Parul University
Assignment 1 (COA)

1 While Execution of program in Basic computer. An Instruction is Stored into IR Register for Decoding process. Demonstrate the decoding process with a block diagram.

2 Draw the timing diagram assuming that SC is clear to 0 at time T4. If control Signal D3 is activated. D3T4:SC->0.

3 Map the following instruction into given format.

I(15)	Opcode(14-12)	Address(11-0)

LDA 2050, INR C ,INP 3H
Where opcode for LDA=001, INR=010 and INP=011
C=0010

4 In Basic computer each instruction requires max 4 different phases for execution. A Basic computer has 4 different types of instruction.
in phase 1 computer loads the instruction
2nd phase it decodes the instruction
3rd phase it determines the type of instruction
and in final phase it performs the execution based on the type of instruction
draw the flowchart for the above condition.

5 Explain different computer Registers.

6 List and explain different addressing modes.

7 Represent following numbers in IEEE 754 stands (32 bit and 64-bit representation)
1) 85.125
2) -176.375

8 Using booth algorithm multiply
1) -9 by -13
2) 14 by -5
3) 11 by 13

9 Divide following no using restoring and non-restoring algorithm.
1) 7 divide by 3
2) 15 divide by 4

10 Define ripple carry adder and carry look ahead adder.

11 Perform multiplication using carry save multiplier
1) 11 by 13
2) 8 by 9

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