

Ahsanullah University of Science and Technology

Department of Computer Science and Engineering

Course Code: CSE3110 Course Name: Digital System Design Lab

Semester: Spring 2020

Group VII

Design the following 4-bit ALU (Arithmetic Logic Unit):

S2	S1	S0	Output	Function
1	0	0	$A_i - 1$	Decrement A
0	0	1	$A_i + B_i + 1$	Add with Carry
1	0	1	$A_i + 1$	Increment A
0	0	0	$A_i - B_i - 1$	Subtract with Borrow
0	1	X	$A_i \cdot B_i$	AND
1	1	X	$A_i \mid B_i$	OR