a||

THE AMAATRA ACADEMY

$\Rightarrow ((A \text{ or } B) \text{ or } C) \,\&\, D$

$1 = \text{and}(A', B, D') \text{ or } (D \text{ and and}(AB'C'))$ — And $= 1$

$((A \text{ or } B) \text{ or } C) \,\&\, D = 1$

$\boxed{D = 1}$ //

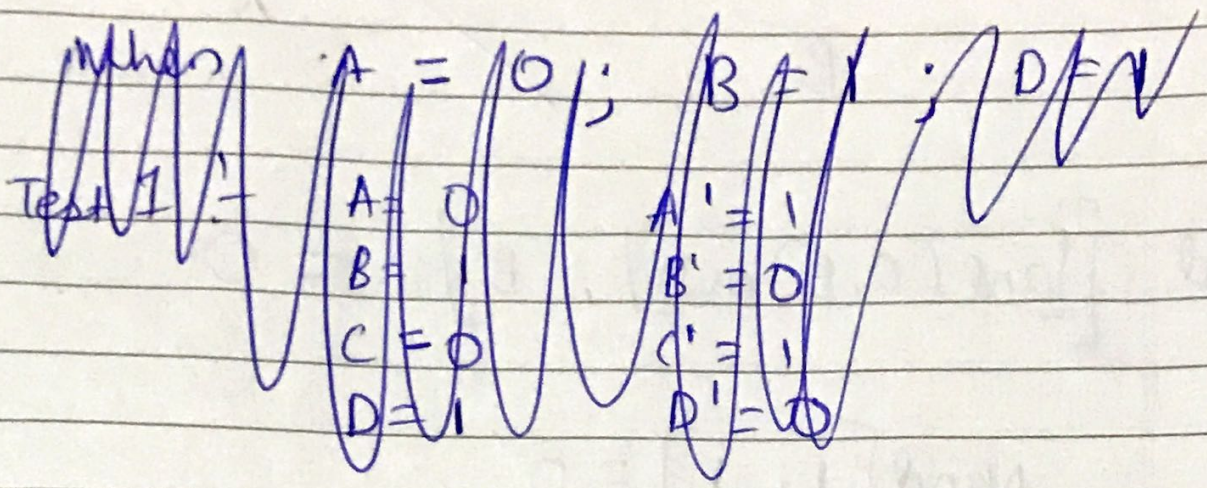
$(A \text{ or } B) \text{ or } C = 1$

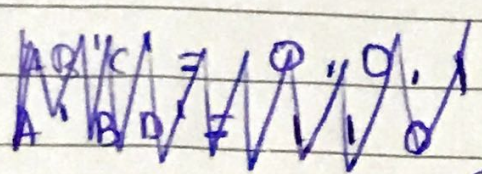
$\text{and}(A'BD') \Rightarrow 0, 1$

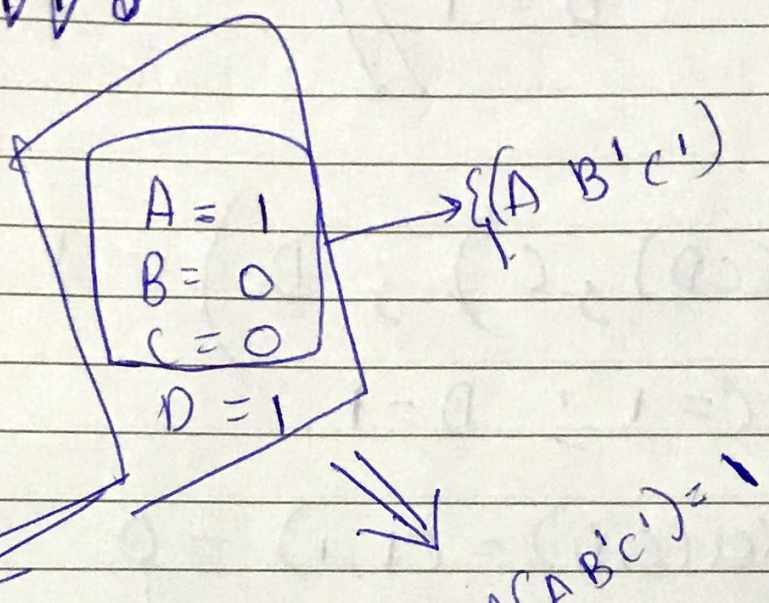
$D \text{ and and}(AB'C') \Rightarrow 0, 1$

0	1
1	0
1	1

⇒ and(A'BD') = 1 → not possible







a = A B C D 1 1 1 0
= 1 0 0 1 1 1 1 0
= 158 //

b//

$\Rightarrow$ (and (A, B) or B) → Nand → X

B

Nand [[and (0, B) or B], B] = 0

Nand [1, 1] = 0

B = 1 //

or (Xnor (Xor (C, D), C), D) = Y

C = 1 ; D = 1

Xor (C, D) = (1, 1) = 0

↓

xnor (0, 0) = (0, 1) = 0

or (0, 1) = 1

Y = 1 //

or [and (0, 1), 0] = 2

2 = 0 //

b = 11001110

= 206