Community Institute of Management studies

Computer Organization and Architecture

Answer the following

1.Convert the following:

i) $7562_{(10)}$ = -------(16)

ii) $1110101_{(2)}$=-------(10)

iii) $F3A7_{(16)}$=--------(8)

iv) $FADE_{(16)}$=------(10)

v) $3527_{(8)}$=------(16)

vi) $673.124_{(8)}$=--------(2)

vii)$123.6875_{(10)}$=------(16)

viii)$1010.011_{(2)}$=-------(10)

ix)$BDA.D4_{(16)}$=--------(8)

x)$0.6875_{(10)}$=-------(2)

2.i)Subtract $73_{(10)}$ from $28_{(10)}$ using 2's complement method

ii)using 2's complement subtract 1010100 from 1000011

3.With a neat circuit diagram and truth table, explain the working of Full Adder

4.Construct a 4 to 1 line multiplexer using logic gates. Explain its working procedure

5.Implement the following Boolean function using 8:1 Multiplexer

F(A B C D) ∑m(1,3,5,6,9,11,13,15)

6.Simplify F(A B C D)=∑m(1,2,6,11,15)+∑d(0,3,9,10,14) using K map and write the circuit diagram for the simplified expression

7.Explain error detection and correction using Hamming code

8.Explain 2 bit binary counter

9.Explain Register reference instructions

10.Explain Memory reference instructions