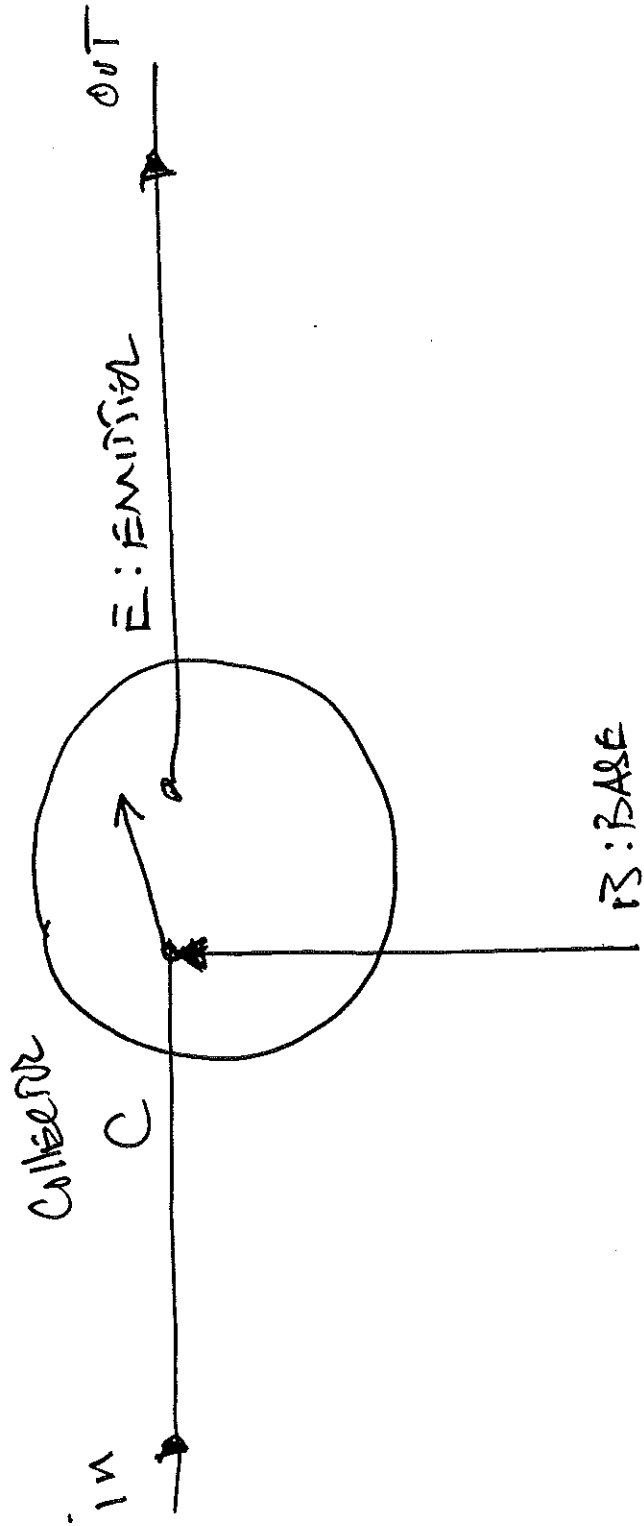


ENRPS 10

10-29-08

11

TRANSISTOR:



0 : low voltage : OPEN
1 : high voltage : CLOSED

LOGIC GATES :

NOTATION FOR LOGICAL OPERATIONS		
<u>English</u>	<u>math</u>	<u>circuit theory</u>
• and "p and q"	$P \wedge Q$	$P \cdot Q$
• or (inclusive) "p or q"	$P \vee Q$	$P + Q$
• not "not p"	$\neg P$	\bar{P}
• xor (exclusive or)	$P \underline{\vee} Q$	$P \oplus Q$

