

Name = Farhan Akhtar

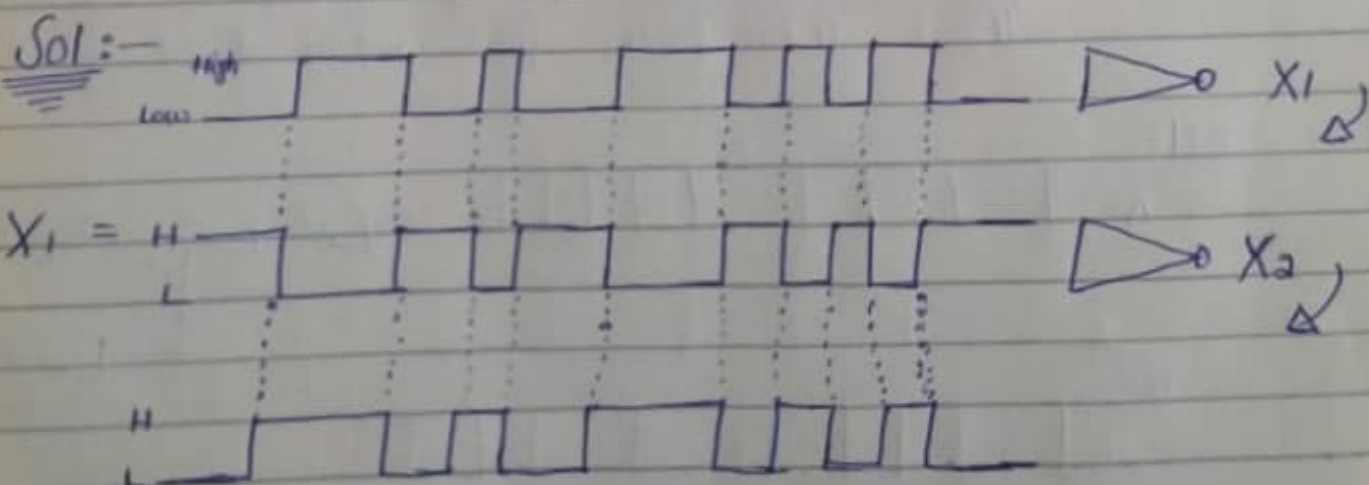
ID = 15554

Program = BS(S.E)

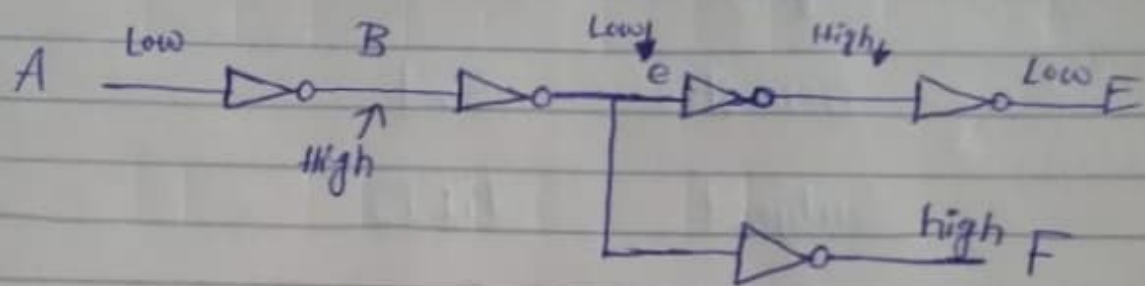
Semester = 3rd

Subject = DLD

Q1 = The Input waveform in figure is applied to a system of two Inverters connected in series. Draw the output waveform across each Inverter in proper relation to the Input.



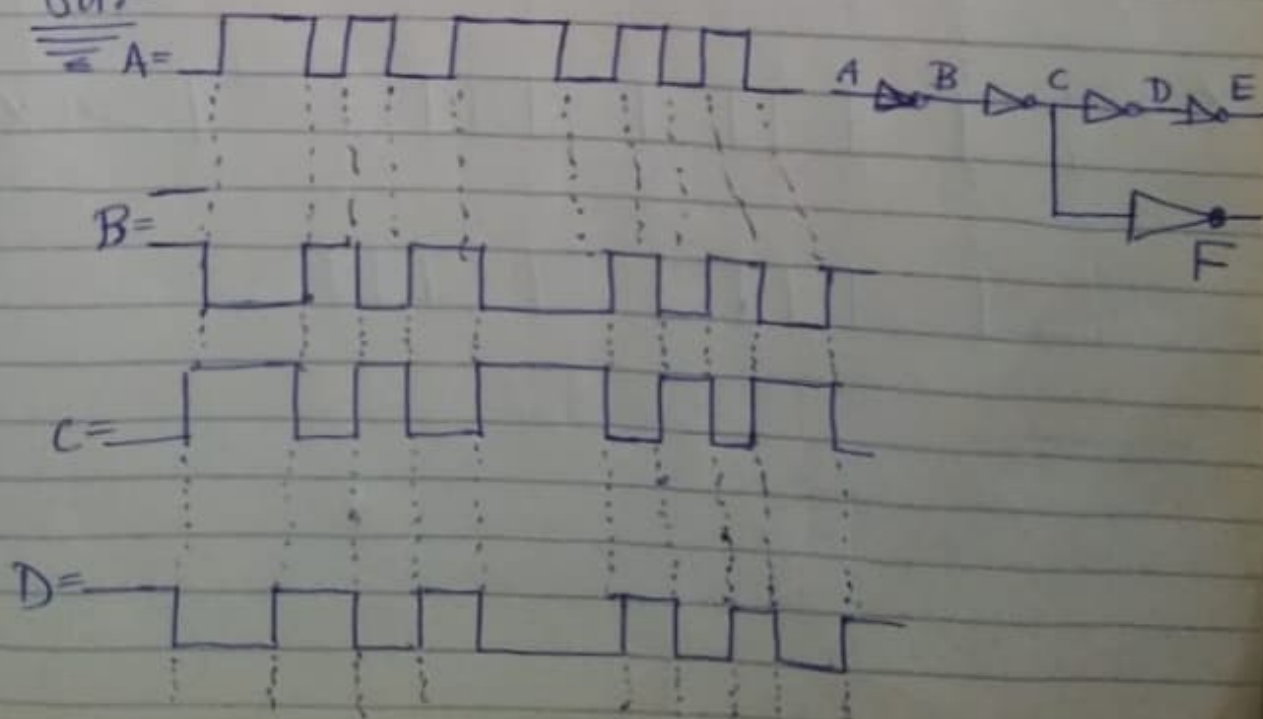
Q2 :- A combination of Inverters is shown in figure. If a low is applied to the point A, determine the output at point E and F.



