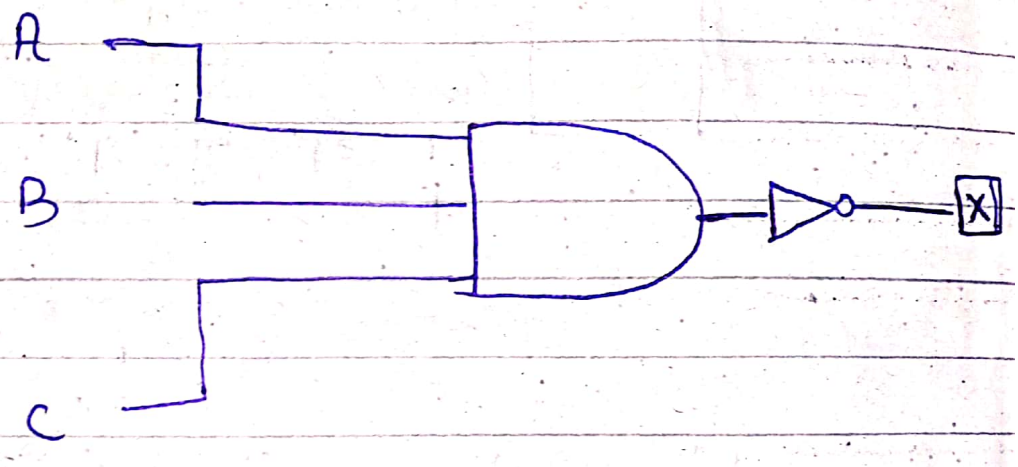
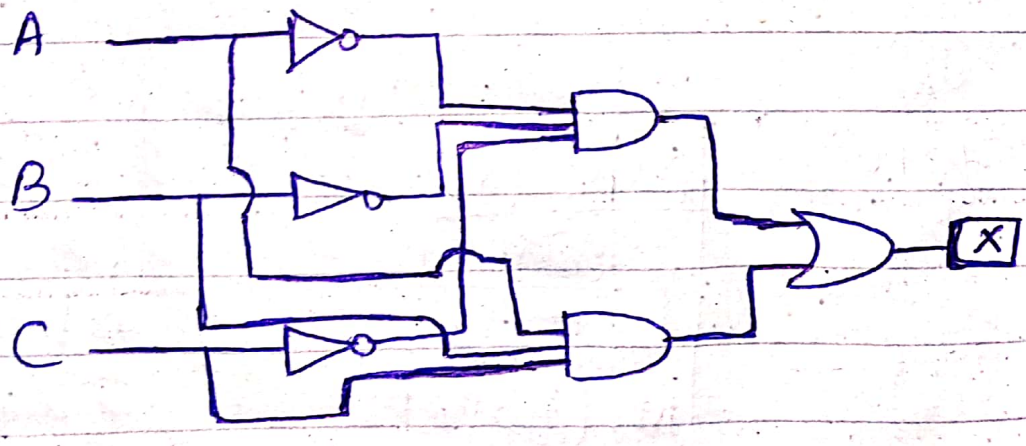
ASSIGNMENT #04

