

**IV B.Tech I Semester Supplementary Examinations, April/May 2005**  
**PC BASED INSTRUMENTATION**  
**(Electronics & Instrumentation Engineering)**

**Time: 3 hours**

**Max Marks: 80**

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

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1. Draw the Block diagram of hardware subsystems of real - time control system and describe the function of each module?
2. What are the essential features of operating system for PC based Instrumentation with a diagram, list out all the functions of this system.
3. Draw the Block diagram of DMA Logic and give the circuit description. What is a DPCLK logic in the above and give the circuit diagram and Timing diagram for the DPCLK logic.
4. Classify the bus control signals? Explain any one type of bus control signals among them?
5. Describe in detail the 8250 UART ports and associated registers. Explain how programming is done using 8250 UART to implement initialization, serial input, serial output concept.
6. Explain in detail with a neat diagram how a video display work.
7. (a) What are the functions of DIP switches in the Add-on card?  
(b) Discuss the following:
  - i. Small computer systems Interface(SCSI)
  - ii. Intelligent Peripheral Interface(IPI)
  - iii. SMD Interface.
8. Write a program in C to demonstrate the operation of both D/A and A/D converters.

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