



# Fundumantal of Electronic I

## Second Class

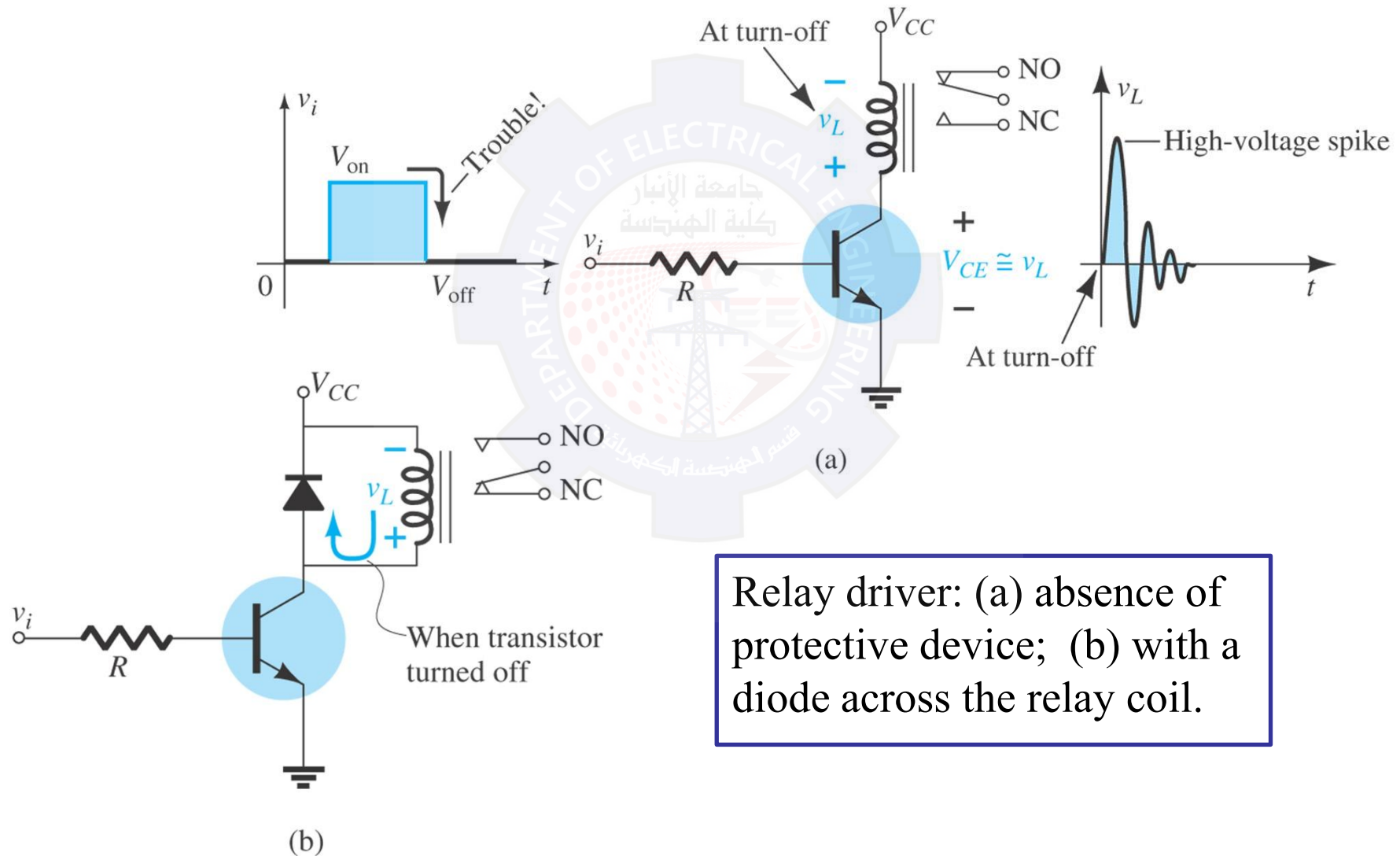
Chapter 4 : DC Biasing – BJTs

Lec04\_p5

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# Practical Applications – Relay Driver

