

**III B.Tech I Semester Regular Examinations, November 2007
COMPUTER ORGANISATION**

**(Common to Electrical & Electronic Engineering, Electronics &
Communication Engineering, Electronics & Instrumentation Engineering,
Electronics & Control Engineering and Electronics & Telematics)**

Time: 3 hours

Max Marks: 80

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

1. (a) Explain about various buses such as internal, external, backplane, I/O, system, address, data, synchronous and asynchronous. [10]
(b) Distinguish between high level and low level languages? What are the requirements for a good programming language? [6]
2. Design register selection circuit to select one of the four 4-bit registers content on to bus. Give fuller explanation. [16]
3. (a) How do we reduce number of microinstructions. What are micro-subroutines? [8]
(b) Explain nanoinstructions and nanometry. Why do we need them? [8]
4. (a) How many bits are needed to store the result addition, subtraction, multiplication and division of two n-bit unsigned numbers. Prove. [8]
(b) What is overflow and underflow? What is the reason? If the computer is considered as infinite system do we still have these problems. [8]
5. (a) What is the functioning of a Flash Memory? Explain. [8]
(b) Give the detailed picture of Memory Hierarchy. [8]
6. Explain the following:
(a) Asynchronous Serial Transfer
(b) Asynchronous Communication Interface. [8+8]
7. Explain three segment instruction pipeline. Show the timing diagram and show the timing diagram with data conflict. [16]
8. (a) Explain the working of 8 x 8 Omega Switching network.
(b) Explain the functioning of Binary Tree network with 2 x 2 Switches. Show a neat sketch. [8+8]