E = Low
F = High

Q3 :- If waveform in Q1 is applied to figure in Q2 at point A. Determine the waveform from Point B to F.

Sol :-

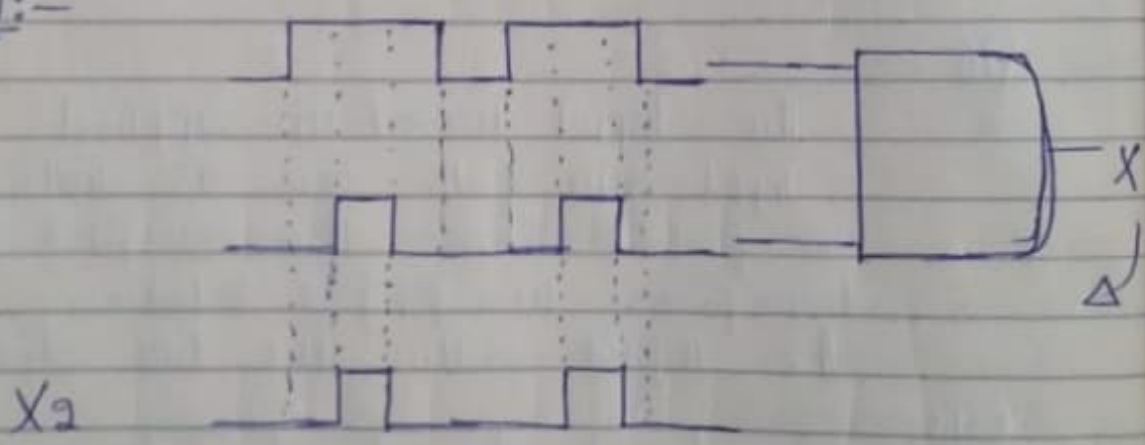




Q4 :-

Determine the output x for a 2 input AND gate with the input waveform in figure.

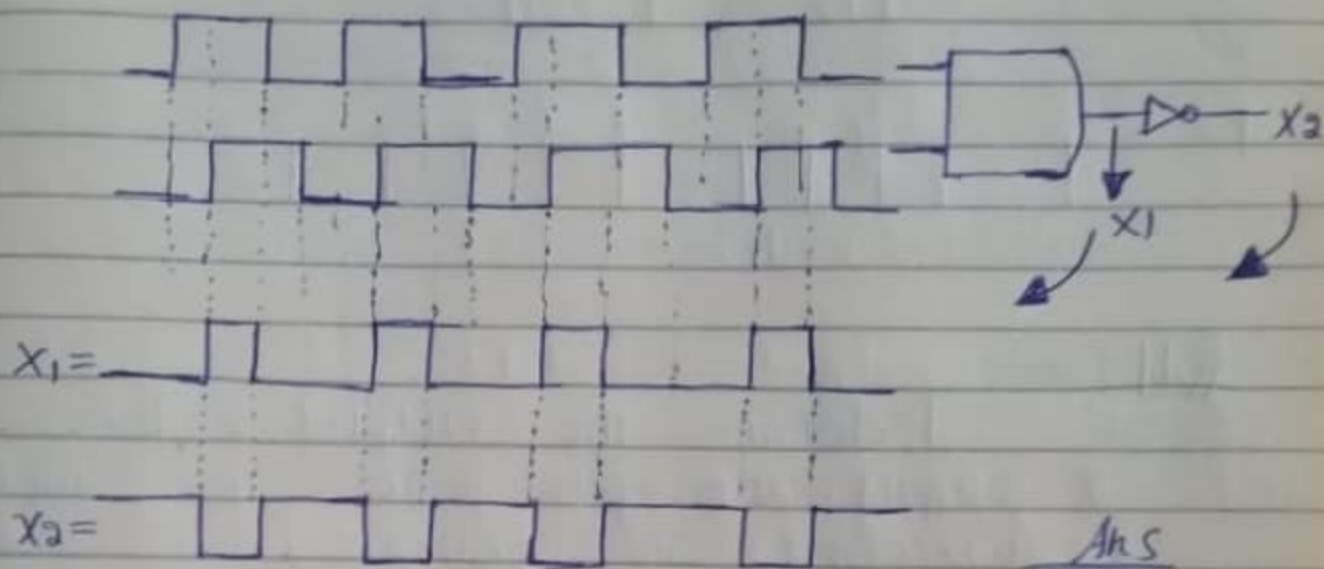
Sol :-



Q5 :-

The waveform in figure are applied to point A and B of a 2 input AND gate followed by an Inverter. Draw the output waveform.

