Project 2: ALU and Its Component Design

Student name: _____

Registration Number:_____

Grading method: The weight assigned to each of the following chip is based on the level of difficulty it involves in implementation and simulation. Each chip has to be designed and tested through sufficient simulation. Sufficient simulation here means that you should chose the simulation input in such a way that almost all the possible scenarios are tested to be correct.

The full score can be obtained only when the chip passes all the test inputs for small designs and at least 100 possible data inputs for all control inputs for 16, 32, bit Adder, Multiplier and ALU. The Optimized score can be obtained based on the parameters such as: the design should have used minimum possible number of gates, the code have been written using modular design approach by reusing the existing modules wherever needed, and appropriate naming of the chip, input, output pins etc.

Chip	*Working?*			*Optimized?*			*Comments*
Half Adder		/	4		/	2	
Full Adder		/	6		/	2	
16 bit Adder		/	8		/	4	
32 bit Adder		/	4			2	
16 bit Adder/Sub		/	6			2	
16 bit Multiplier		/	8		/	2	
16 bit ALU		/	40		/	10	
16 bit Incrementer			8			2	*Bonus Design*
Total		/	76		/	24	

Signature of the Evaluator

Total score:_____/ 100