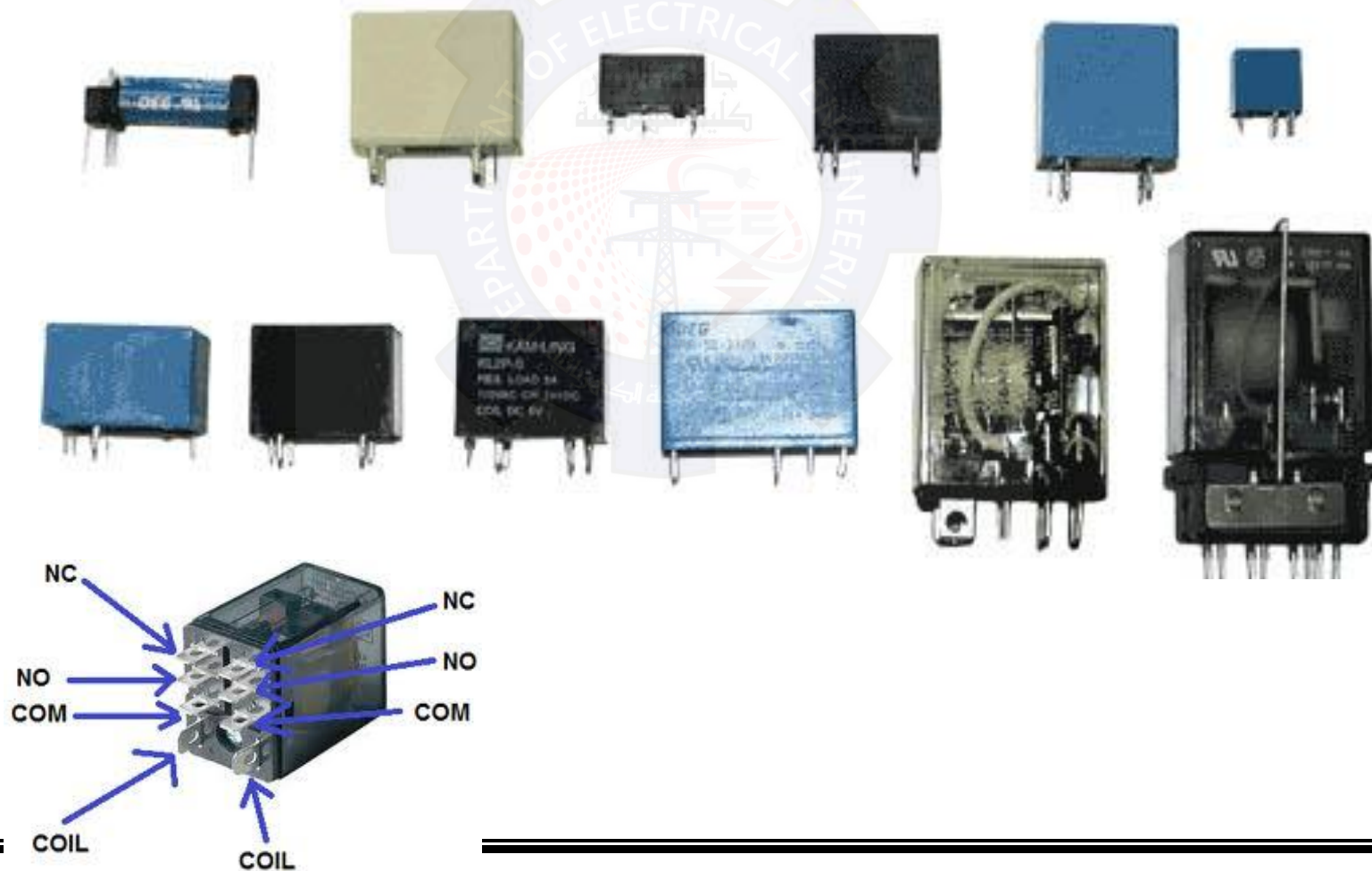


Relay driver: (a) absence of protective device; (b) with a diode across the relay coil.