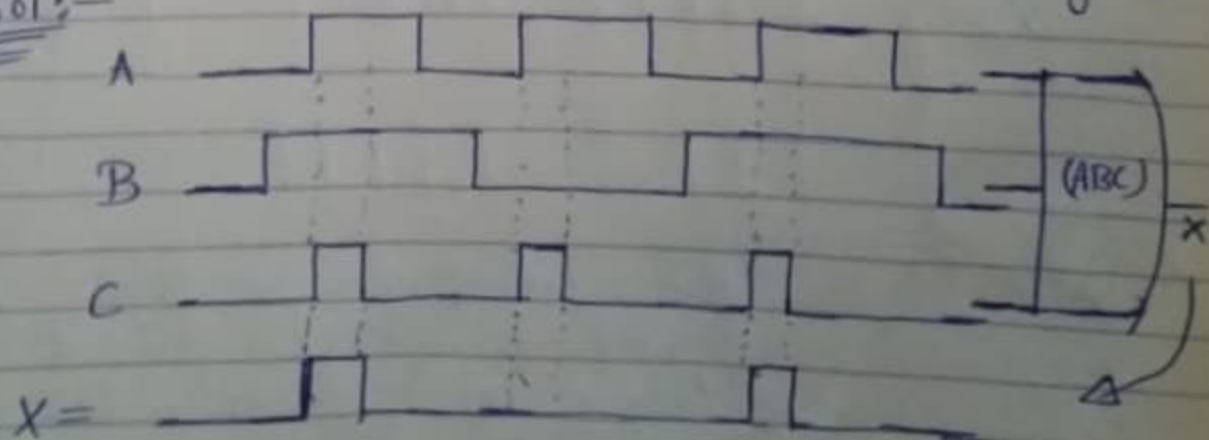
Sol:-



Q6 :-

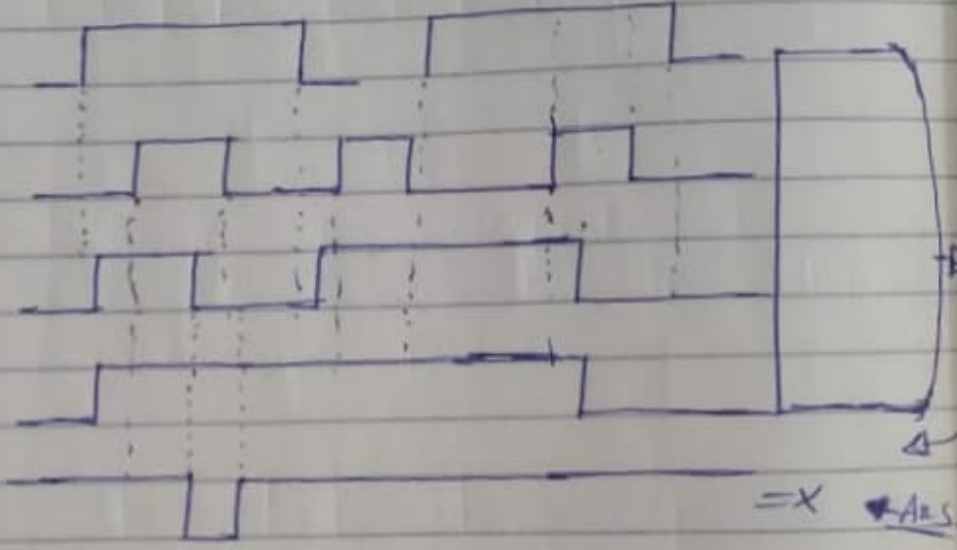
The input waveform applied to 3-input AND gate are as indicated in figure show the output waveform in proper relation to the inputs with the time diagram.

Sol:-

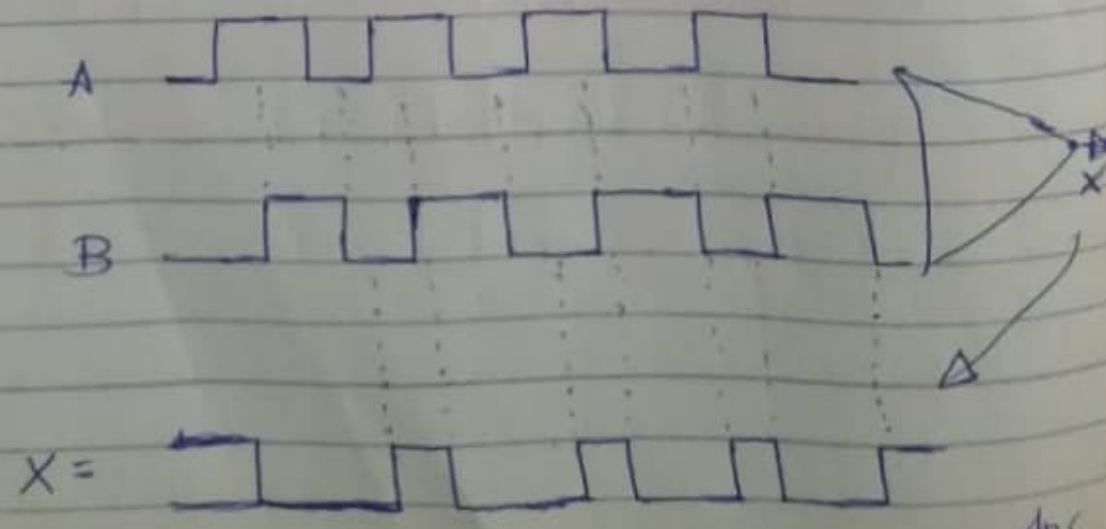


Q7 :- The input waveform applied to a 4-input AND gate as indicated in figure the output is fed to an inverter. Draw the net output.

