

2013

Time: 3 hours

Full Marks: 80

Candidates are required to give their answers in their own words as far as practicable

The questions are equal value.

*Answer any **five** questions in which*

Q.No. 1 is compulsory.

1. Indicate the correct answer of the following:

- (a) The basic component used in VLSI design is the
 - (i) CMOS
 - (ii) Gate array
 - (iii) TTL
 - (iv) None of these
- (b) The number of pins in a small IC package are generally:
 - (i) 2
 - (ii) 4
 - (iii) 12
 - (iv) 14
- (c) The physical memory is broken down into groups of equal size called
 - (i) Segements
 - (ii) Block
 - (iii) Piece
 - (iv) Fragments
- (d) Which is the fastest component in the necessary hierarcy?
 - (i) Main memory
 - (ii) Auxiliary memory
 - (iii) Cache memory
 - (iv) None of these

- (e) A memory that is a part of the control unit is called:
 - (i) Random memory
 - (ii) Primary memory
 - (iii) Auxiliary memory
 - (iv) None of these
- (f) The next address generator is called:
 - (i) Microprogramme sequence
 - (ii) Pipeline register
 - (iii) Clock register
 - (iv) Program counter
- (g) Operand fetching of an instruction is done in
 - (i) Fetch cycle
 - (ii) Decode cycle
 - (iii) Memory write cycle
 - (iv) Execution cycle
- (h) Risc machine usually have cycles per instruction equal to:
 - (i) 2
 - (ii) 1
 - (iii) 3
 - (iv) None of these

2. Explain the structure and function of an I/O module.
3. What is an instruction set? Discuss the characteristics of RISC and CISC.
4. What are registers? Discuss the different types of register used in computer system.
5. Explain the importance of interrupts. How many types of interrupts are there? Explain.
6. Explain the organization of cache memory in computer system?
7. What is associative memory? Explain how it is used in address mapping in cache memory system.
8. Explain the organization of micro programmed control unit and explain its operation.
9. What is pipe lining? Explain various pipe lining conflicts.
10. What do you mean by addressing modes? Discuss the different addressing modes.