WELCOME TO EC LAB

7400 NAND Gate

7404 NOT Gate

7408 AND Gate

7432 OR Gate
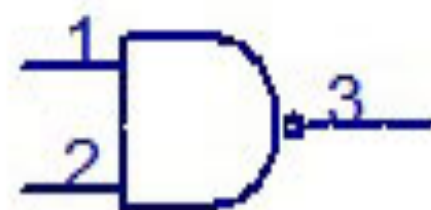
7486 XOR Gate

2 Input NAND Gate
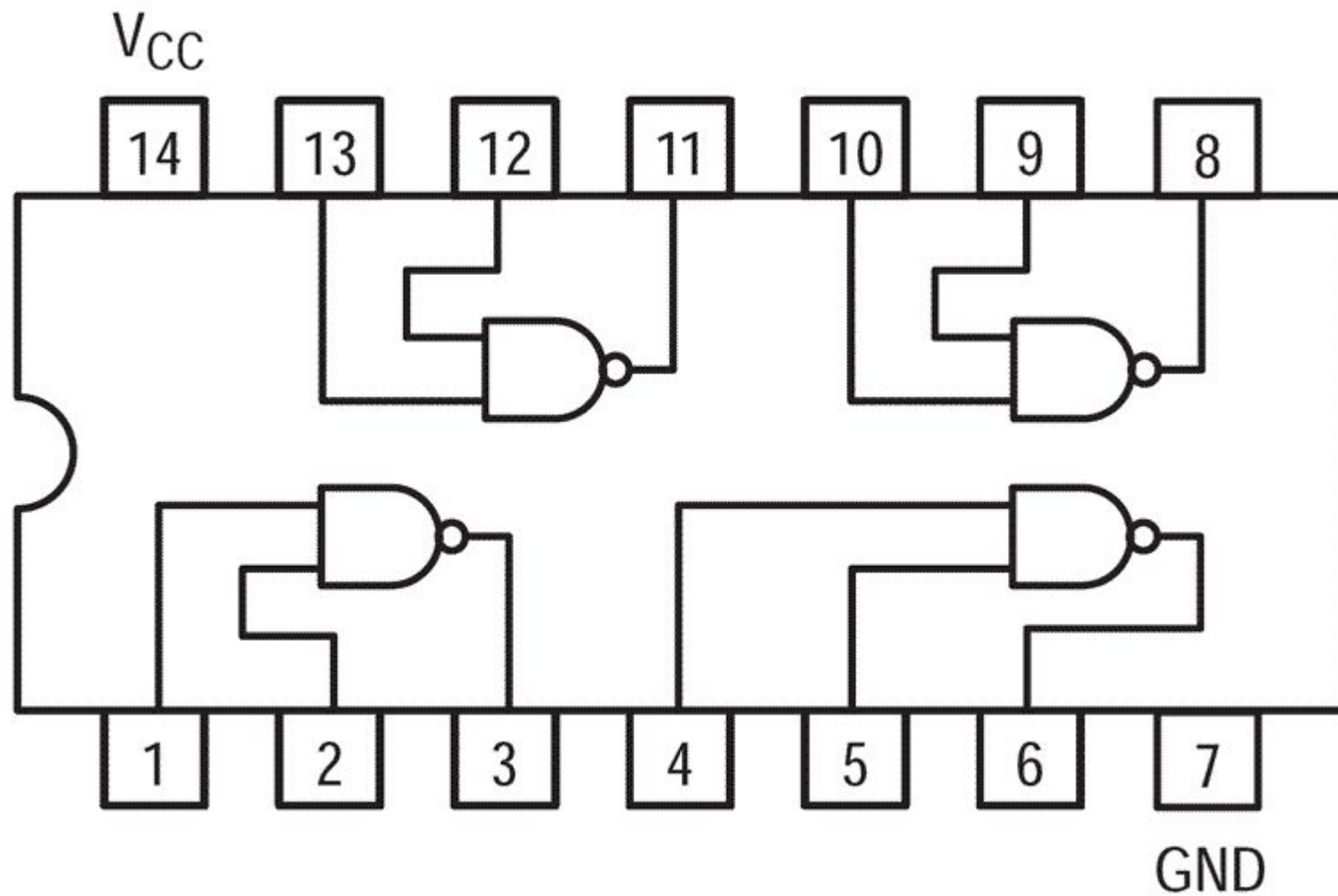
