

M.Sc. F.Y. (Electronics) (NEP Pattern) Semester-I
NEP-34-1 / PSCELT104-1 - Elective Paper-IV - Virtual Instrumentation

P. Pages : 2

Time : Three Hours



GUG/W/24/15090

Max. Marks : 80

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labelled diagrams wherever necessary.

Either:

1. a) Explain front panel and block diagram windows in Lab VIEW. State the advantages of LABVIEW. 8
- b) What is Virtual Instrument (VI)? With the architecture of VI explain the role of software in it. 8

OR

- c) Compare the text based and graphical programming techniques. 8
- d) Write notes on- 8
- i) Modular programming ii) Data flow program

Either:

2. a) Explain local and global variables. 8
- b) Create a VI to find the addition of first 20 natural numbers using FOR and WHILE loop. 8

OR

- c) What is array? Explain the importance of array function with suitable example. 8
- d) With suitable example explain the use of charts and graphs in Lab VIEW. 8

Either:

3. a) Explain the use of instrument I/O Assistant and list the steps to launch it. 8
- b) Explain the features of VISA and state its advantages. 8

OR

- c) Explain serial port communication with GPIB state its advantages. 8
- d) What are RS-232, USB, Fire Wire and Ethernet? State their role in Lab VIEW. 8

Either:

4. a) What is control design and simulation tools? Explain with examples. 8
- b) Write notes on: 8
- i) PID control
- ii) Modulation tool Kit

OR

- c) Explain the process of prototyping with motion assistant. 8
- d) Draw and explain the different components of motion control system. 8
5. Solve the following.
- a) State the advantages of Lab VIEW Programming. 4
- b) Discuss the formula node and feed-back node. 4
- c) Write short note on IEEE-1394 controller. 4
- d) What is digital filter design? 4
