MCA/D08
Computer Organization
MCA -102

Time : 3 Hours MM:50

Note:- Attempt Five questions in all, Question No 1 is compulsory. Attempt Four more questions selecting one question from each unit

1 Answer following parts:
- (i) Representing information digital computers
- (ii) Representing real numbers in digital cpmputers
- (iii) Importance of Boolean algebra in digital electronics
- (iv) Universal gate concept
- (v) Concept of sequential circuits
- (vi) Meuman architecture
- (vii) Microprocessing
- (viii) Interrupt organization 3each

UNIT-II

2 Complete the following table by way of inter-system conversion.

Hex	Octal	Binary	Decimal
		111001.001	
2AoF.oA			
			205.25
	20.5.025		

3 Explain
(a) algebric method/rules and
(b) k-map method (upto four variables0 of Boolean function simplication. Explain the need for Boolean simplication. Give examples. 14

UNIT-II

4 Describe following in respect to half adder, full adder, parallel adder and subtractor circuits: general description, logic diagram and truth table. 14

5 Differentiate between following with example:
- (a) Encoder and decoder
- (b) Multiplexer and demultiplexer 14

UNIT-III

6 Explain the concept and working of:
- (a) Shift registers of different types and
- (b) Multiplexer and demultiplexer 14

7 Describe following digital circuits:
Counter, down counters, ring counters and modulo counters 14

UNIT-IV

8 Describe following topics:
(A) Machine instruction and instruction cycle
(b) Instruction formats
(c) Hard-wired processor logic 14

9 Describe the importance of interrupts and DMA in data transfer between I/O devices, CPU and memory. 14