TRUTH TABLE

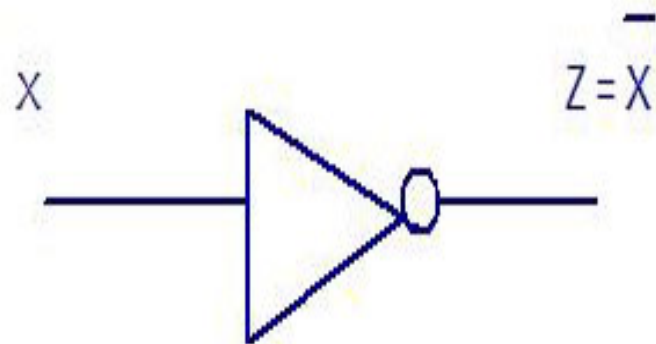| INPUTS		OUTPUT
X	Y	Z
0	0	1
0	1	1
1	0	1
1	1	0

NAND Gate

1

3

2

7400 (NAND GATE)

NOT Gate

X

$Z = \overline{X}$

TRUTH TABLE

INPUT	OUTPUT
X	Z
0	1
1	0

(7404) NOT GATE

2 Input AND Gate

Inputs

A
B

O output

O = A.B
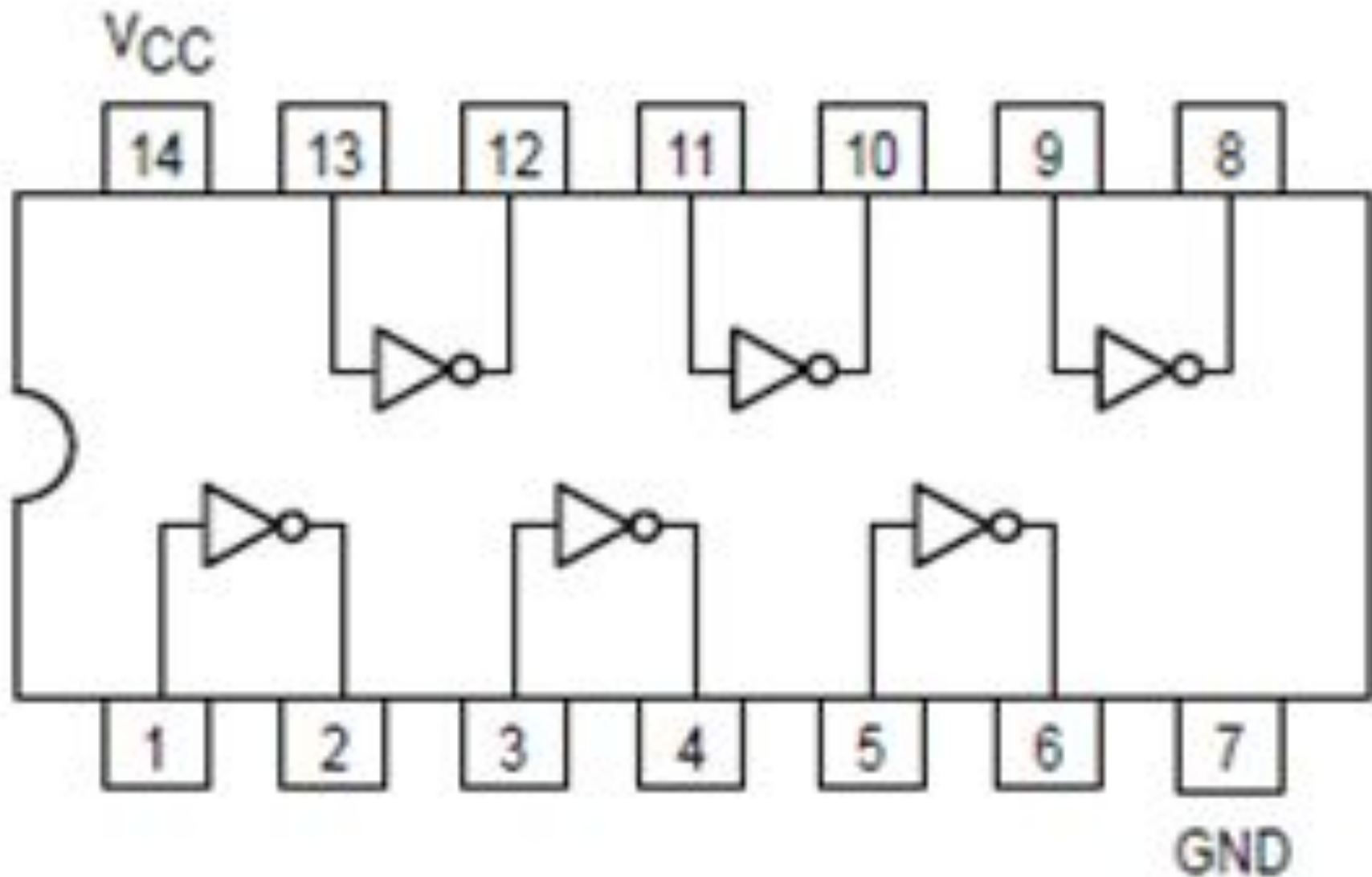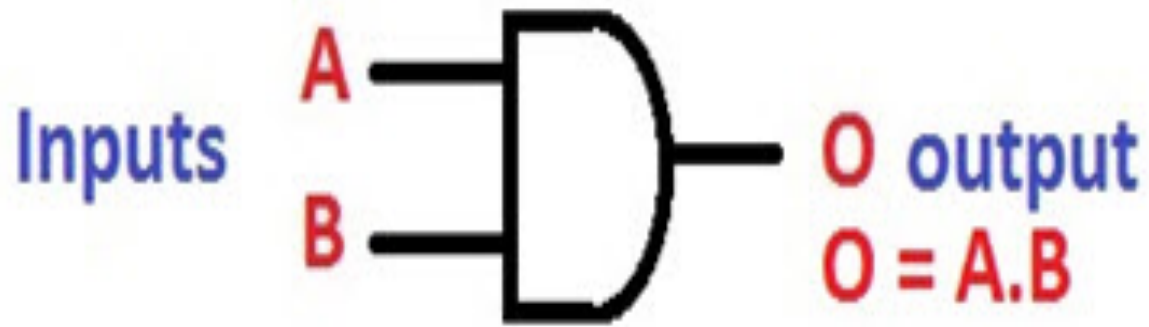
Symbol

