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Student : Name:_____ Roll No._____
Section:_____

Question 1a [2+2]

Bits have no inherent meaning. Given the bit pattern
0000 0000 0010 0110 0000 1001 0110 0010

   a.   **Assuming it as I-type instruction identify source and destination register numbers.**

   b. **Assuming it as an unsigned binary value, what is the corresponding integer value?**

Question 1b [8]

With x = 0100 0010 0101 1000 0000 0000 0000 0000 and y = 1011 1110 0110 0000 0000 0000 0000 0000 represent them in normalized decimal form using scientific notation and then perform following operations showing all work
a. x + y
b. x * y

Question 2 [8]

A sequential circuit has two D flip-flops A & B, input y and one output z. The flip-flop input equations and circuit output are as follows.

$D_A = By' + AB$ $D_B = yA + yB$ $z = Ay + AB'$

Draw logic diagram of the circuit and tabulate the state table