OPERANDS : P, Q, \neg



Propositional Variable

0 = false

1 = true

DEFINITIONS :

and

P	q	P · q
0	0	0
0	1	0
1	0	0
1	1	1

xor

P	q	P + q
0	0	0
0	1	1
1	0	1
1	1	1

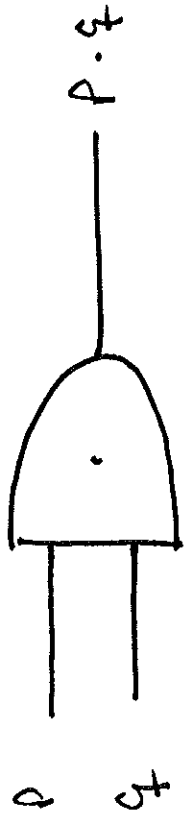
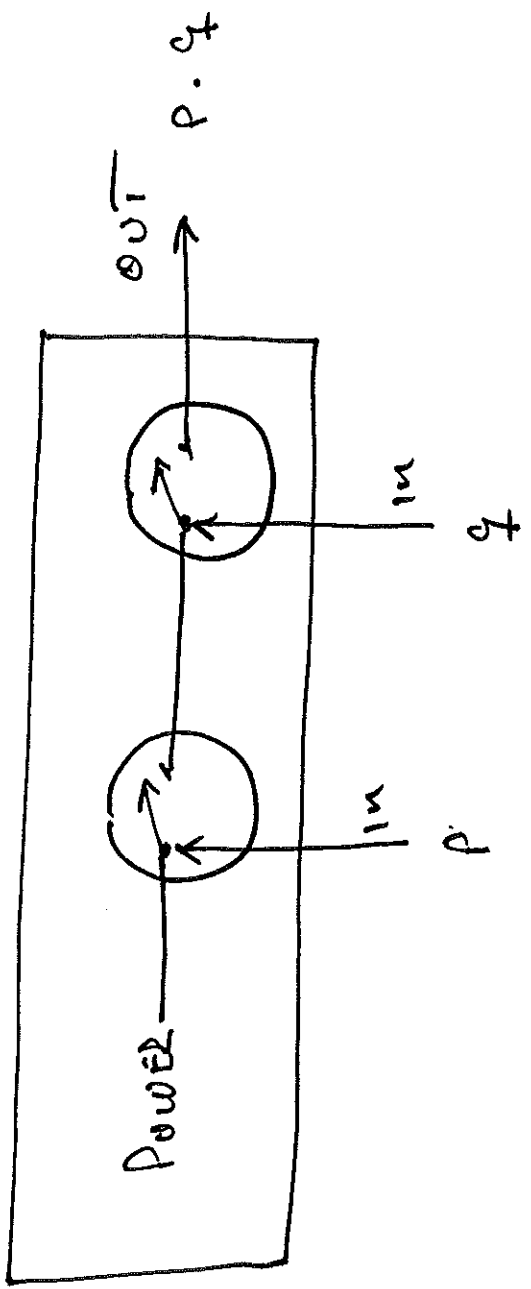
P	q	P ⊕ q
0	0	0
0	1	1
1	0	1
1	1	0

OR
(Inclusive)

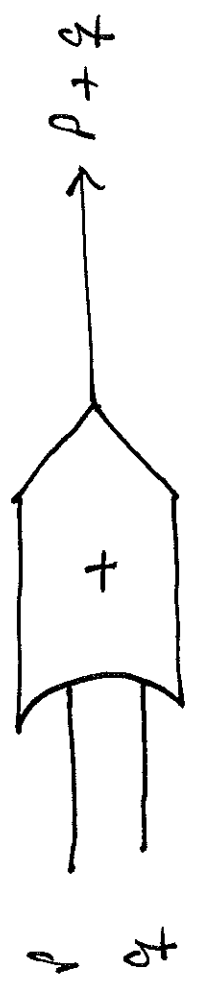
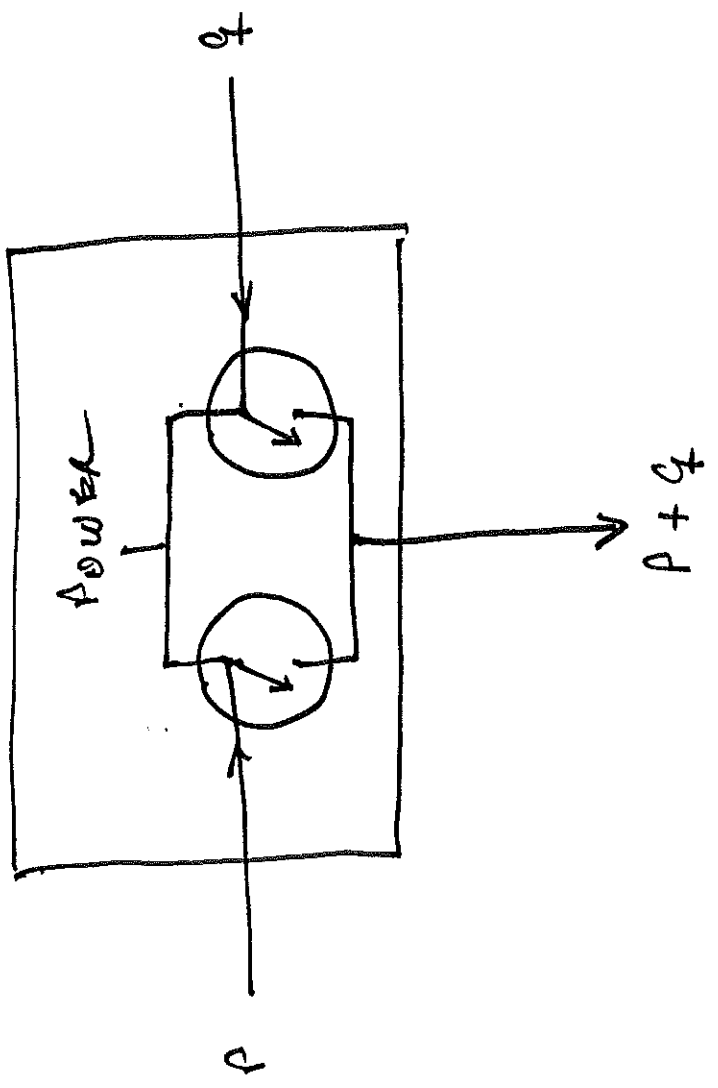
not