Inputs		Output
A	B	O
0	0	0
0	1	0
1	0	0
1	1	1

Truth table

(7408) 2 INPUT AND GATE

2 Input OR Gate

OR Gate

X ——3————⊃ Z=X+Y

Y ——2————
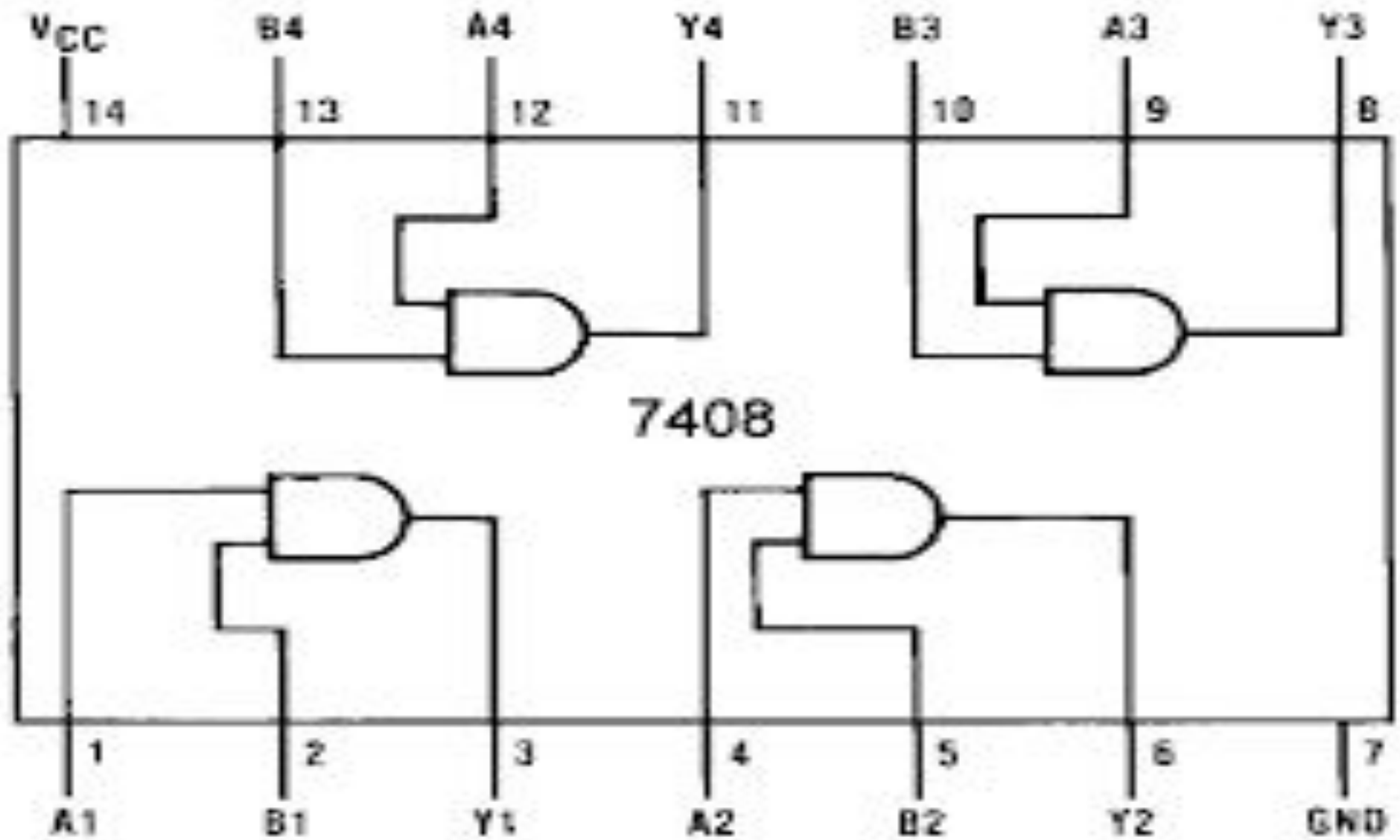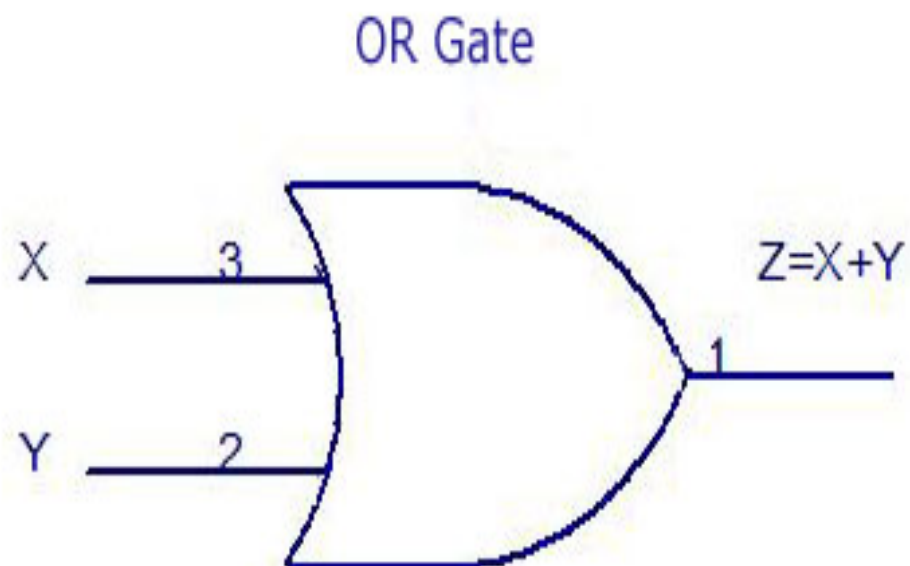
TRUTH TABLE

