EXPERIMENT-3

3.Design a combinational circuit with three I/P and O/P

a) the O/P is 1 when binary value of at I/P is less than 3,the O/P is zero otherwise

b)the O/P is 1 when binary value of the I/P is in an odd number

AIM: To design a combinational circuit with three I/P and O/P

APPARATUS: IC’S 7408 (AND) ,IC’S 7404(NOT),IC’S 7432(OR),wires,digital lab kit

THEORY: in this combinational circuit with three inputs to give and one output with A,B,C then to give output is 1 are binary 0 values then we will get input is an odd number

PROCEDURE:

* First right down the 8inputs (000 to 111) i.e from 0 to 7
* Label the O/P in front of these
* As from your questions the binary statis 000,001,010 should be labelled as O/P
* While from 011,100,101,110 and 111 it should be ‘0’
* So write these all as in truth table and drive the k-map for the three input variables
* Then we can design your combinational

EXPRESSION:

Y=AB+BC

Hence verify the expression is

PROCEDURE:

* First right down the SI/P (000 to 111) i.e from 0 to 7 and label the O/P front of there as from question
* The binary states 001,011,101,111 should be labelled as O/P ‘1’
* While from as 000,010,100,110, it should be ‘0’ so write all as in the truth table and device the K-MAP for the 3-input variables
* Then we can design combinational circuit

EXPRESSION:

Y=c

PRECAUTIONS:

1. All the connection should be according to the circuit diagram
2. All the connections should be right and fight
3. Reading should be taken carefully
4. Switch of power supply after completing the experiment

RESULT:

Hence,we can implement to design a combinational citcuit with 3 I/P and O/P and verify its truth table