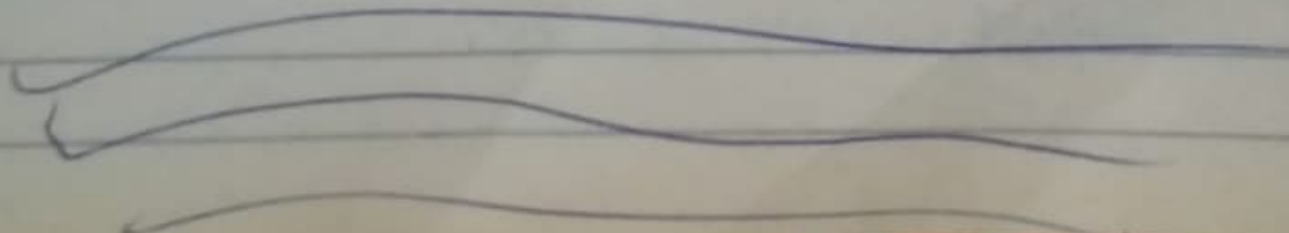
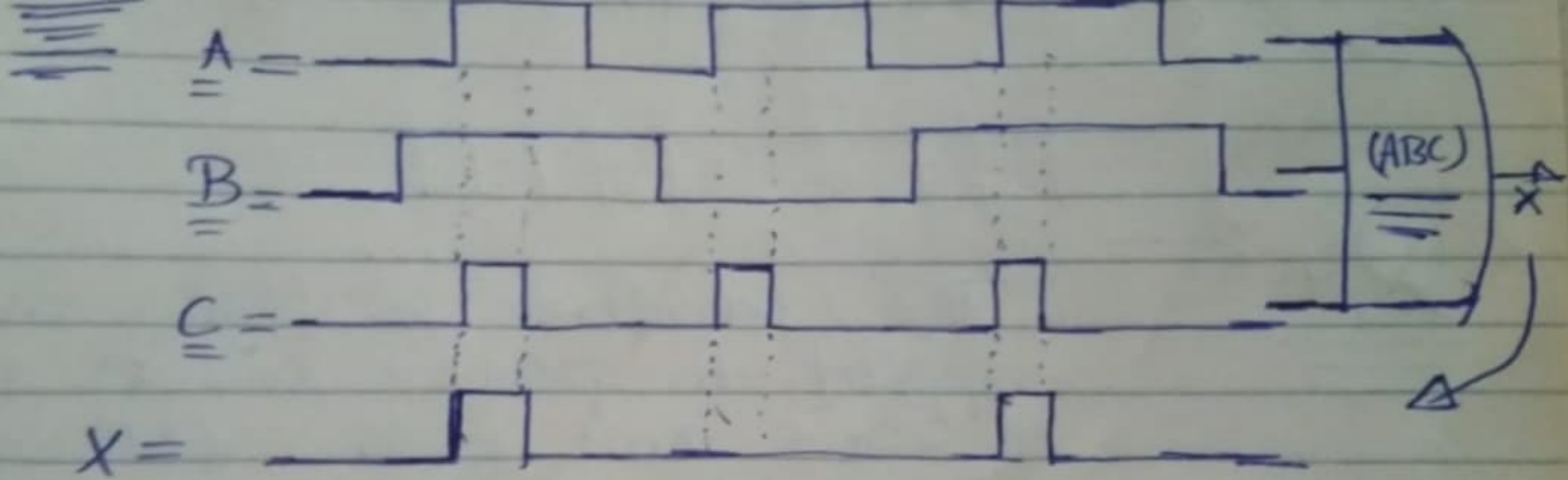
Sol:-



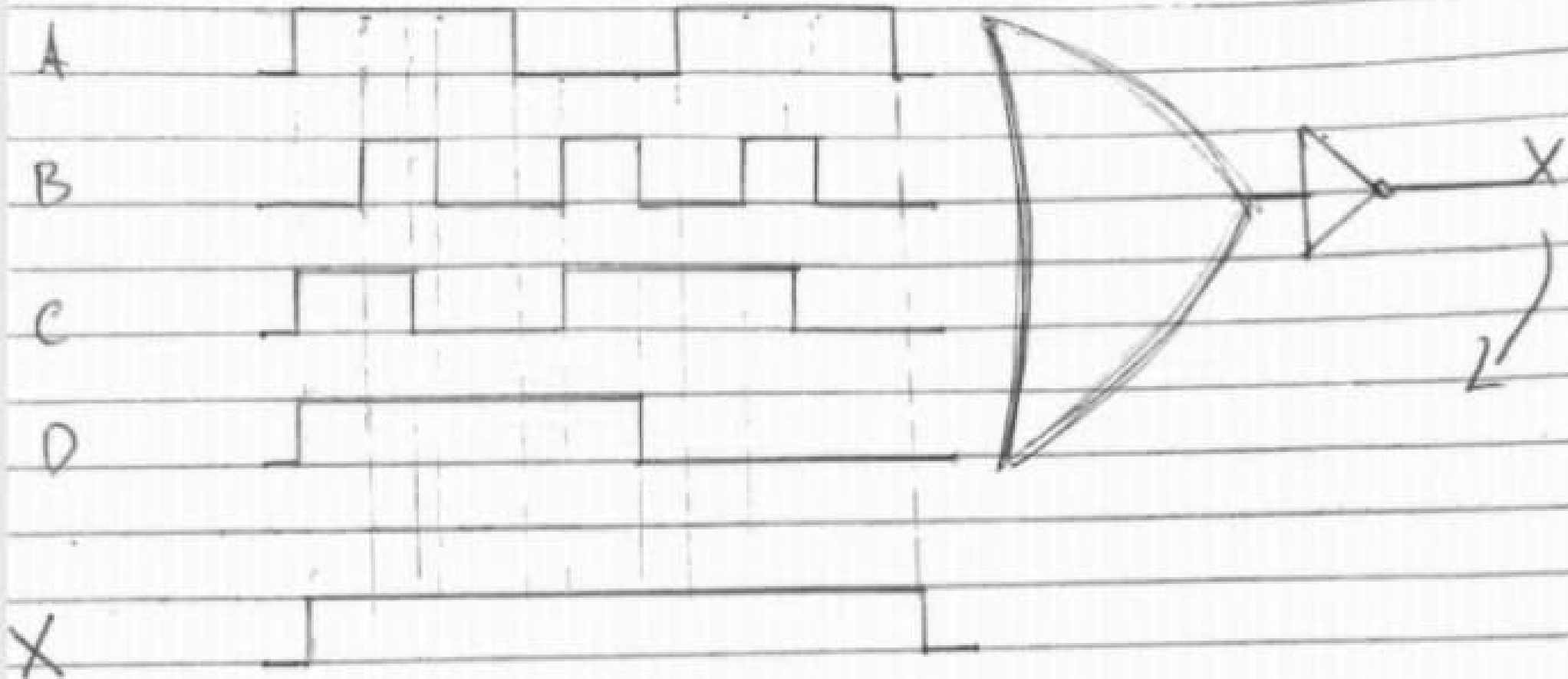
Q8 :- Determine the output for a two input OR gate when input waveform are as in figure Q5 and draw a time diagram.



Ans



Q10: Repeat Q7 for 4 input OR gate.



