HALF ADDER

OBJECTIVE:

- To observe the working of half adder

THEORY:

Half adder: *A half adder is a logical circuit that performs an addition operation on two binary digits. The half adder produces a sum and a carry value which are both binary digits. The drawback of this circuit is that in case of a multi bit addition, it cannot cater to carry.*

EQUATION FOR HALF ADDER:

$$S = A \oplus B$$
$$C = A \cdot B$$

EQUIPMENT / REQUIREMENT:

- IC 7486
- 7408 IC.
- 7432 IC.
- Breadboard
- LED
- 0-5 VOLT DC Power Supply.

PROCEDURE:

Construct the combinational circuit as diagram given *figure 6.1* after constructing both of these circuits, observe the output and complete the truth table.

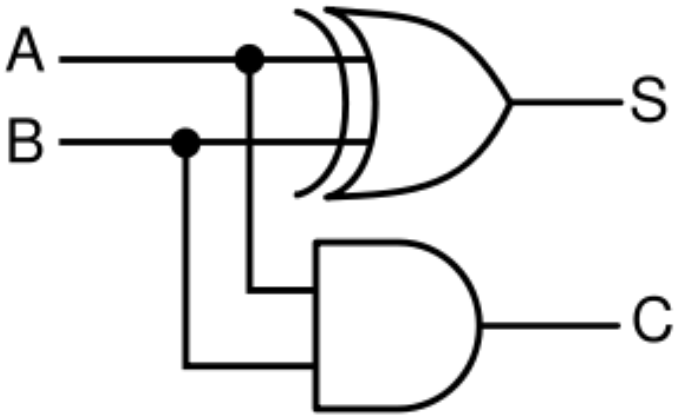

Figure 7.1 half adder circuit

OBSERVATION TABLE:

A	B	C	S
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

Table 7.1

CONCLUSION:

A half adder is a type of adder, an electronic circuit that performs the addition of numbers. The half adder is able to add two single binary digits and provide the output plus a carry value. It has two inputs, called A and B, and two outputs S (sum) and C (carry)