INPUTS		OUTPUT
X	Y	Z
0	0	0
0	1	1
1	0	1
1	1	1

(7432) 2 INPUT OR GATE

7432 Quad 2 Input OR

2 Input XOR Gate

$$F = A \oplus B$$

A	B	f
0	0	0
0	1	1
1	0	1
1	1	0
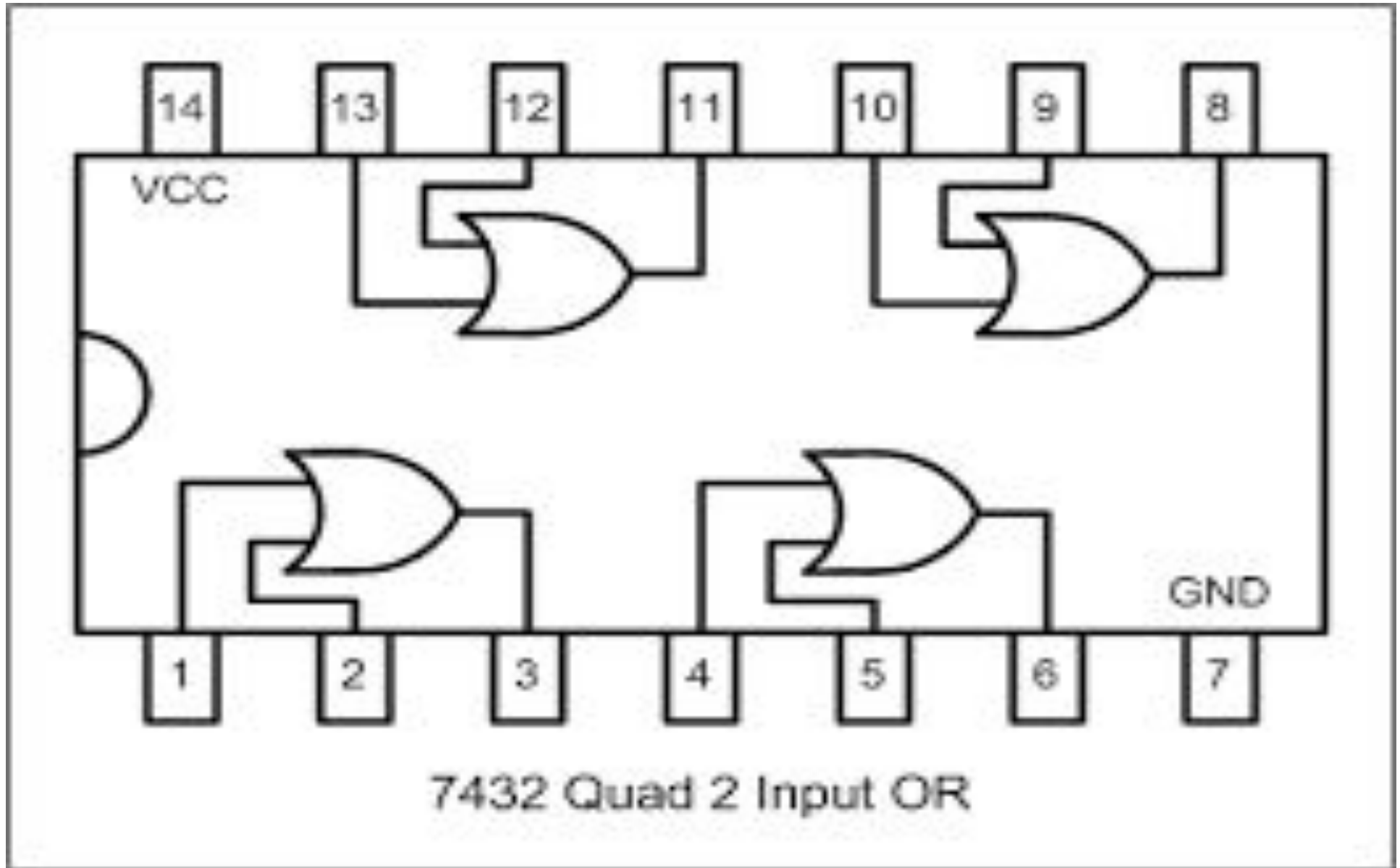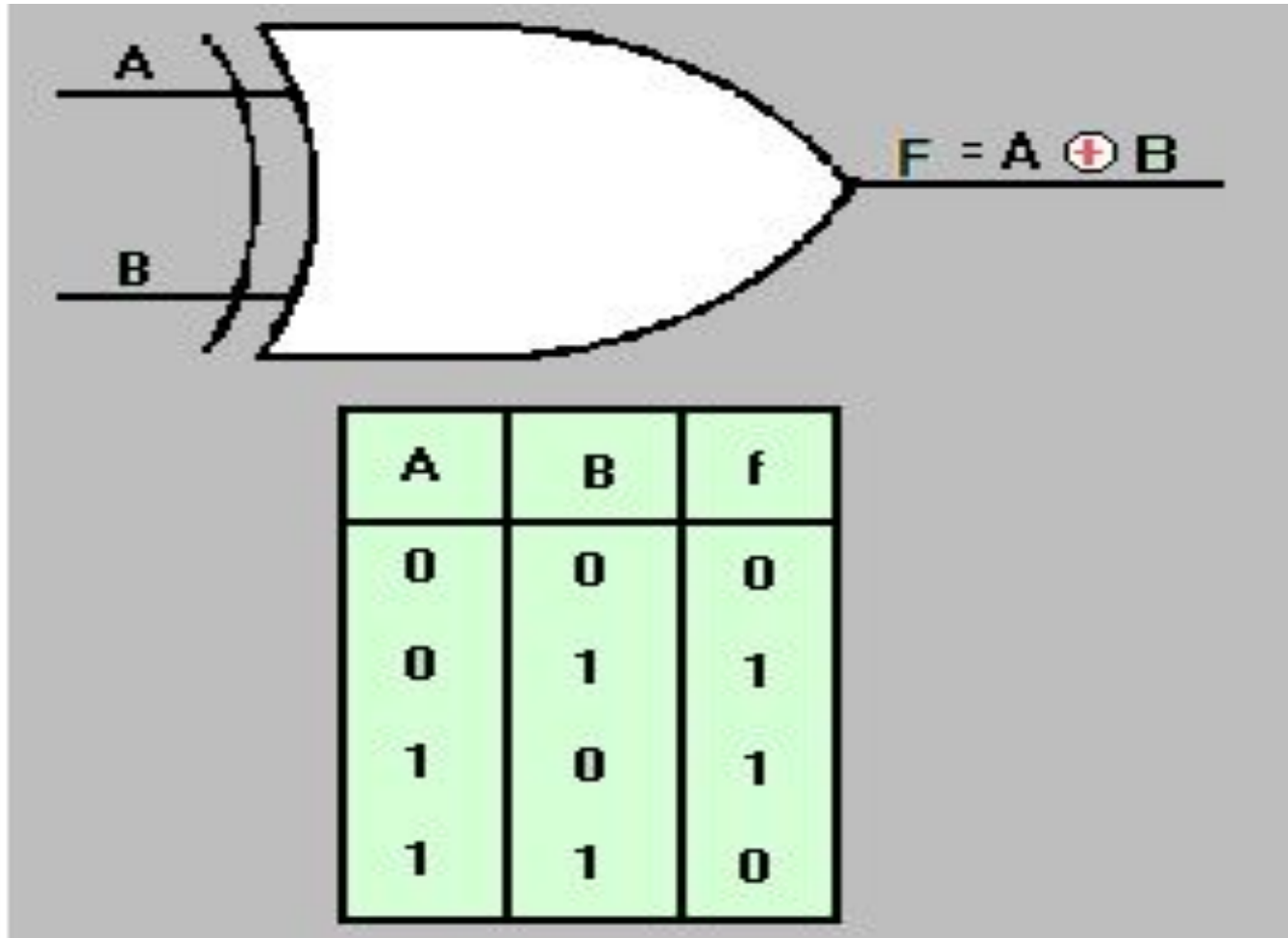
(7486) 2 INPUT XOR GATE

