SET- A

Question 1: Design and Implement Half and Full Adder

Objective: Design a digital circuit for a half adder and a full adder. Implement these adders in a virtual lab environment, demonstrating the addition of two binary numbers.

Question 2: Design and Implement a 4-bit Binary Adder-Subtractor

Objective: Design a digital circuit that can perform both addition and subtraction on two 4-bit binary numbers. Implement this adder-subtractor in a virtual lab environment.

Question 3: Implement XOR using ONLY NAND Gates

Objective: Design and implement an XOR gate using only NAND gates in a virtual lab.

SET-B

Question 1: Design and Implement Half and Full Subtractor

Objective: Design a digital circuit for a half subtractor and a full subtractor. Implement these subtractors in a virtual lab environment, demonstrating the subtraction of two binary numbers.

Question 2: Implement Gray to Binary Code Conversion

Objective: Design and implement a circuit that converts Gray code to its equivalent binary number in a virtual lab.

Question 3: Implement XNOR using ONLY NOR Gates

Objective: Design and implement an XNOR gate using only NOR gates in a virtual lab.