

Roll No.

Total Pages : 02

BT-5/D-23

45265

COMPUTER ARCHITECTURE

ES-CS-AIDS-309A

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) What do you mean by computer architecture and organization ? Briefly explain Von Neumann Architecture. 8
- (b) Explain Booth's algorithm for multiplication. 7
2. (a) What is normalized floating point representation of numbers ? Explain IEEE standard for representing floating point numbers. 8
- (b) Explain the concept of virtual memory. 7

Unit II

3. (a) Explain Instruction cycle in detail. Draw diagram to support your answer. 8

- (b) Explain register reference and memory reference instructions. 7
4. (a) What is control memory ? How addressing sequencing is done in microprogrammed control unit ? 8
- (b) Differentiate between hardwired and microprogrammed control unit. 7

Unit III

5. Explain different addressing modes with the help of a suitable example. 15
6. Write short notes on the following :
- (a) RISC vs. CISC. 8
- (b) Instruction level parallelism. 7

Unit IV

7. (a) Explain the process of source-initiated handshaking with timing diagram. 8
- (b) Differentiate between Programmed I/O and Interrupt driven I/O. 7
8. Write short notes on the following :
- (a) DMA controller 8
- (b) Input output processor. 7