QUESTION A



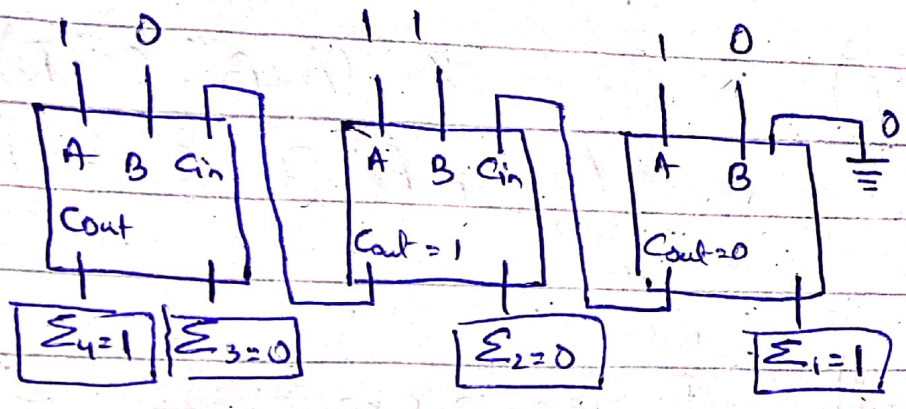
QUESTION B

Boolean Expression: A'B'C' + ABC

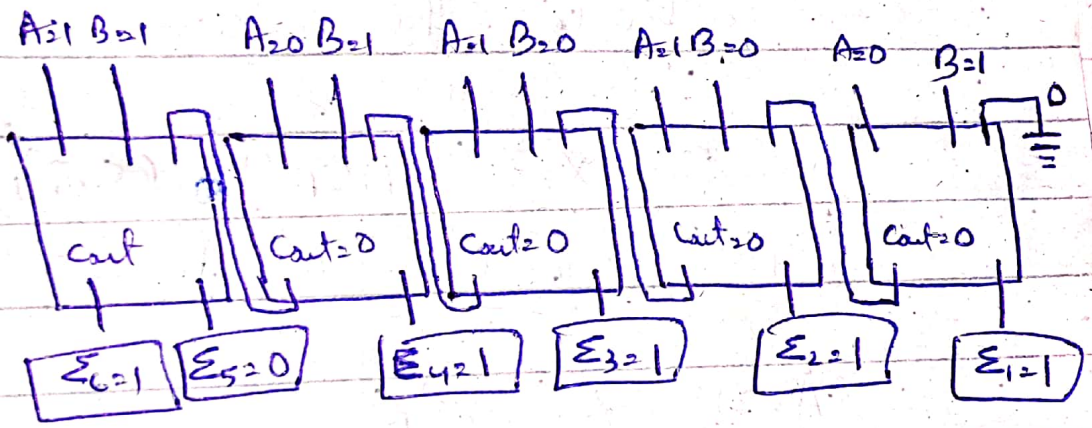


QUESTION C

i)



ii)

