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Date: 02-09-2021

Exp no: 2 Title: Realization of logic circuits

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Aim:

To realize the logic circuits and verify the output for the following Boolean expressions

(i) $Y = (A+B)'C$ (from Q. 2)

(ii) $X = (A+B)(C+D)$

(using logic device, Atmel studio)

Required tools:

Multisim online circuit simulator

Results:

Comparison of theoretical results with simulation results for $Y = (A+B)'C$

A	B	C	$A+B$	$(A+B)'$	$(A+B)'C$	Simulation result
0	0	0	0	1	0	0
0	0	1	0	1	1	1
0	1	0	1	0	0	0
0	1	1	1	0	0	0
1	0	0	1	0	0	0
1	0	1	1	0	0	0
1	1	0	1	0	0	0
1	1	1	1	0	0	0

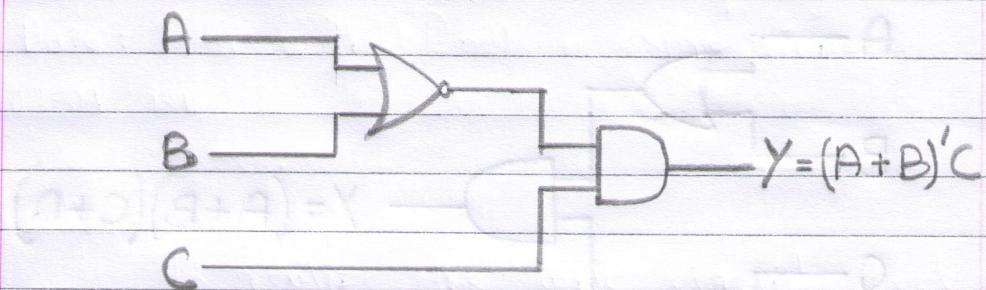
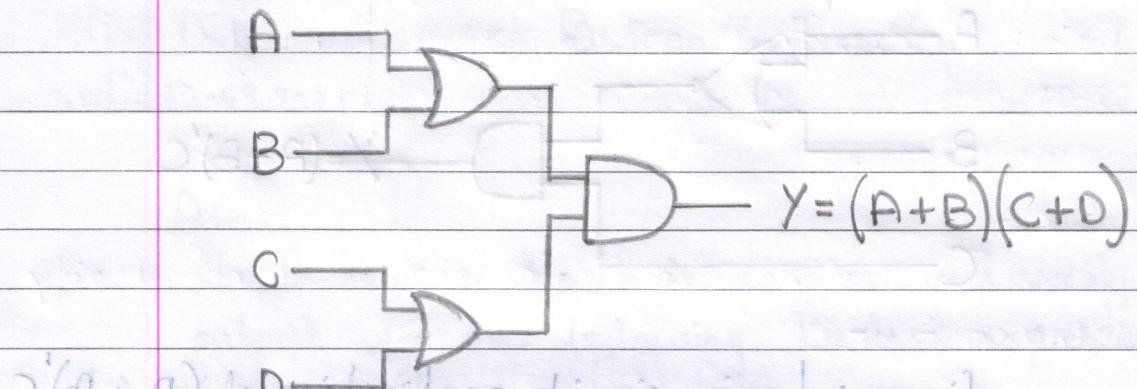


Figure: Logic circuit realization of $(A + B)'C$
 $(A+B)(A+B) \rightarrow$ inverter input signal

Comparison of theoretical results with simulation result for $Y = (A+B)/(C+D)$



$C'(D+A)$ (for inverter driver signal) : orignal

Figure: Logic circuit realization of $(A+B)(C+D)$

without inverter driver driver strength to maximum

Inference: $(A+B)(B+A) = Y$ ref. inverter

The truth tables of two Boolean
expressions are verified through multism
online simulator successfully.

Student Signature:

S.P.Ashwath

(Name: Ashwath Suresh Babu Piriya)