Experiment Title:- Design of n-bit simple AIU design using MUX
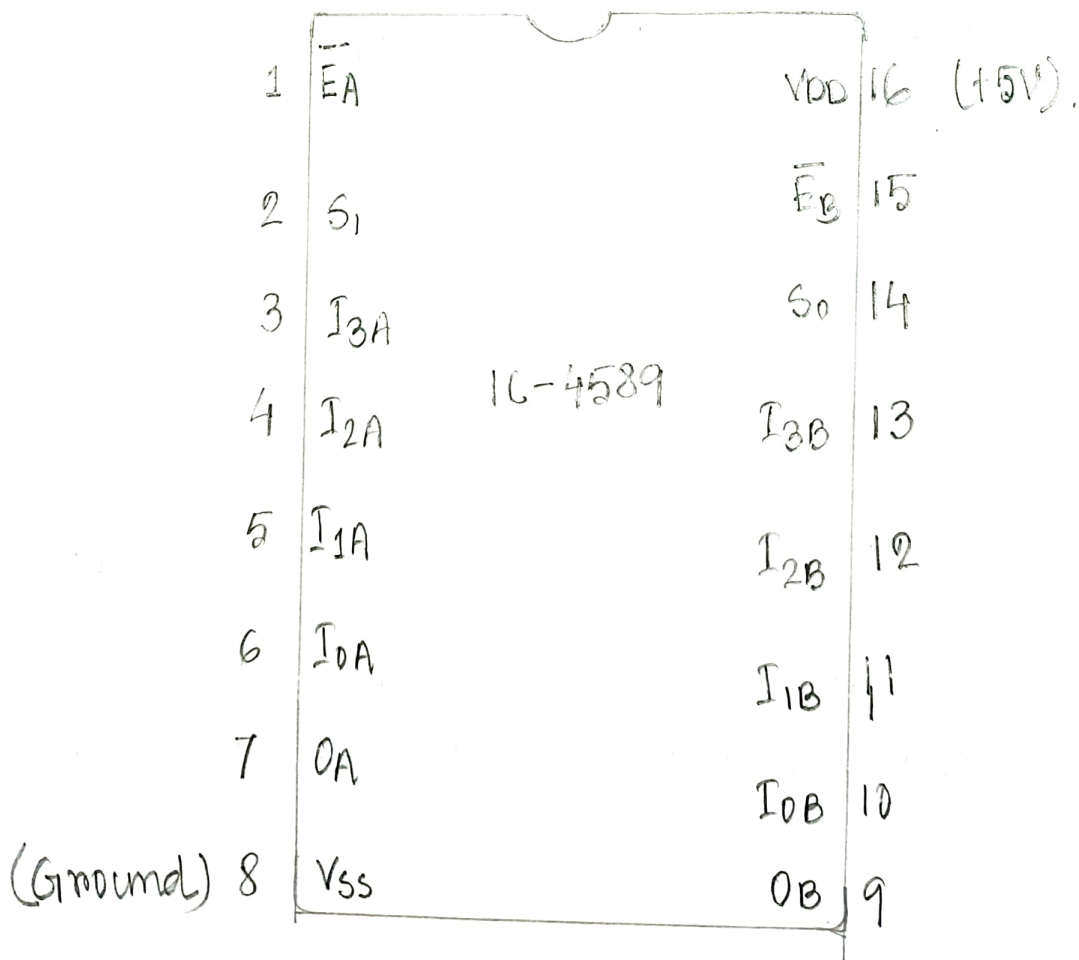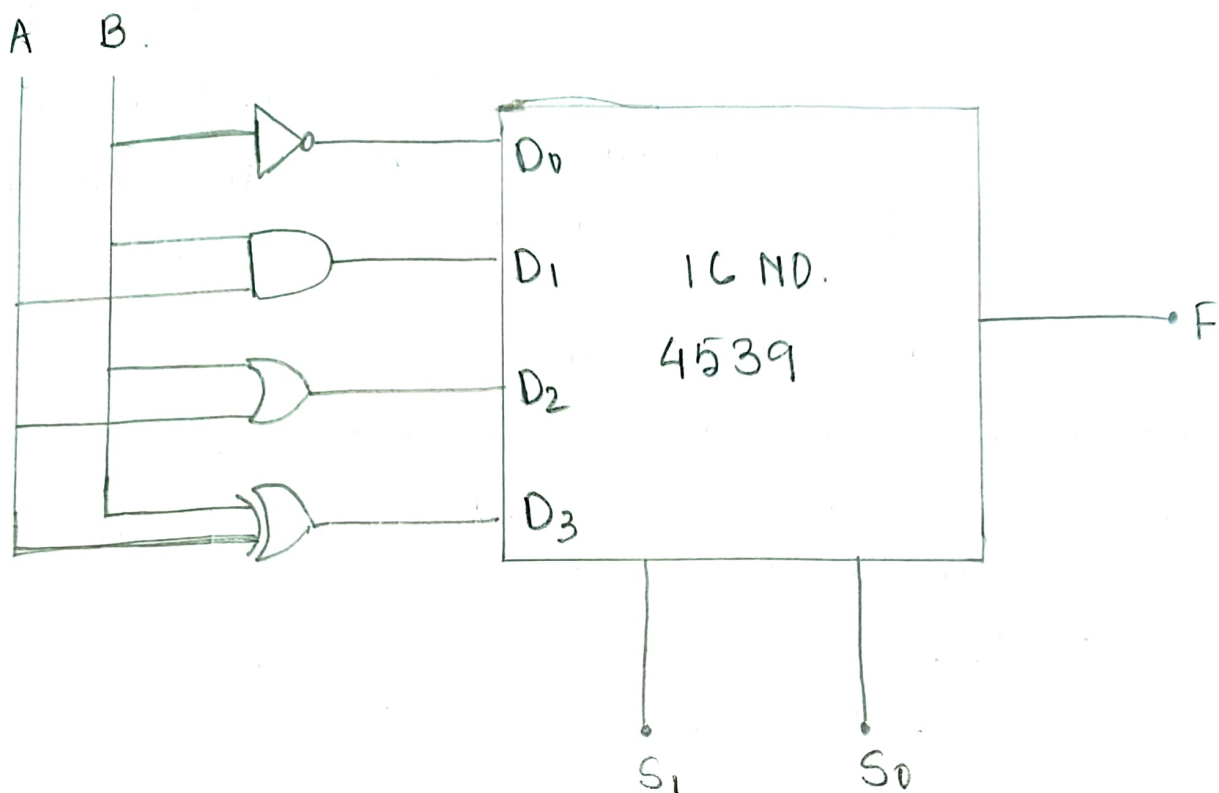
Apparatus Required:- IC trainer Kit, Connecting wires, IC-4539 AND gates, (IC-4081), NOT Gate (IC-4069), OR gate (IC NO-4071) and XOR Gate (IC-4070).

Theory:- logical microoperations are very useful for manipulating individual bits or a portion of a word stored in a regists. They can be used to change the bit values, delete group of bits or insert new bit values into a register. These microoperation require different logic gates to be inserted for each bit or pair of bits in the registers to perform the required operation.

Pin Diagram:-

Pin	Left		Right	Pin
1	$\overline{E_A}$		VDD (+5V)	16
2	S_1		$\overline{E_B}$	15
3	I_{3A}		S_0	14
4	I_{2A}	IC-4589	I_{3B}	13
5	I_{1A}		I_{2B}	12
6	I_{0A}		I_{1B}	11
7	O_A		I_{0B}	10
8	V_{SS} (Ground)		O_B	9

circuit Diagram :-

Truth Table :-

Select lines		Input		Output	Operational
S_1	S_0	A_i	B_i	F_i	
0	0	0	0	1	NOT
0	1	0	1	0	AND
1	0	1	0	1	OR
1	1	1	1	0	EXOR

Conclusion :- Implementation of m-bit simple AlU is designed and its truth table is verified..