Basic 74-series code

AA 74XXX000 ZZ

MANUFACTURERS PREFIX
e.g.,

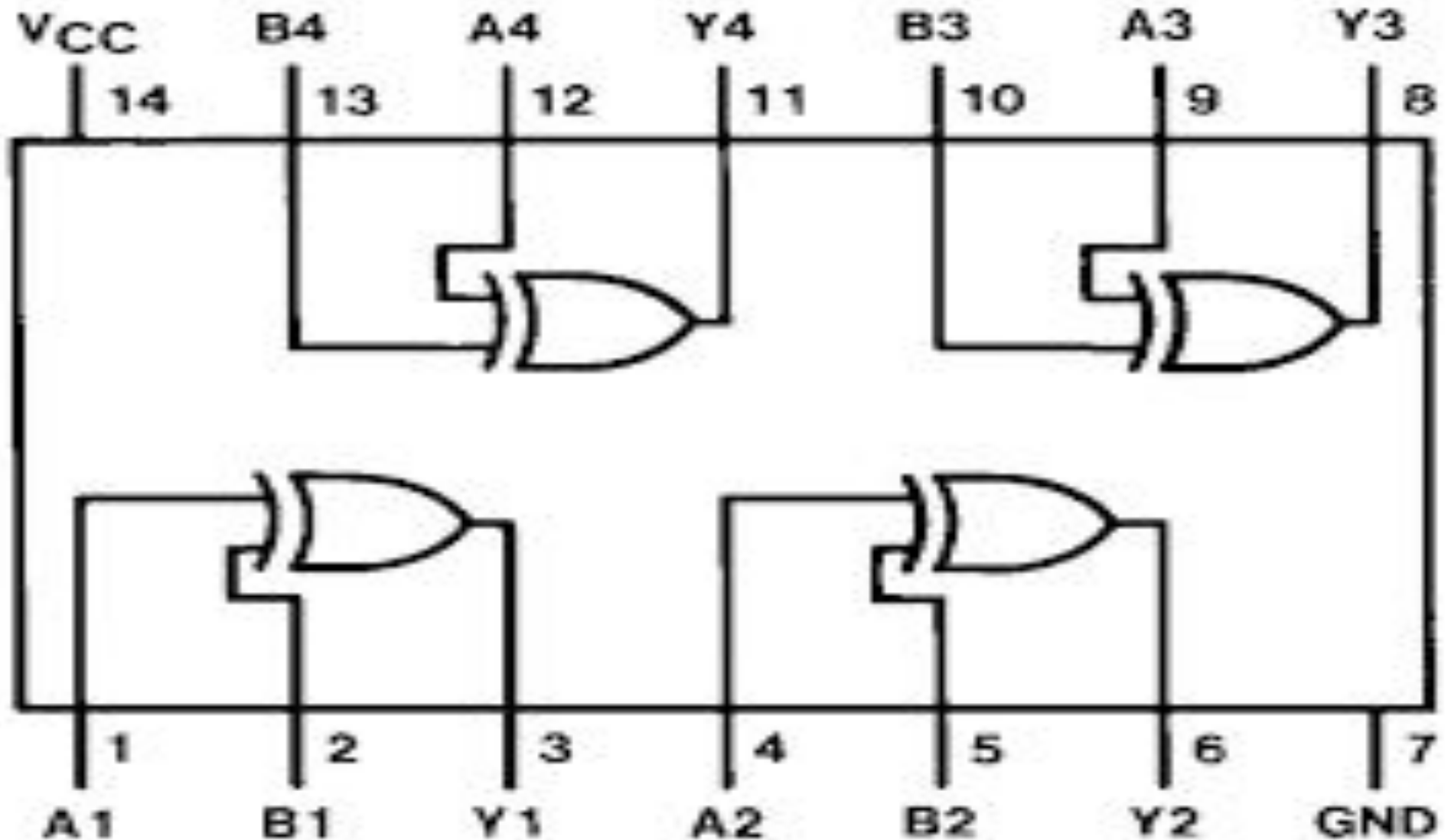CD = RCA
DM = National Semiconductor
MC = Motorola
MM = National Semiconductor
N = Signetics
PC = Signetics
SN = Texas Instruments

MANUFACTURERS SUFFIX
e.g.,

N = Plastic dual-in-line package
P = Eight-pin plastic D.I.L. package
J = Ceramic package

74 XXX 000

FAMILY (2 digits).
e.g., 74 = Commercial grade
54 = Military grade
75 = Interface device

FUNCTION
(2 to 5 digits)

SUB-FAMILY (0 to 3 letters)
e.g., blank or N = Standard TTL
L = Low-power TTL
H = High-power TTL
S = Schottky TTL
LS = Low-power Schottky
AS = Advanced Schottky
ALS = Advanced Low-power Schottky TTL
F = FAST TTL (Fairchild ALS TTL)
C = CMOS version of TTL device
HC = High-speed CMOS, with
CMOS-compatible inputs
HCT = High-speed CMOS, with
TTL-compatible inputs
AC = Advanced high-speed CMOS
ACT = Advanced high-speed CMOS with
TTL-compatible inputs

Thank you