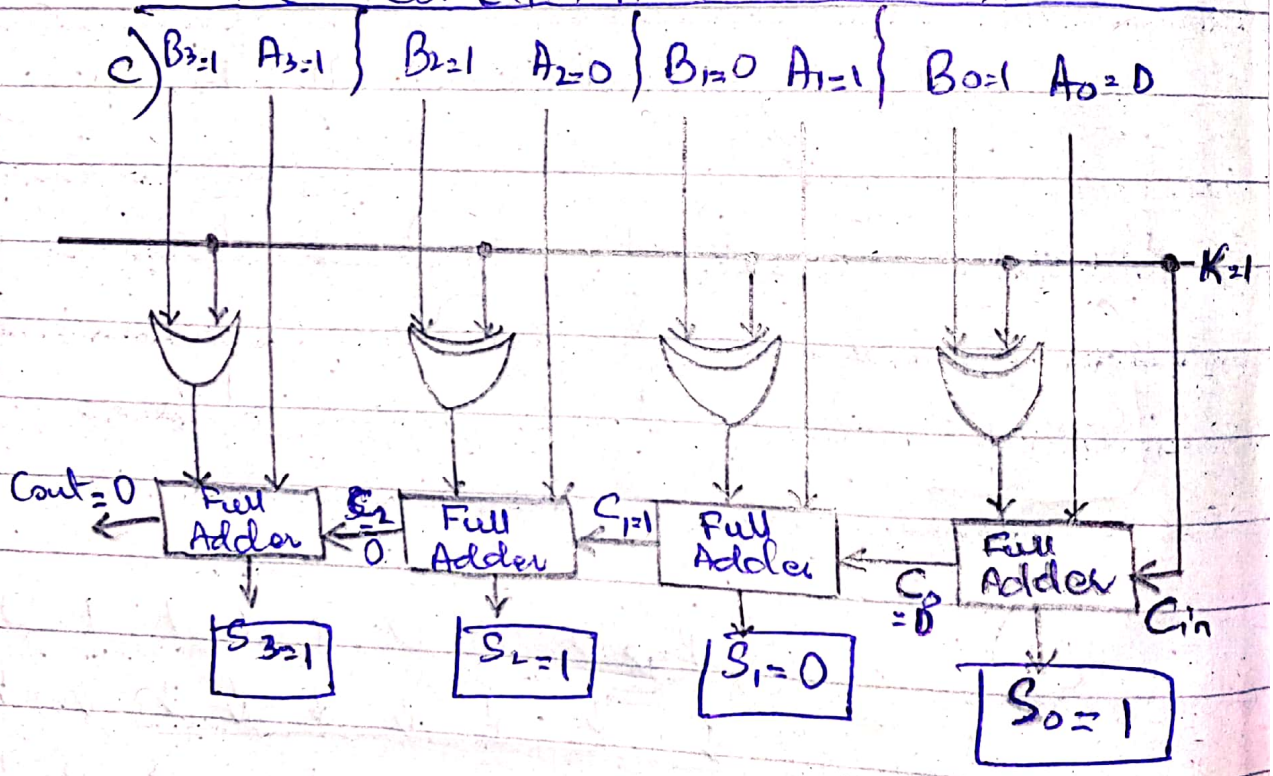


QUESTION. D

a) When K is HIGH the numbers are subtracted. b/c of the condition ($\overline{Add}$/Sub)

b) When K is LOW the two numbers are added B/c of the condition ($\overline{Add}$/Sub).

c)



QUESTION E:-

Logic To convert Binary to gray code:-

Following logic is implemented to covert Binary code to gray code.

