BT4/M06   8631

Computer Architecture & Organisation

Paper : CSE-202-E

Time : Three Hours]   [Maximum Marks : 100

Note :– Attempt any FIVE questions.

1. (a) Discuss Flynn's classification of computers.   10

    (b) What is multilevel computer architecture ? Discuss.   10

2. (a) Explain the different types of instruction formats used in a computer system. Discuss merits and demerits of each type. 10

    (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 ?   10

3. (a) Define each of the following terms associated with micro programmed control unit :

         Micro-operation, micro-instruction, micro program, control store, address sequencing.   10

    (b) What do you mean by "Next Address Generator" present in a microprogrammed control unit ? Explain briefly along with its block diagram.   10

4. (a) What is the control logic design ? Discuss any one hardwired control design method.   10

    (b) Discuss the principle of pipeline processing of instructions. How does it improve the performance of a computer system ?   10

5. (a) What is Memory Hierarchy ? Discuss its characteristics. 10

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(b) Distinguish between Paging and Segmentation schemes of virtual memory. 10

6. (a) How does Cache memory improve the performance of a computer system ? Explain associative mapping scheme of cache. 10

(b) Discuss various cache block replacement policies. 10

7. Distinguish between :

(a) Scalar and Superscalar pipelines 10

(b) Multiprocessors and Multicomputers MIMD architectures. 10

8. (a) What is DMA ? Draw the block diagram of DMA used in 80X86. 10

(b) What are general purpose and special purpose registers ? Discuss registers of any 80X86 microprocessor. 10