BCA ( part –III)

Paper – III

Computer system architecture

Unit – I

1. Explain binary, octal, decimal and hexadecimal number with example.
2. Add the following binary numbers :
   * + 101010 and 111010
     + 100101 and 11001
3. Explain ASCII, EBCDIC and grey code with example.

Unit – 2

Describe logic gates XOR , NOR, NAND , XNOR and AND with truth table and logic diagram.

1. Explain T flip-flop with truth table and logic diagram.
2. Simplify the following using K-map :

F (A, B, C, D) = Πm (0, 1, 4 ,5 , 14 ,15)

Unit-3

1. Explain ALU and control unit in brief.
2. Draw a block diagram of macro computer system and explain.
3. Explain motherboard and SMPS in brief .

Unit-4

* + 1. Explain I/O processor with suitable diagram
    2. Differentiate between synchronous and asynchronous data transfer.
    3. Differentiate between isolated and memory mapped I/O.

UNIT-5

* + 1. Draw a suitable diagram of a memory hierarchy and explain.
    2. Discuss about associative memory and virtual memory.
    3. Explain the following :

1. Page table
2. Cache memory