

Set No. 1

Code No: M1023 /R07

**IV B.Tech. I Semester Supplementary Examinations, February/March - 2011
P C BASED INSTRUMENTATION
(Electronics & Instrumentation Engineering)**

Time: 3 Hours

Max Marks: 80

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

1. Explain with a neat sketch the various components of personal computer in detail? [16]
2. a) Describe the various PC expansion systems?
b) Describe about the back plane bus VXI? [8+8]
3. Explain how loops and nested loops are implemented in C programming give an example for each? [16]
4. With the help of neat block diagram, explain the components of PLC system in detail? [16]
5. a) Explain the basic PLC programming on-off input/outputs? [8]
b) How can you construct a basic ladder diagram from a sequence of operational steps? [8]
6. Discuss in detail the various PLC intermediate functions, SKIP and MCR functions? [16]
7. Draw and explain different levels of PLC networking layers? [16]
8. Explain the following [8+8]
 - a) HART protocol
 - b) Smart transmitters

Set No. 2

Code No: M1023/R07

**IV B.Tech. I Semester Supplementary Examinations, February/March - 2011
P C BASED INSTRUMENTATION
(Electronics & Instrumentation Engineering)**

Time: 3 Hours

Max Marks: 80

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

1. What is data acquisition? Explain the computer interfacing for data acquisition in detail? [16]
2. a) What are I/O devices in data acquisition and control system? Explain the function of I/O devices in detail?
b) What are the guide lines to be followed in selecting the data acquisition and control? [8+8]
3. Explain the following
a) Scaling and linearization.
b) Data transfer [8+8]
4. a) Explain about the input/output modules?
b) List out the advantages and disadvantages of the programmable logic controllers? [8+8]
5. Write short note on PLC basic functions
a) Registers
b) Timer functions
c) Counter functions [5+5+6]
6. Explain in detail about the Sequencer and Matrix functions? [16]
7. Describe the PLC-PID tuning functions and methods? [16]
8. a) Describe briefly the smart valves and smart actuators?
b) Explain briefly about the troubleshooting and maintenance? [10+6]

Set No. 3

Code No: M1023/R07

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P C BASED INSTRUMENTATION
(Electronics & Instrumentation Engineering)**

Time: 3 Hours

Max Marks: 80

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

1. Explain about the functional units of motherboard and their inter communication with typical diagram? [16]
2. a) Describe the various PC expansion systems?
b) Describe about the back plane bus VXI? [8+8]
3. Explain how loops and nested loops are implemented in C programming give an example for each? [16]
4. With the help of neat block diagram, explain the components of PLC system in detail? [16]
5. a) Explain the basic PLC programming on-off input/outputs?
b) How can you construct a basic ladder diagram from a sequence of operational steps? [8+8]
6. Discuss in detail the various PLC intermediate functions, SKIP and MCR functions? [16]
7. Draw and explain different levels of PLC networking layers? [16]
8. Explain the following
a) HART protocol
b) Smart transmitters [8+8]

Set No. 4

Code No: M1023/R07

**IV B.Tech. I Semester Supplementary Examinations, February/March - 2011
P C BASED INSTRUMENTATION
(Electronics & Instrumentation Engineering)**

Time: 3 Hours

Max Marks: 80

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

1. What is data acquisition? Explain the computer interfacing for data acquisition in detail? [16]
2. a) What are I/O devices in data acquisition and control system? Explain the function of I/O devices in detail? [8+8]
b) What are the guide lines to be followed in selecting the data acquisition and control?
3. Explain the following [8+8]
 - a) Scaling and linearization.
 - b) Data transfer
4. a) Explain about the input/output modules?
b) List out the advantages and disadvantages of the programmable logic controllers? [8+8]
5. Write short note on PLC basic functions [5+5+6]
 - a) Registers
 - b) Timer functions
 - c) Counter functions
6. Explain in detail about the Sequencer and Matrix functions? [16]
7. Describe the PLC-PID tuning functions and methods? [16]
8. a) Describe briefly the smart valves and smart actuators? [10]
b) Explain briefly about the troubleshooting and maintenance? [6]