

Roll No. ....

Total Pages : 2

**BT-5/D-22**

**45277**

**COMPUTER ARCHITECTURE**

**Paper : ES-CS-AIML-309-A**

**Time : Three Hours]**

**[Maximum Marks : 75**

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

**UNIT-I**

1. (a) Explain digital arithmetic algorithm for subtraction. 8  
(b) What is Cache Memory? Explain Associative and Direct Mapped Cache. 7
2. What do you mean by memory hierarchy? Explain its advantages. Explain main memory and associative memory in detail. 15

**EXAMKIT**  
**UNIT-II**

3. (a) Explain common bus system in detail. 8  
(b) Discuss the essentials of designing of Control Unit, 7
4. What do you understand by Computer Instruction? Discuss Instruction Cycle. Explain Memory reference, Register reference and Input-output Instructions. 15

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### UNIT-III

5. Explain the functioning of Central Processing Unit (CPU).  
With suitable examples, explain the essentials of Accumulator,  
Register, Stack and Memory. 15
6. (a) Explain Flynn's taxonomy of computers. 8  
(b) What do you mean by pipelining? Explain block  
diagram of instruction pipelining and its advantages. 7

### UNIT-IV

7. What is Asynchronous Data transfer between two  
independent units? Discuss the various modes of Data  
transfer-Programmed I/O, Interrupt-initiated I/O and Direct  
Memory Access. 15
8. Explain the following in detail :  
(a) Daisy Chaining. 8  
(b) Input-Output Processor. 7

EXAMKIT