   (b) Write the advantages of graphical programming.

2   Explain loops and charts in virtual instrumentation programming with examples.

3   What is the function of data acquisition systems? Explain the internal elements of these systems.

4   Write a short note on following:
   (a) VI chassis.
   (b) Common instrument interfaces.

5   Explain in detail about the architecture of PCMCIA with its application.

6   Explain how to terminate the session and close the VISA channel to the instrument.

7   Write a short note on following:
   (a) VI tool sets.
   (b) Applications of virtual instrumentation.

8 (a) Explain the development of a control system with example.
   (b) Write about motion control.

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2

B.Tech IV Year II Semester (R09) Regular Examinations, March/April 2013

VIRTUAL INSTRUMENTATION
(Common to E.Con.E and EIE)

Time: 3 hours   Max Marks: 70

Answer any FIVE questions
All questions carry equal marks
*****

1   (a)   Explain the virtual instrumentation with suitable block diagram and architecture.
    (b)   Write the advantages of virtual instrumentation.

2   Explain how 'case and sequence structures' are used in VI programming.

3   Write short notes on following:
    (a)   Handling of DAC in VI programming.
    (b)   Publishing measurement data in web.

4   Explain in detail about interfacing of GPIB and current loop to personal computer.

5   What is a PXI controller and explain the types of PXI controllers in detail.

6   Explain about IVI shared components and architecture specifications with respective test program.

7   Write about:
    (a)   Distributed I/o modules.
    (b)   Instrument control.

8   Why the simulation of system is required using VI? Describe various simulations of systems using virtual instrumentation.

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B.Tech IV Year II Semester (R09) Regular Examinations, March/April 2013

VIRTUAL INSTRUMENTATION

(Common to E.Con.E and EIE)

Time: 3 hours   Max Marks: 70

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Answer any FIVE questions
All questions carry equal marks
*****

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1 (a) Write the functions of SCADA software.
   (b) Compare graphical programming and conventional programming.

2 (a) Write about formula nodes and mention its uses with suitable examples in VI programming.
   (b) Write the data acquisition interface requirements.

3   Sketch a suitable figure showing the internal blocks of DMA logic with interconnection and explain the functions of each block.

4   Describe in detail about interfacing the instruments and their applications.

5   Write a short note on following:
   (a) USB.
   (b) Fire wire.

6   How VISA software interfaces permit the use of instruments under GPIB?

7   Explain the development of process data base management system with respective to its architecture.

8 (a) What is the purpose of instrument control in virtual instrumentation?
   (b) Explain about image acquisition and processing.

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Code: 9A10803

4

B.Tech IV Year II Semester (R09) Regular Examinations, March/April 2013

VIRTUAL INSTRUMENTATION
(Common to E.Con.E and EIE)

Time: 3 hours   Max Marks: 70

Answer any FIVE questions
All questions carry equal marks
*****

1   Explain the procedure to develop virtual instrument using GUI with an example.

2   How the strings are handled in VI programming? Explain.

3   What is sampling and explain its importance in data acquisition systems with practical example.

4   Explain different modes present in Rs 232 c with neat sketches.

5 (a) Explain SCSI based control in bus interfaces.
    (b) Explain how ethernet can be controlled using PXI.

6   Explain the program architecture of GPIB code for devices simulator using conventional virtual instruments with respective to that of VISA.

7   Write in detail about the instrument control and explain the applications of virtual instrumentation.

8   Write short notes on following:
    (a) Simulation of a system using VI.
    (b) Motion control using VI.

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