

Computer Architecture & Organisation
(CSE-202 E, May-2006)

Note: Attempt any five questions.

1. a) Discuss Flynn's classification of computers.
b) What is multilevel computer architecture? Discuss.
2. a) Explain the different types of instruction formats used in a computer system? Discuss merits and demerits of each type.
b) What is the difference between an immediate, a direct and an indirect address instruction? How many references are needed for each type of instruction to bring an operand into a processor register?
3. a) Define each of the following terms associated with micro programmed control unit: Micro-operation, micro-instruction, micro program, control store, address sequencing.
b) What do you mean by "Next Address Generator" present in a micro programmed control unit? Explain briefly along with its block diagram.
4. a) What is the control logic design? Discuss any one hardwired control design method.
b) Discuss the principle of pipeline processing of instructions. How does it improve the performance of a computer system?
5. a) What is Memory Hierarchy? Discuss its characteristics.
b) Distinguish between Paging and Segmentation schemes of virtual memory.
6. a) How does Cache memory improve the performance of a computer system? Explain associative mapping scheme of cache.
b) Discuss various cache block replacement policies.
7. Distinguish between:
 - a) Scalar and superscalar pipelines
 - b) Multiprocessors and Multi computers MIMD architectures.
8. a) What is DMA? Draw the block diagram of DMA used in 80X86.
b) What are general purposes and special purpose registers? Discuss registers of any 80X86 microprocessor.