

BT-4/M-13

8401**COMPUTER ARCHITECTURE AND ORGANIZATION**

Paper : CSE-202(E)

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *five* questions in all, selecting at least *one* question from each unit.

UNIT-I

1. (a) What is Microprocessor ? Compare and contrast the characteristics of RISC and CISC based processor. 10
(b) What is Instruction set ? Discuss data transfer instructions of 8086. 10
2. (a) Explain Flynn's Classification of computers. 10
(b) What do you mean by Computer performance ? Discuss any *two* metrics to measure performance of a computer system. Also, discuss pros and cons of these metrics. 10

UNIT-II

3. (a) Draw a diagram for a data path of a register based CPU, and explain the diagram. 10
(b) What is Instruction cycle ? Give an example of 5-stage instruction cycle. 10
4. (a) What is the purpose of CU ? Discuss micro-programmed CU. 10
(b) What is Microinstruction ? Explain sequencing of microinstruction. 10

UNIT-III

5. (a) What is Memory hierarchy ? Discuss the characteristics of memory hierarchy. 10
- (b) Differentiate between SRAM and DRAM. 10
6. (a) How does cache improve performance of a computer system ? Explain Direct-mapped cache organization. What are its limitations ? 10
- (b) Distinguish between Paging and Segmentation. 10

UNIT-IV

7. (a) What is Instruction level parallelism ? Explain the principle of instruction pipelining. 10
- (b) What is Processor level parallelism ? Compare and contrast a Multiprocessor and Multicomputer system. 10
8. Explain the following with respect of 80x86 processors :
- (a) Processor registers. 10
- (b) Interrupts. 10
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