

Time allowed: 3 Hours

Max. Marks: 80

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting atleast two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) What is the significance of virtual memory?
- b) Define logic micro operation. _____
- c) What is need of cache memory?
- d) Differentiate between Machine and Assembly Language.
- e) Explain computer bus.
- f) Define a logic gate.
- g) What is a Flip Flop?
- h) What is the function of multiplexer?

(8x2)

UNIT - I

- II. What is Register Transfer language? Discuss major logic and arithmetic micro operations with examples. (16)
- III. What is a multiplexer? Give the logic circuit for 16 - line to 1 - line multiplexer. (16)
- IV. Discuss major types of interrupts. Differentiate between hardware and software interrupts with examples. (16)
- V. Discuss instruction set in a simple computer organization. Explain instruction execution in terms of micro instructions. (16)

UNIT - II

- VI. Explain Programmed I/O, Interrupt-Initiated I/O and DMA data transfer modes. (16)
- VII. Explain various physical components of a digital computer. Give the functional description of various modules and cards of PC. (16)
- VIII. What is a priority interrupt? Discuss the cache memory organization with diagram. (16)
- IX. Discuss various internal cards and types of display in a PC. Write note on Computer virus and protection. (16)

x-x-x