M.Sc.(Electronics) (NEP Pattern) Semester-I

NEP-34-1 / PSCELT104.1 - Elective Paper-IV : Virtual Instrumentation

P. Pages : 2 **GUG/W/23/15090**

Time : Three Hours * 8 0 1 7 * Max. Marks : 80

Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labelled diagrams wherever necessary.
3. Use of Calculator / log table is allowed.

Either:

1. a) With Palettes, Explain Front panel and Block diagram windows in LABVIEW. **8**

b) Explain the architecture of Virtual Instrument. Explain the role of software in it. **8**

OR

c) Write a note on: **8**

i) Data flow program

ii) Modular programming.

d) Compare the text based and graphical programming techniques. **8**

Either:

2. a) Enlist and explain different types of loops with its structure. **8**

b) Create a VI to find the first 20 odd number addition using FOR and WHILE loop. **8**

OR

c) Explain the important of array function with suitable examples. **8**

d) Explain the use of charts and graphs in Lab VIEW with suitable example. **8**

Either:

3. a) Explain the features of VISA and list its advantages. **8**

b) What is the use of the Instrument I/O Assistant? List the steps to launch it. **8**

OR

c) Explain GPIB communication, configuration and addressing. **8**

d) What is fire wire and Ethernet? Explain their role in Lab VIEW. **8**

Either:

4.	a)	List the various signal processing and analysis tools and their applications.	**8**
	b)	Draw the block diagram and explain the three LABVIEW Control Design Tools.	**8**

OR

	c)	Draw and explain the different components of a motion control system.	**8**
	d)	Explain the process of prototyping with motion assistant.	**8**
5.	a)	State the advantages of LAB VIEW programming.	**4**
	b)	What is the formula node? Explain its important in Lab VIEW.	**4**
	c)	Write a short note on RS-232.	**4**
	d)	What is simulation of ECG signal?	**4**

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