Binary number = 0101

Binary = 0 → ⊕ 1 → ⊕ 0 → ⊕ 1

Gray = 0 1 1 1

a) 1 0 1 0 1 1 1 1 0 0

Gray = 1 1 1 1 1 0 0 0 1 0

b) 1 1 1 1 0 0 0 0 1 1

Gray = 1 0 0 0 1 0 0 0 1 0

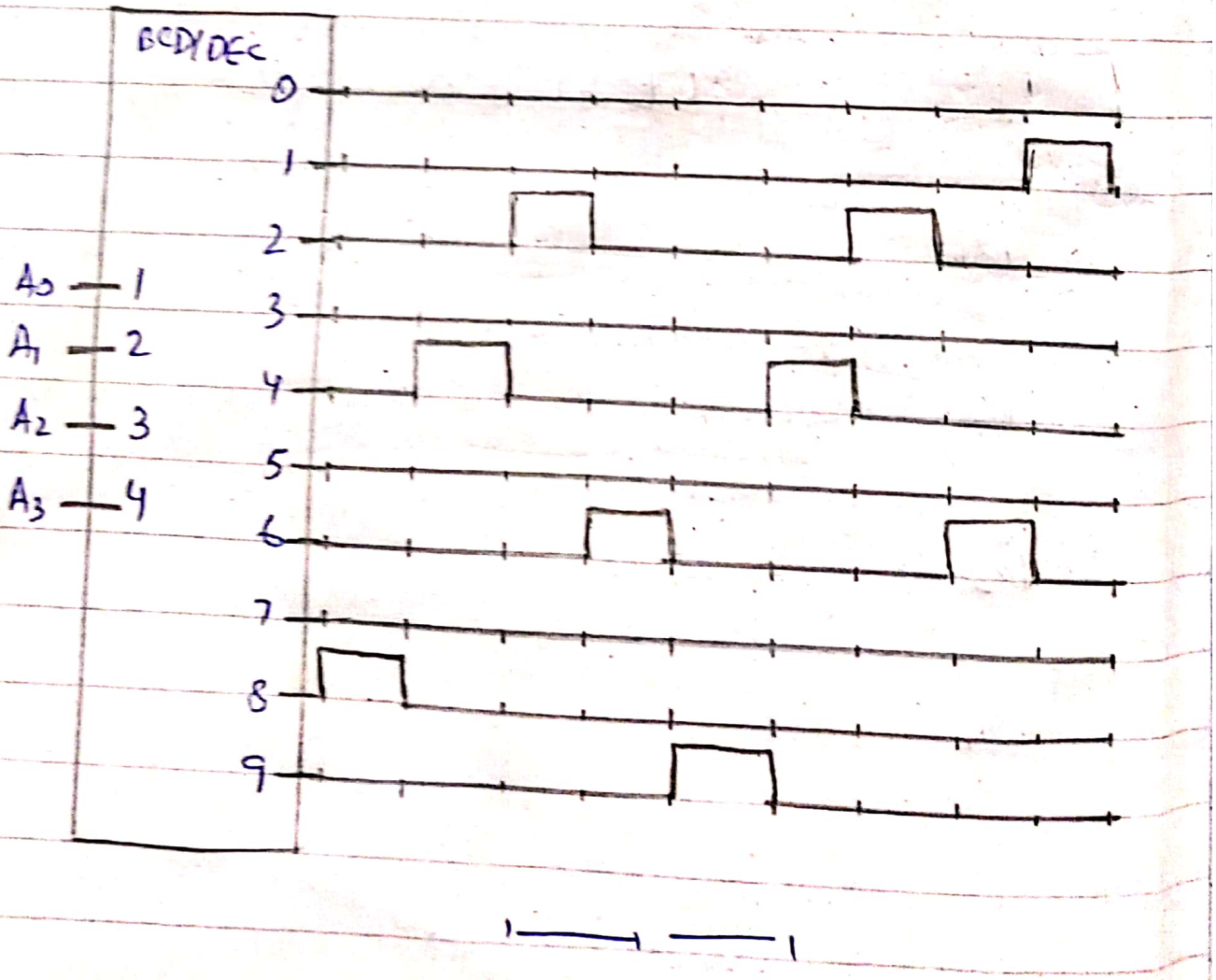
c) 1 0 1 1 1 1 0 0 1 1

Gray = 1 1 1 0 0 0 1 0 1 1

