CBCS SCHEME

18MT53

USN | | | | | | | | |

Fifth Semester B.E. Degree Examination, Feb./Mar. 2022
Virtual Instrumentation

Time: 3 hrs.   Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1   a. Define Virtual Instrumentation. Explain the architecture of virtual instrumentation with neat block diagram.   **(12 Marks)**
     b. Comparison between conventional programming with graphical programming.   **(08 Marks)**

OR

2   a. Explain the operation of single ended and differential ended inputs.   **(10 Marks)**
     b. Explain the concepts of universal DAQ card.   **(10 Marks)**

Module-2

3   a. Explain the operation of sample and hold circuit with neat diagram.   **(10 Marks)**
     b. Explain the operation of PC based data acquisition system with neat diagram.   **(10 Marks)**

OR

4   a. Explain the operation of analog to digital converter with neat diagram.   **(10 Marks)**
     b. Explain the concepts of Hardware and software installation with help of NI-MAX. **(10 Marks)**

Module-3

5   a. Define LabVIEW. Explain the important components of LabVIEW.   **(10 Marks)**
     b. Design an full adder circuit using two halfadder with the help of LabVIEW.   **(10 Marks)**

OR

6   a. Define structures. Explain the concepts of case structures and sequence structures with examples.   **(10 Marks)**
     b. Define Array. Explain the concepts of one-dimensional and two dimensional array with example.   **(10 Marks)**

Module-4

7   a. Compare RS-232, RS-422, RS-485 and USB standard.   **(10 Marks)**
     b. Explain the architecture of IEEE-488 bus system with neat diagram.   **(10 Marks)**

OR

8   a. Explain the architecture of CAN bus with help of neat diagrams.   **(10 Marks)**
     b. Explain the architecture of OSI model with neat diagram.   **(10 Marks)**

Module-5

9   a. Design a VI for simple second order system with a LabVIEW.   **(10 Marks)**
     b. Design a VI for CRO simulation with the help of LabVIEW.   **(10 Marks)**

OR

10   a. Design a VI for simple temperature indicator with help of LabVIEW.   **(10 Marks)**
     b. Design a VI for generation of HTML page with help of LabVIEW.   **(10 Marks)**

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