B.C.A., Sem.-III

CC-201 : Computer Organization
(New Course)

[Max. Marks : 50

Time : 2 Hours]

Instructions : (1) All Questions in Section I carry equal marks.

(2) Attempt any TWO questions in Section I.

(3) Question 5 in Section II is COMPULSORY.

Section – I

1. (A) List the different types of Gate, explain all in detail with diagram and Truth Table. — 10

   (B) List the different types of Flip-Flops. Explain JK Flip-flop and T Flip-flop in detail. — 10

2. (A) Explain Bus Memory Transfer in detail with diagram. — 10

   (B) Explain Binary Adder and Binary Adder Subtractor in detail. — 10

3. (A) Explain Common Bus System in detail with diagram. — 10

   (B) List the different types of Addressing Modes. Explain Immediate, Direct, Indirect and Register Indirect mode in detail. — 10

4. (A) Explain I/O Bus System, Isolated and Memory-Mapped I/O in detail. — 10

   (B) Explain Cache Memory, Main Memory and Associative Memory from Memory Hierarchy. — 10

Section – II

5. Answers the following questions : (any 5×2 marks each)

(1) _____ is called Universal Gate.

    (a) NOT   (b) AND

    (c) NAND   (d) EX-OR

(2) Full Adder require minimum Two Hal Adder. (True/False)

(3) In _____ combinational circuit has n input lines and maximum 2^n output line.

    (a) Decoder   (b) Multiplexer

    (c) Encoder   (d) Full Adder

(4) Full form of RTL.

(5) Convert 456_{10} into 10's complement.

(6) Operand is store in _____ part.

    (a) Accumulator   (b) Memory Adders

    (c) Bus   (d) All of the above

(7) Cache Memory is fastest memory in computer system. (True/False)

(8) DMA transfers are performed by _____ circuit.

    (a) Data Controller   (b) Device Controller

    (c) DMA Controller   (d) All of the above

(9) Flip-flop store one bit of data. (True/False)

(10) Bus system is used three state gates. (True/False)