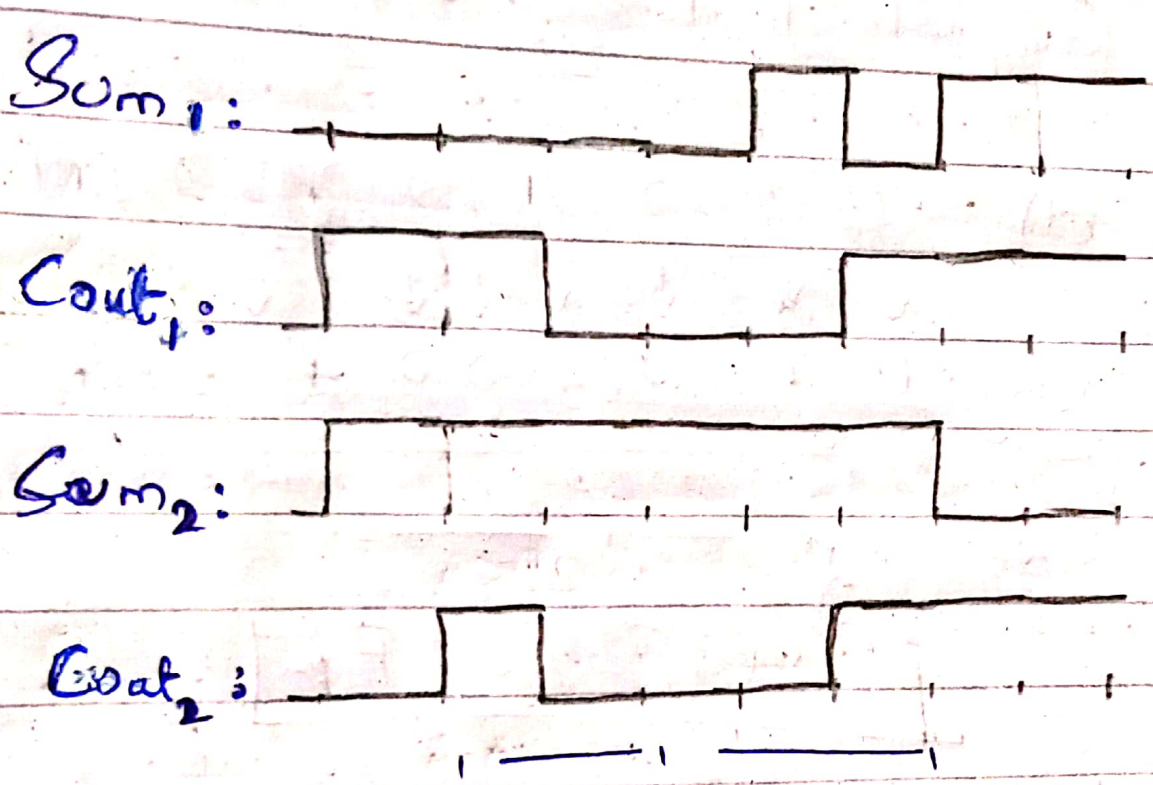
d) 1 0 0 0 0 0 0 0 0 1

Gray = 1 1 0 0 0 0 0 0 0 1

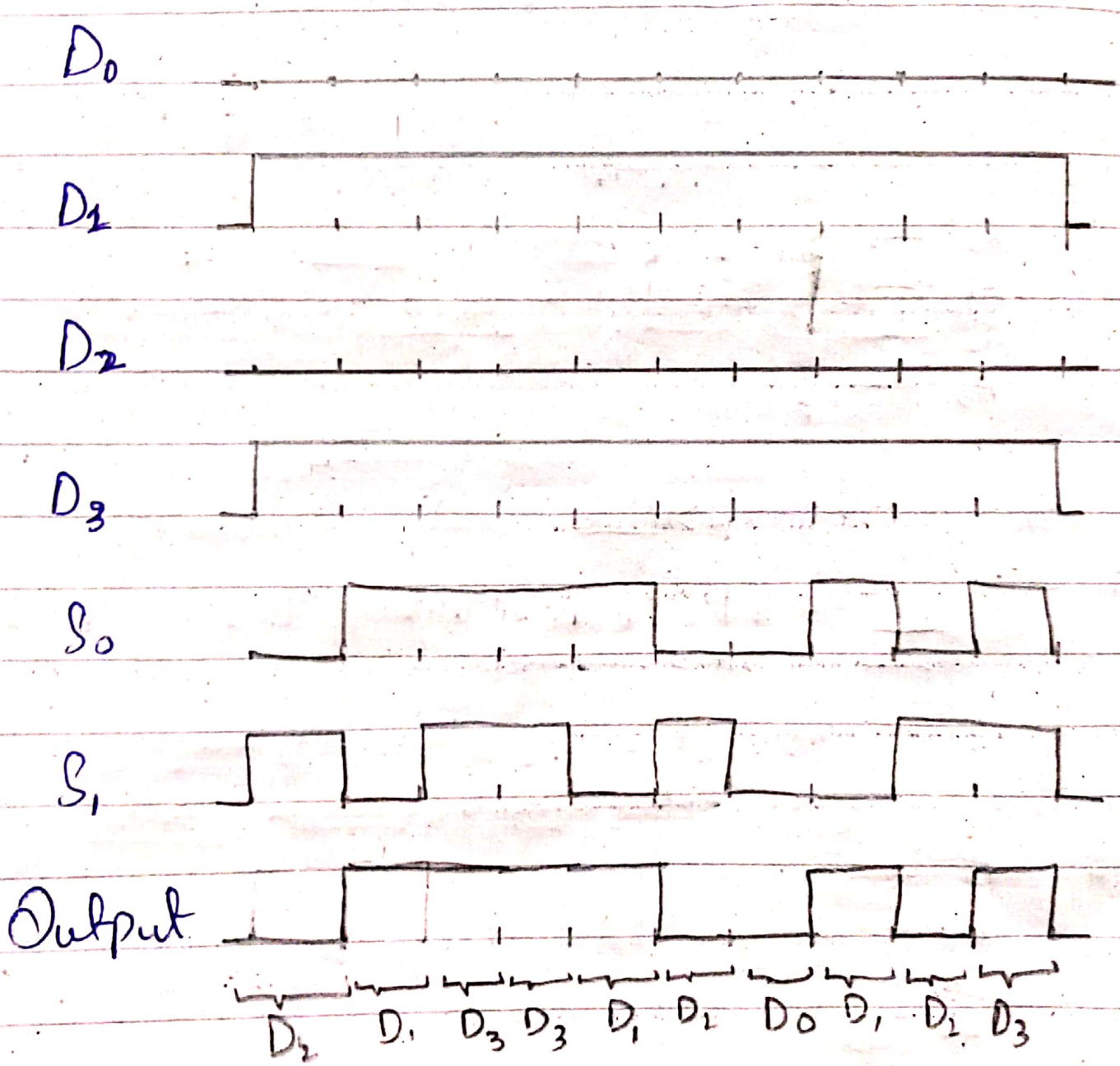
QUESTION F:-



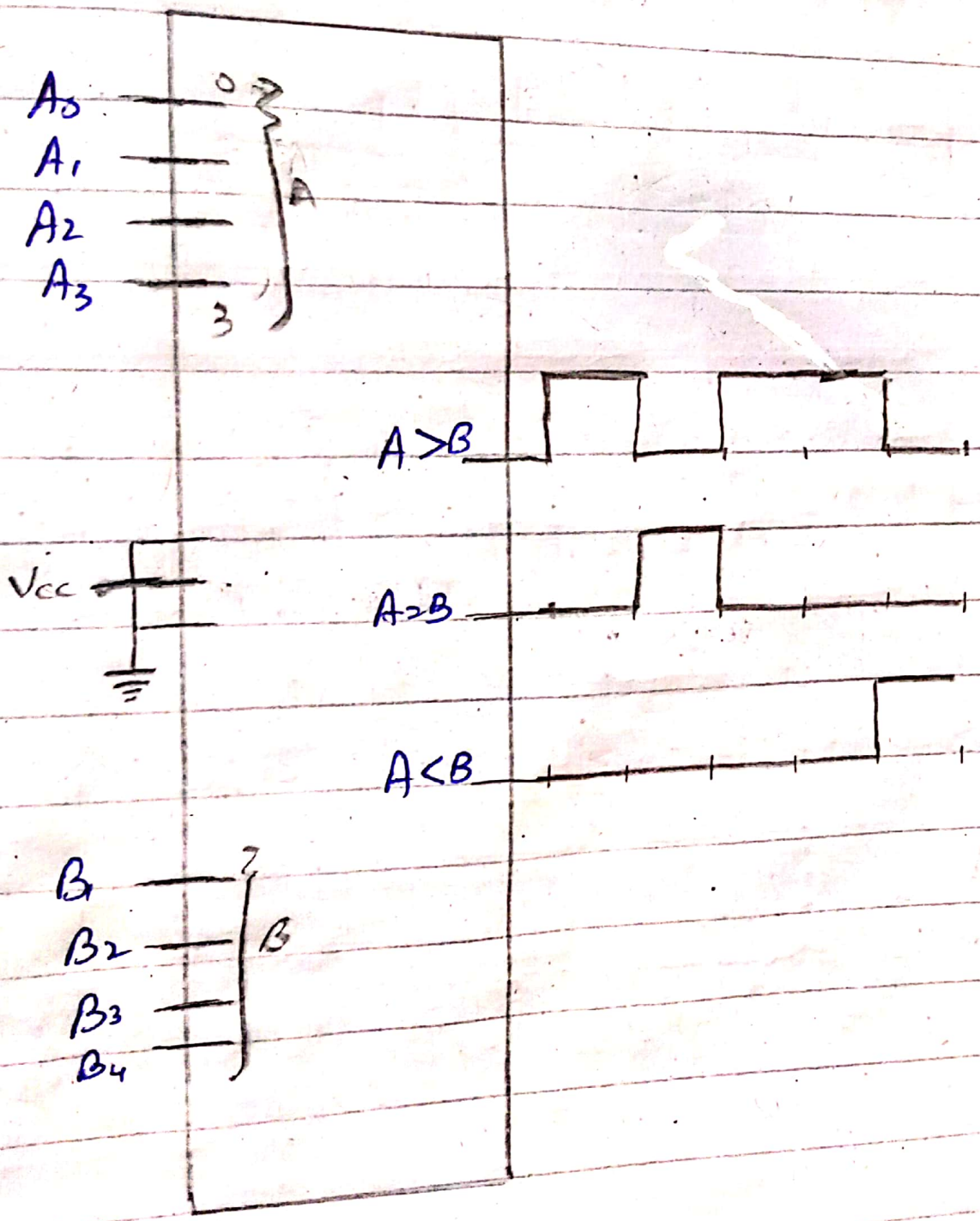
QUESTION 6:-



QUESTION H



QUESTION I



QUESTION 5

i) $X = (A+B)' \cdot (C \cdot D)$

$A = 0 ; B = 0 ; C = 1 ; D = 1$

ii) Boolean expression such that the "low" state of the circuit activates the alarm.

$X = ((A' \cdot B') \cdot (C \cdot D))'$

Input condition which activate the alarm.

$A = 0$ $B = 0$ $C = 1$ $D = 1$