Assignment 1

Q.1 Convert the following pairs of decimal numbers to 5 bit signed 2’s complement binary numbers and add them. State whether or not overflow occurs in each case.

i) 5 and 10

ii) 14 and 11

iii) -5 and 7

iv) -10 and -13

Q.2 Multiply each of the following pairs of signed 2’s complement number using Booth’s Multiplication Algorithm (A=multiplicand and B= multiplier)

i) A=010111 B=110110

ii) A=110011 B=101100

iii) A=110101 B=011011

iv) A=001111 B=001111

Q.3 Perform division operation on the following unsigned numbers using the restoring method. Dividend=10101 and Divisor= 00100.

Q.4 Design the 16 bit carry look ahead using 4 bit adder. Also unite the expression for Ci+1.

Q.5 Explain IEEE standard for floating point number.

Q.6 Explain with a neat block diagram, ripple carry adder.