P	\bar{P}
0	1
1	0

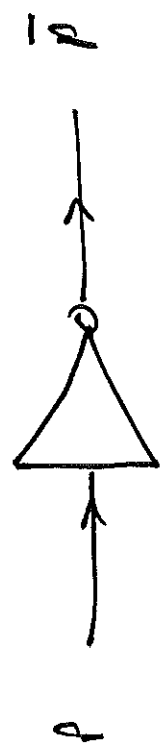
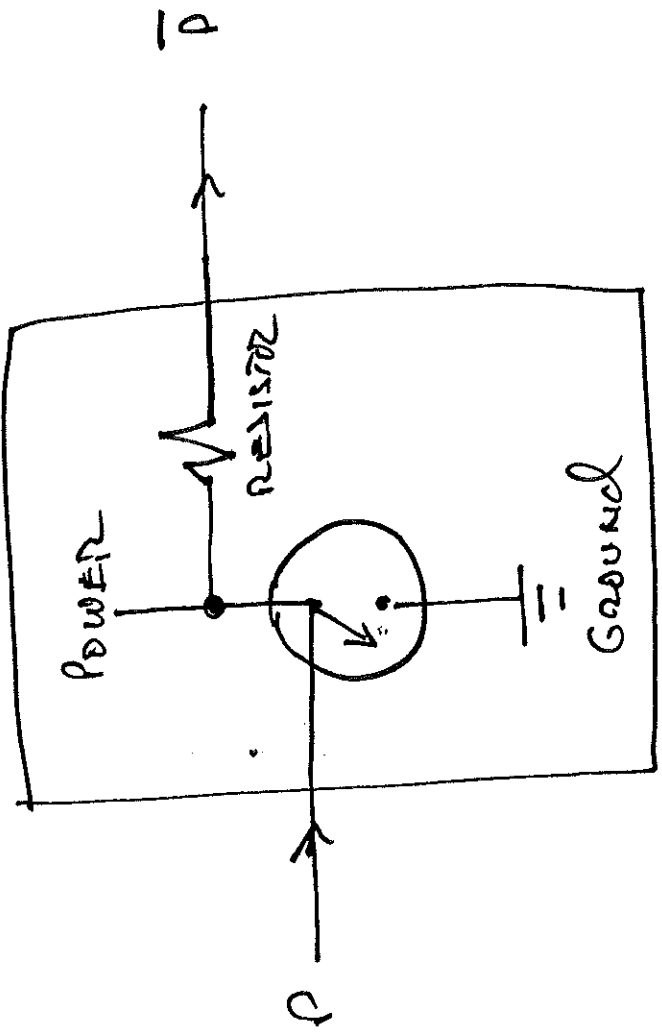
AND GATE



OR GATE



NOT GATE



□

EXOR GATE (OUT OF ., +, - GATES):