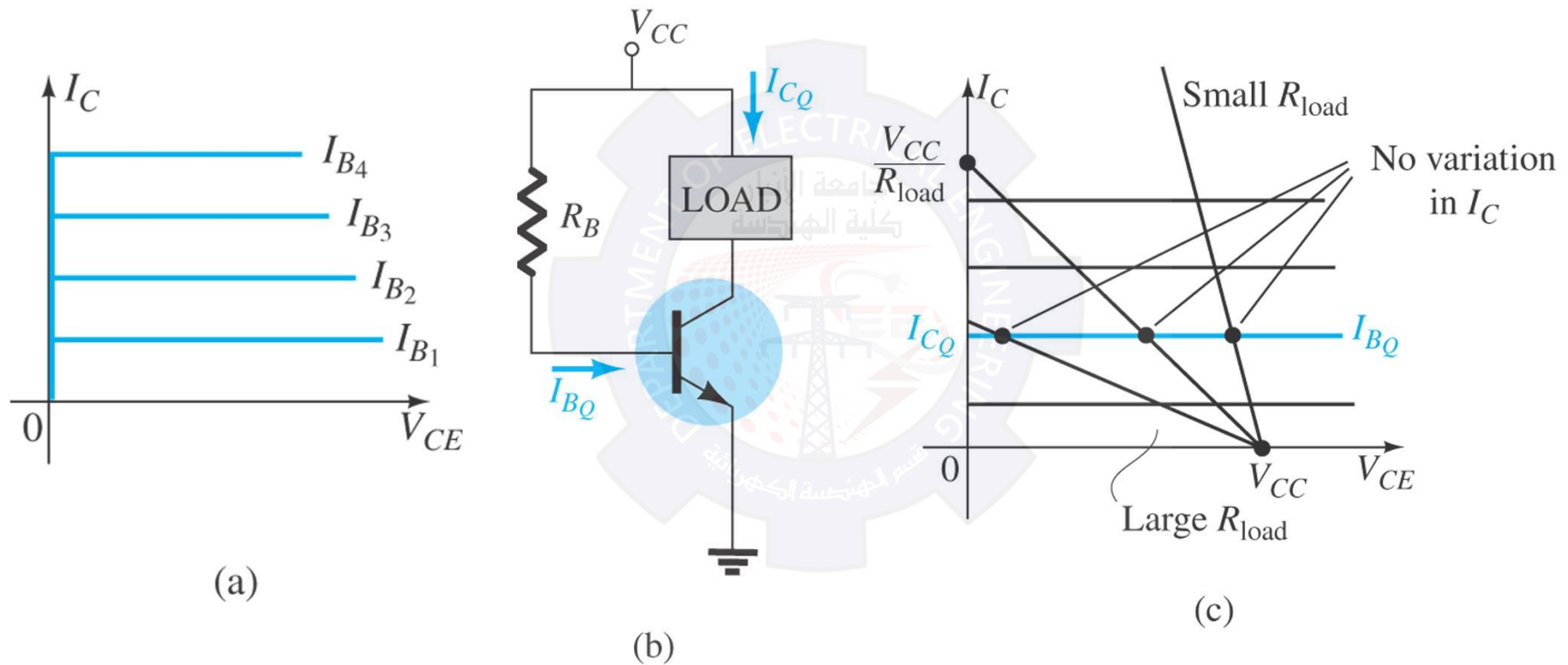


# Practical Applications – Relay Driver

## Relays



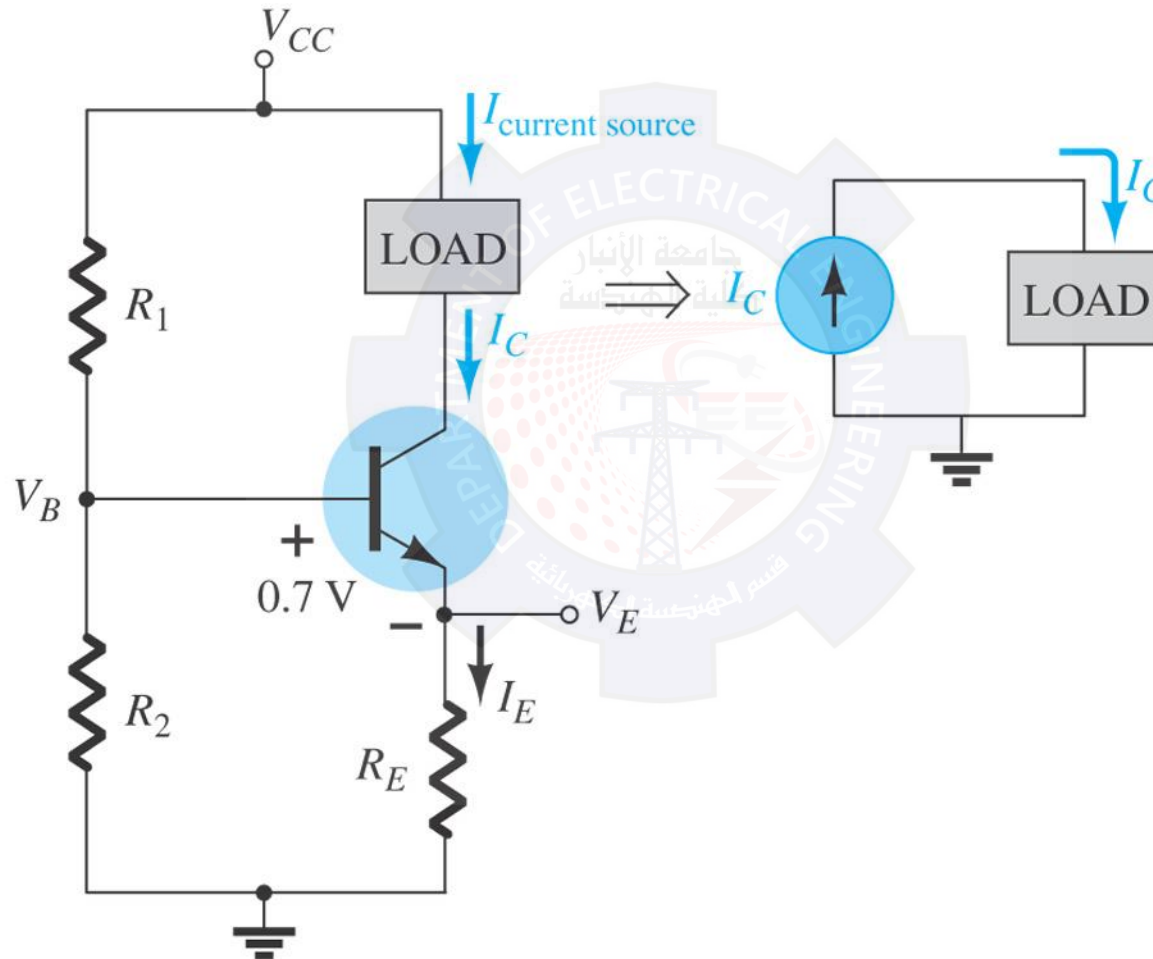
# Constant Current Source



Building a constant-current source assuming ideal BJT characteristics:  
(a) ideal characteristics; (b) network; (c) demonstrating why  $I_C$  remains constant.