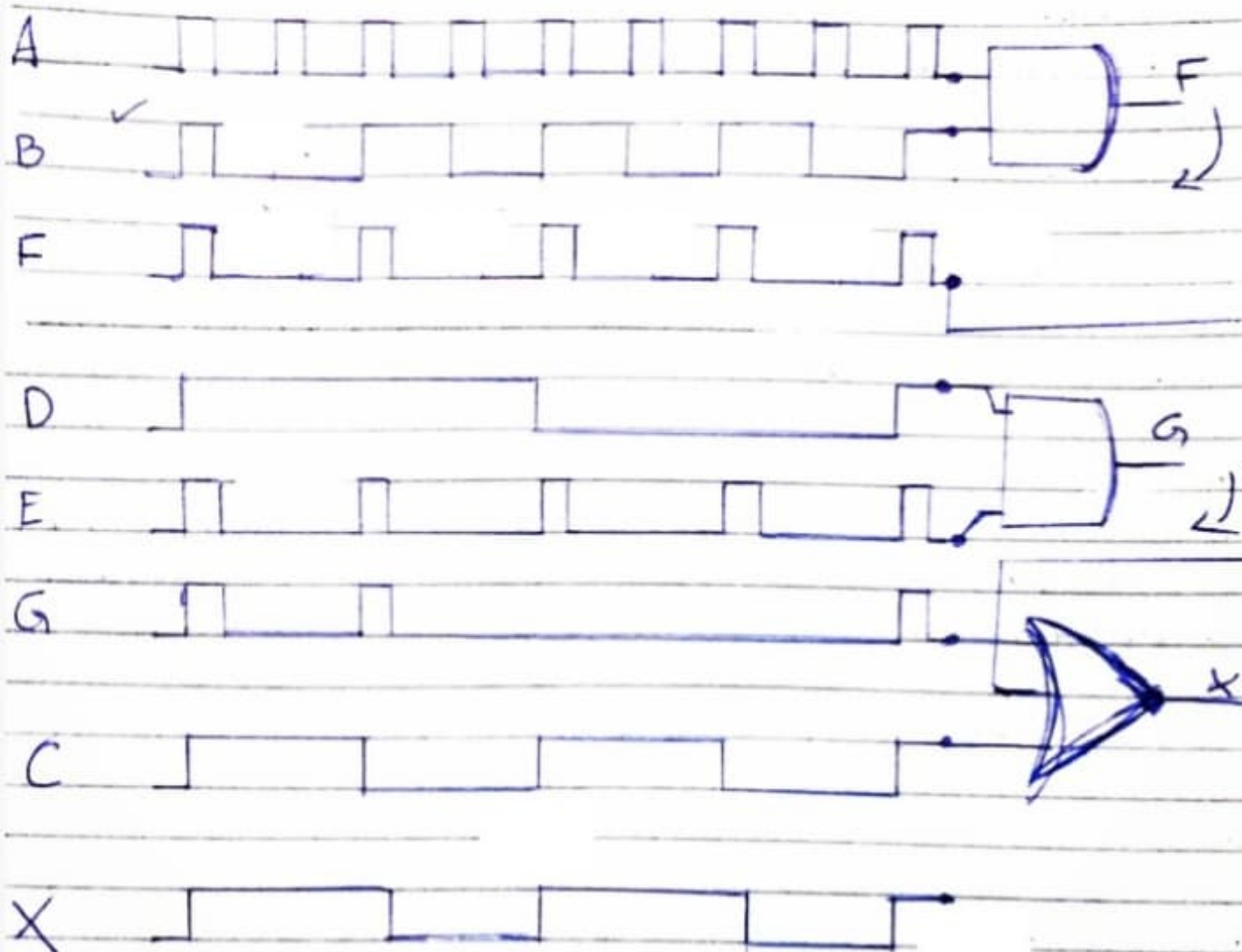
Q11: For the waveforms given in figure, A and B are ANDed with output F, D and E are ANDed with output G, C, F, and G are ORed, Draw the net output waveform.

Sol

$$(A \cdot B) = F$$

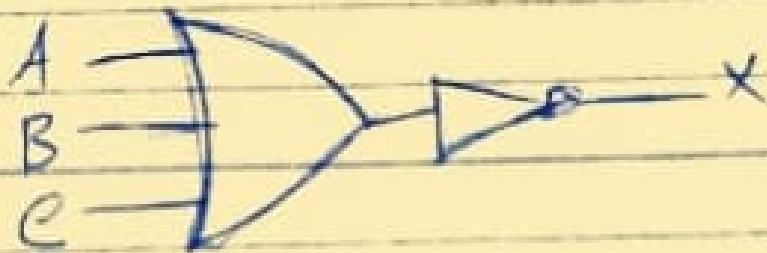
$$(D \cdot E) = G$$

$$(C + F + G) = X$$

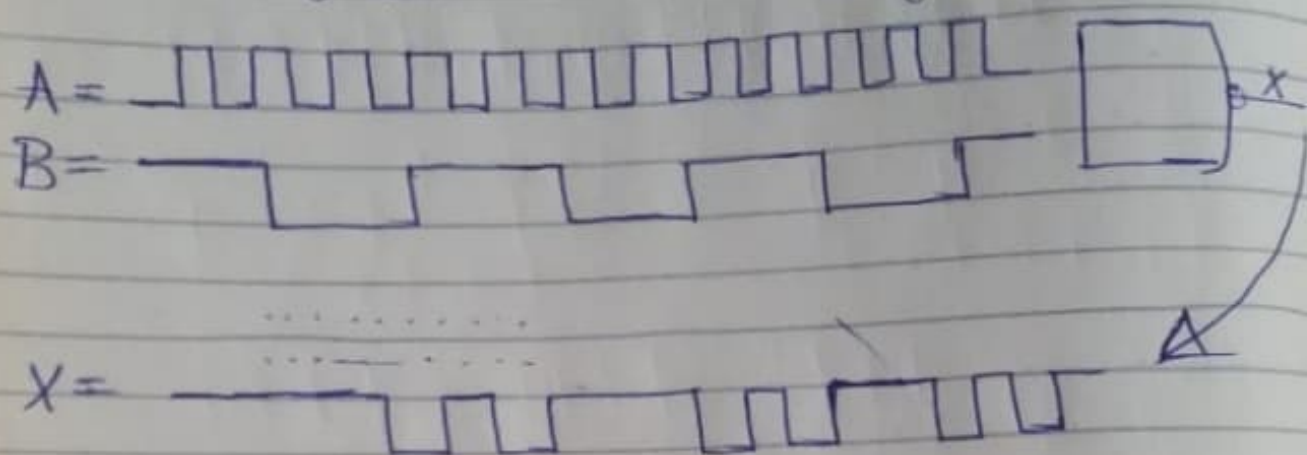


Q12: Show the truth table for a system of a 3 input or gate followed by an inverter.

