

**Code No: C3809, C5505**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**M.TECH I- SEMESTER EXAMINATIONS APRIL/MAY-2012**

**ADVANCED COMPUTER ARCHITECTURE**

**(COMMON TO DIGITAL ELECTRONICS AND COMMUNICATION SYSTEMS,  
EMBEDDED SYSTEMS)**

**Time: 3hours**

**Max.Marks:60**

**Answer any five questions  
All questions carry equal marks**

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- 1.a) Explain the elements of an instruction and the state diagram of instruction cycle.
- b) Write about Pentium data types.
  
- 2.a) Discuss arithmetic and logical shift operations.
- b) List the differences between CISC and RISC.
  
- 3.a) Briefly discuss the characteristics of cache memory.
- b) Explain dynamic RAM structure and operation.
  
- 4.a) Write a detail note on Digital Versatile Disk technology.
- b) Describe generic model of I / O module.
  
- 5.a) Give the architecture of I / O channel.
- b) What is a data hazard? How to avoid it?
  
- 6.a) Discuss the basic compiler techniques for exposing instruction level parallelism.
- b) Explain symmetric shared memory architectures.
  
7. What is RAID? Discuss various levels of RAID and its importance in system maintenance.
  
8. Write shorts notes on
  - a) Horizontal instruction format
  - b) SCSI bus
  - c) Multistage networks.

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