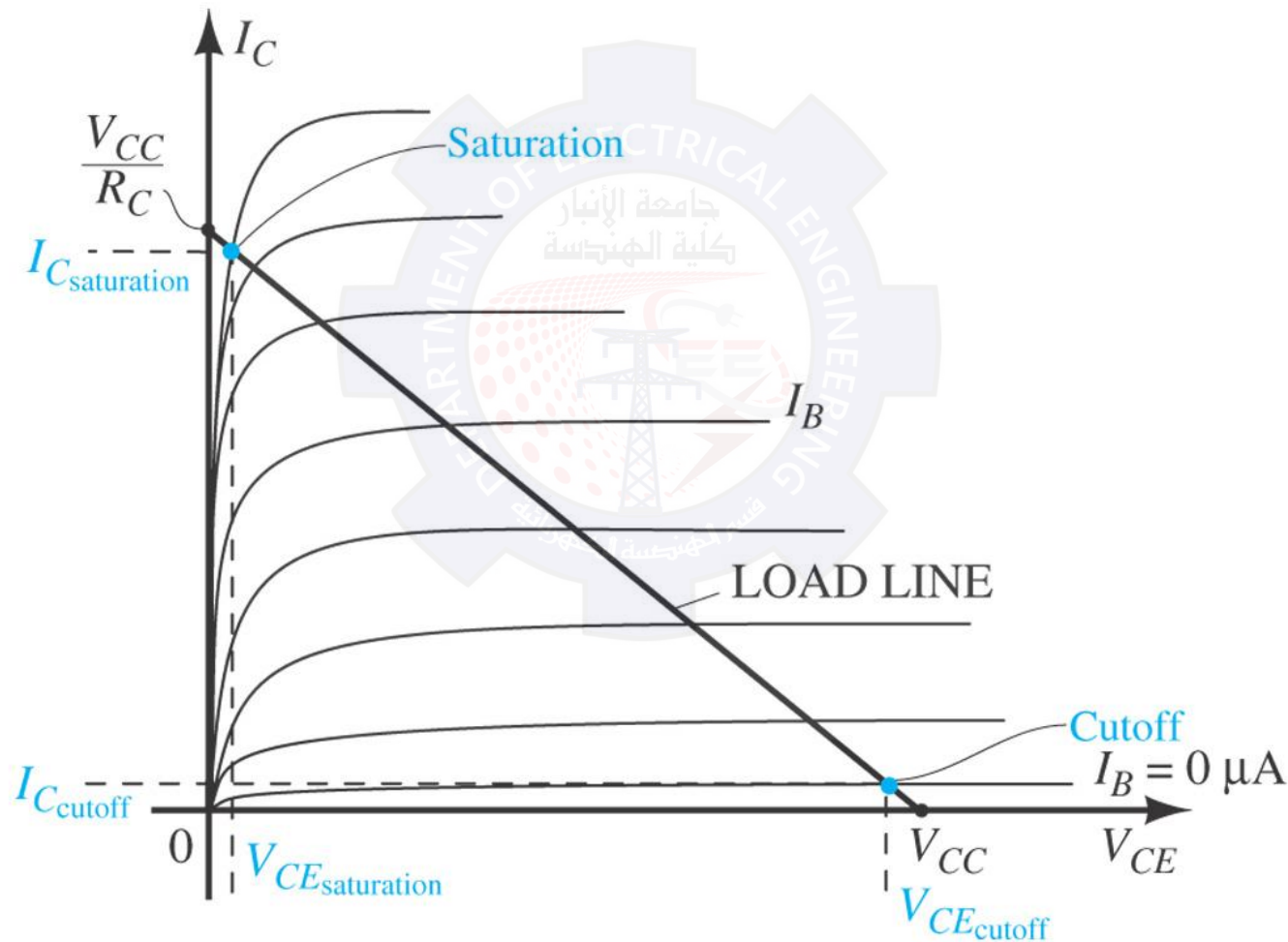
# Constant Current Source



Network establishing a fairly constant current source due to its reduced sensitivity to changes in beta.