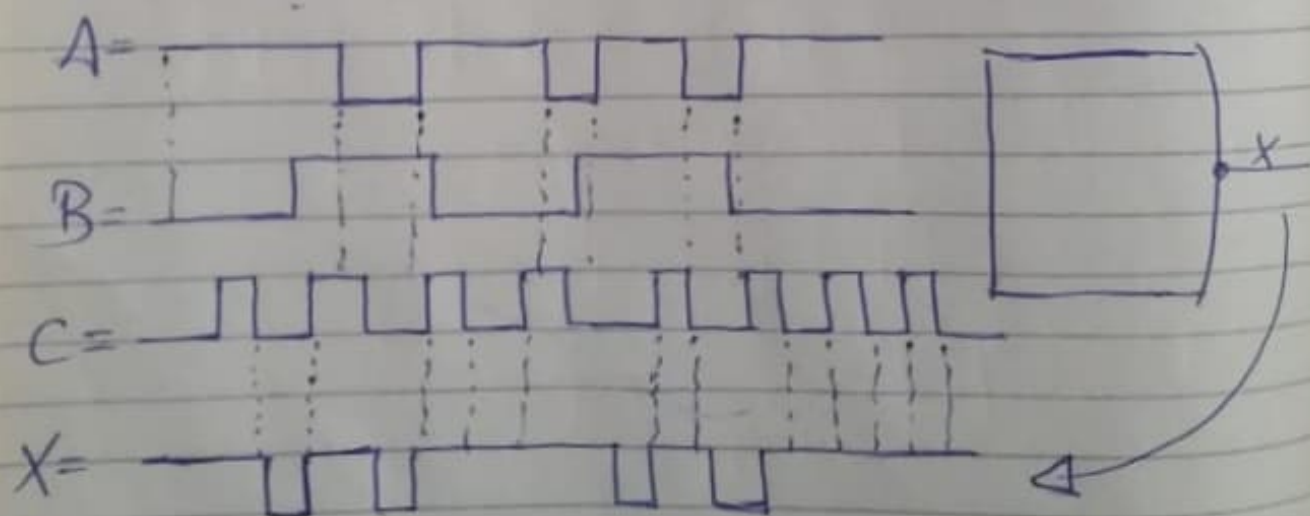
A	B	C	$(A+B+C)$	$\neg(A+B+C)$
0	0	0	0	1
0	0	1	1	0
0	1	0	1	0
0	1	1	1	0
1	0	0	1	0
1	0	1	1	0
1	1	0	1	0
1	1	1	1	0



Q13 :- For the set of input waveform, Determine the output for the gate shown in the timing diagram.

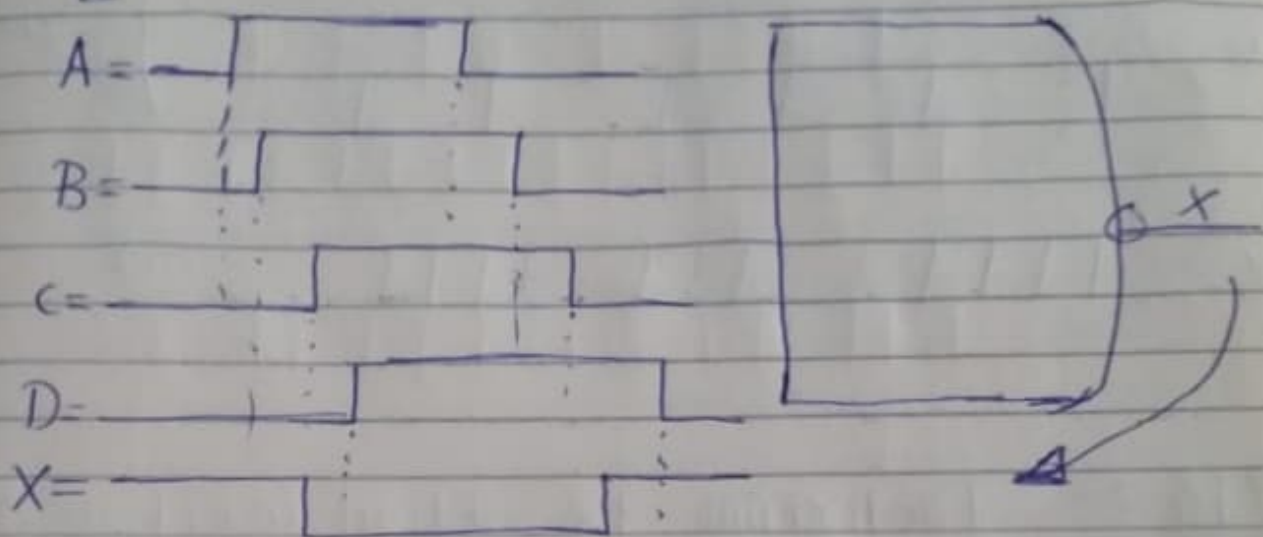


Q14 :- Determine the gate output for the input waveforms in figure and draw the timing diagram.

