M.Sc. (Electronics)(with Credits)-Regular-Semester 2012 (Old / CBCS Pattern) Sem II

ELE204 / PSCELET08 - Paper-IV : Virtual Instrumentation (PSELT-08-Core-8)

P. Pages : 2 **GUG/S/18/5739**

Time : Three Hours * 1 7 5 9 * Max. Marks : 80

Notes : 1. All questions are compulsory & carry equal marks.
2. Draw neat and well labelled diagram wherever necessary.

1. Either :

a) What is Lab VIEW? How does it differ from the other programming languages? Explain the architecture of Virtual Instrument. **8**

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

i) Express VI

ii) Sub VI

OR

c) Explain the advantages of Lab VIEW. **8**

d) What is modular programming technique? What are its advantages? Explain how icon is created in Lab VIEW? **8**

2. Either :

a) What is looping in Lab VIEW? State the advantages of using loops. **8**

b) What is feedback node? How is it initialized in Lab VIEW? Explain with suitable example. **8**

OR

c) Compare for and WHILE loops in Lab VIEW. Construct a virtual Instrument which converts decimal number to a binary equivalent number using FOR loop? **8**

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

3. Either :

a) What is Firewire and ethernet? Explain their role in Lab VIEW. **8**

b) Describe the serial port communication. **8**

OR

c) Compare the USB and IEEE - 1394 communication protocols. **8**

d) Explain the role of instrument I/O assistant in Lab VIEW. **8**

4. Either :

a) Explain with block diagram, a motion control system. What is the role of a motion controller? **8**

b) What is PID Controller? Explain virtual instrument for temperature control system with PID control. **8**

OR

c) Design a virtual Instrument to acquire ECG signal and simulate it using digital signal processing. **8**

d) What is digital filter? Enlist the steps to create virtual instrument for digital filter design. **8**

5. a) What is graphical programming? Explain. **4**

b) Explain polymorphism with suitable example? **4**

c) Explain the role of Instrument drivers? **4**

d) Explain the modulation tool kit in Lab VIEW? **4**

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