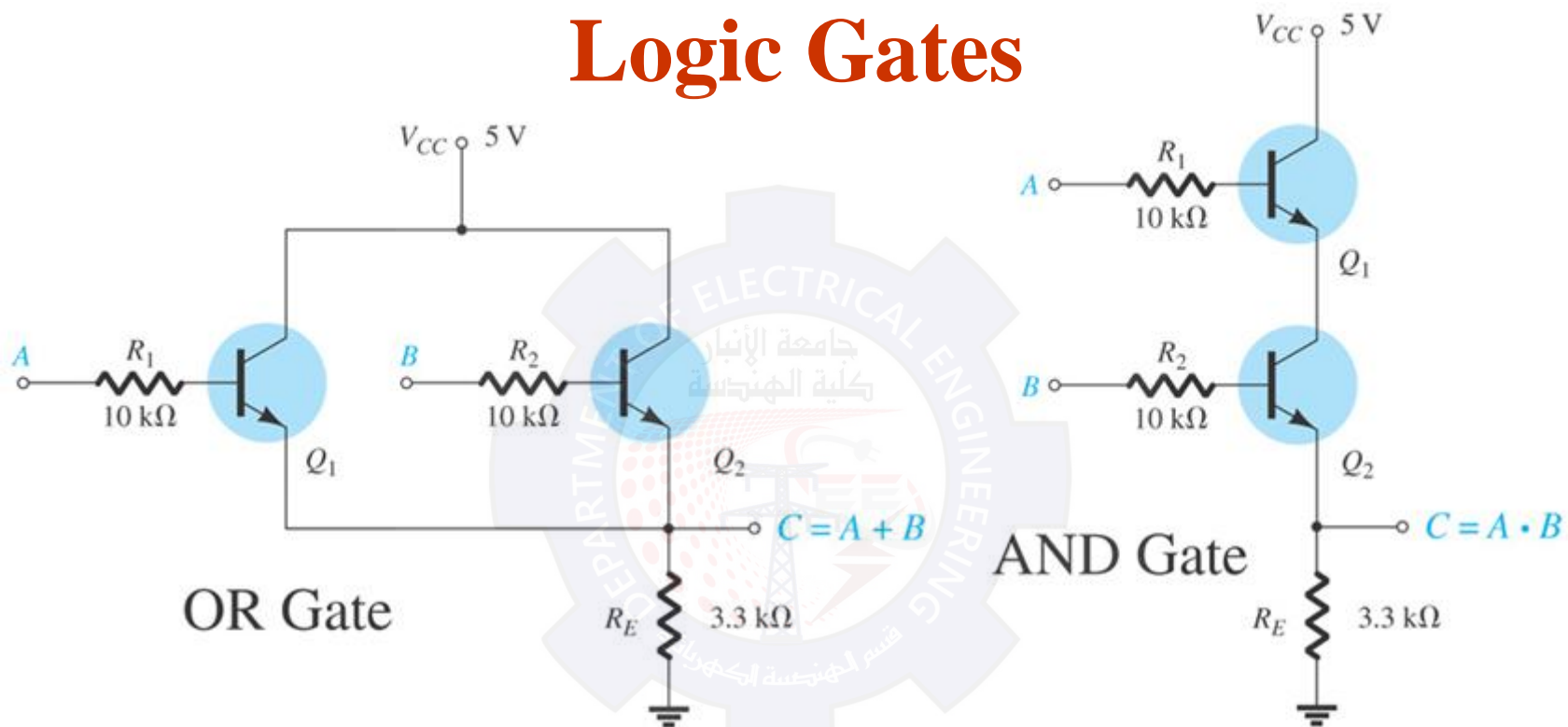
# Logic Gates



Points of operation for a BJT logic gate.



# Logic Gates



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

1 = high  
 0 = low

(a)

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

(b)

BJT logic gates: (a) OR; (b) AND.