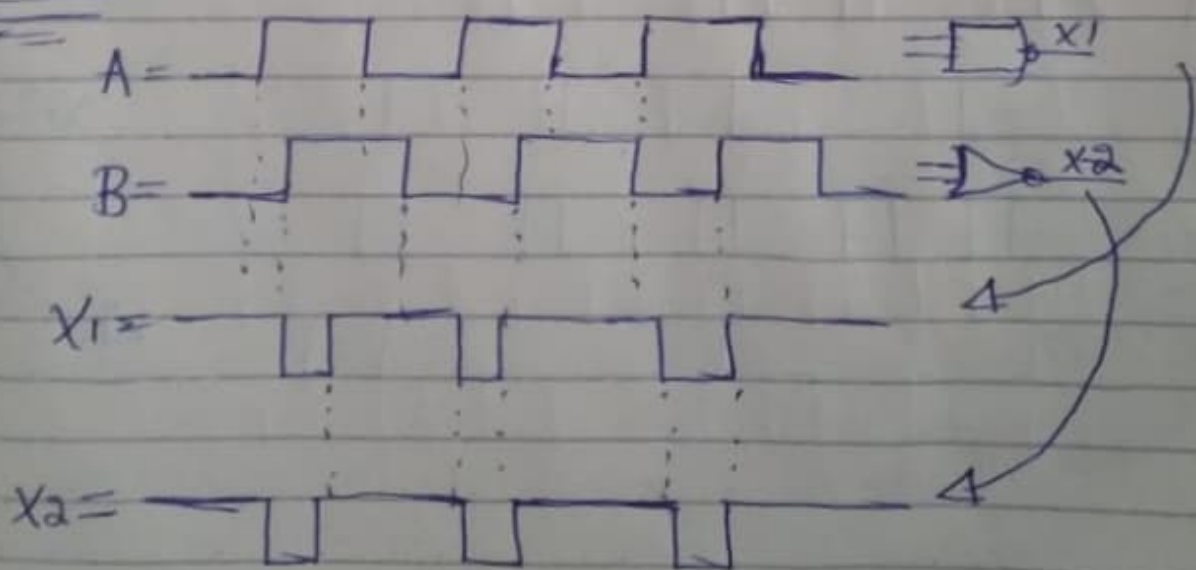


Q15 :- Determine the output waveform in figure :-

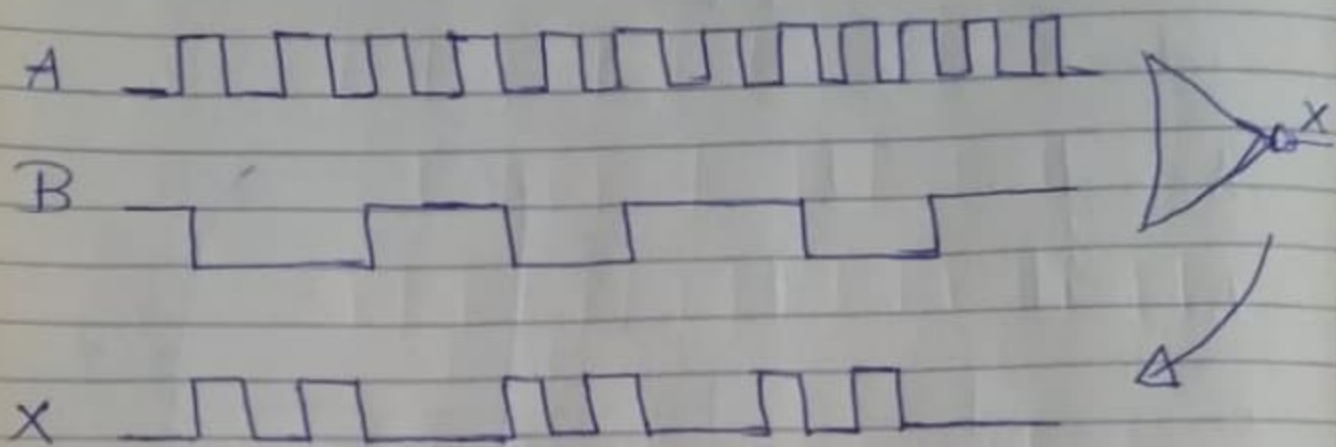
Sol:-



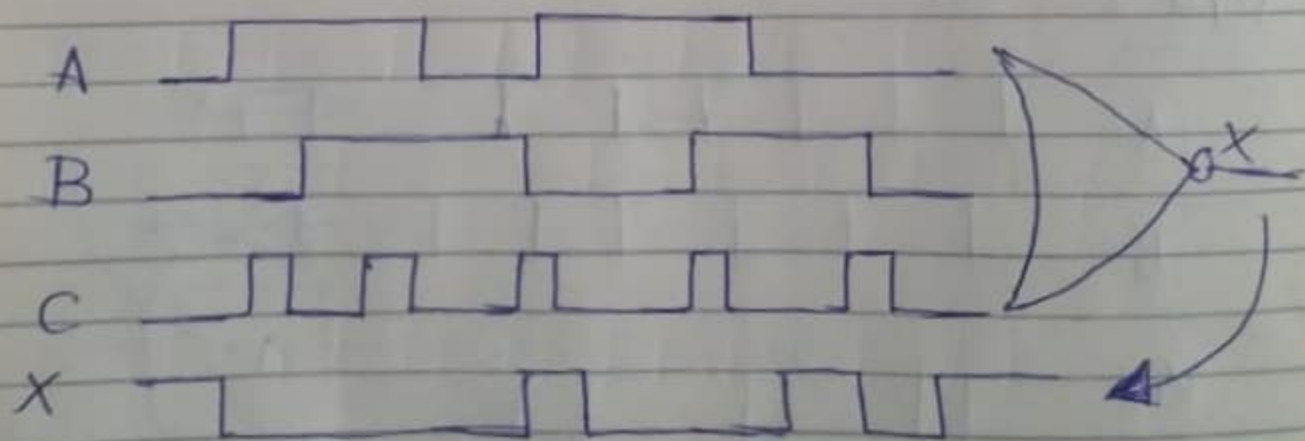
Q16 :- Sol:-



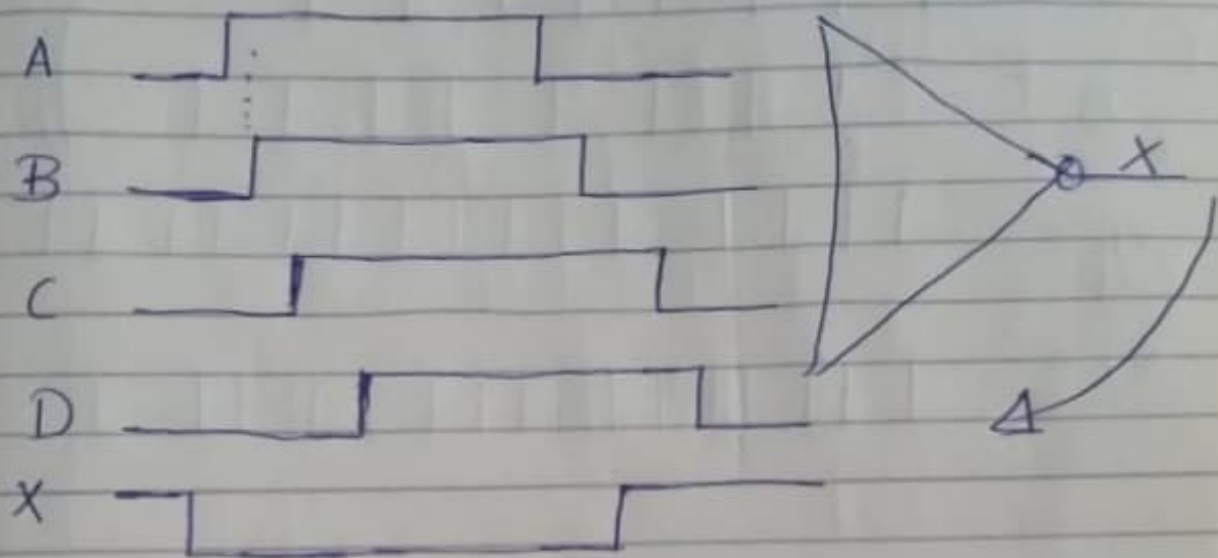
Q17 :- Repeat Q13 for 2 input NOR gate.



Q18 :- Determine the output waveform in figure and draw the timing diagram.

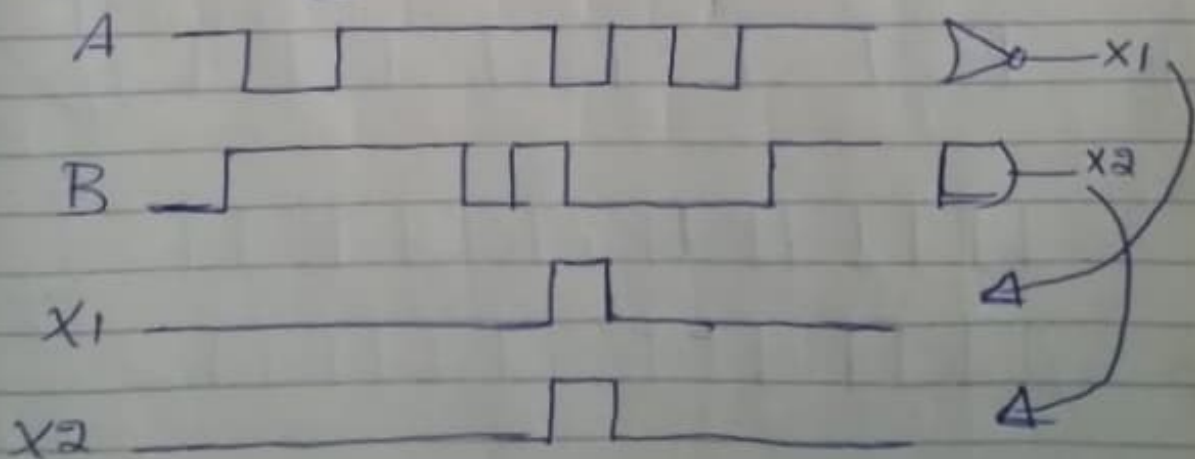


Q19 :- Repeat Q15 for four input NOR gate.

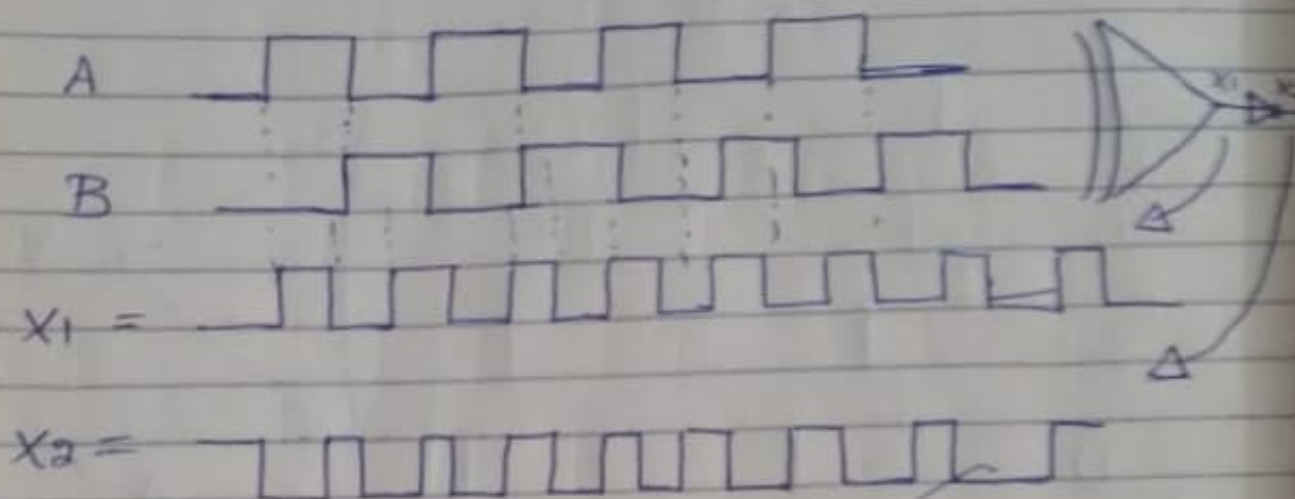


Q20 :-

Sol :-



Q21 :- Repeat Q5 for Exclusive-OR gate.



Q22 :- Repeat Q5 for exclusive NOR gate.

