

EE-202 Electronics-I-

Chapter 7:

BJT DC Biasing

Operating Point

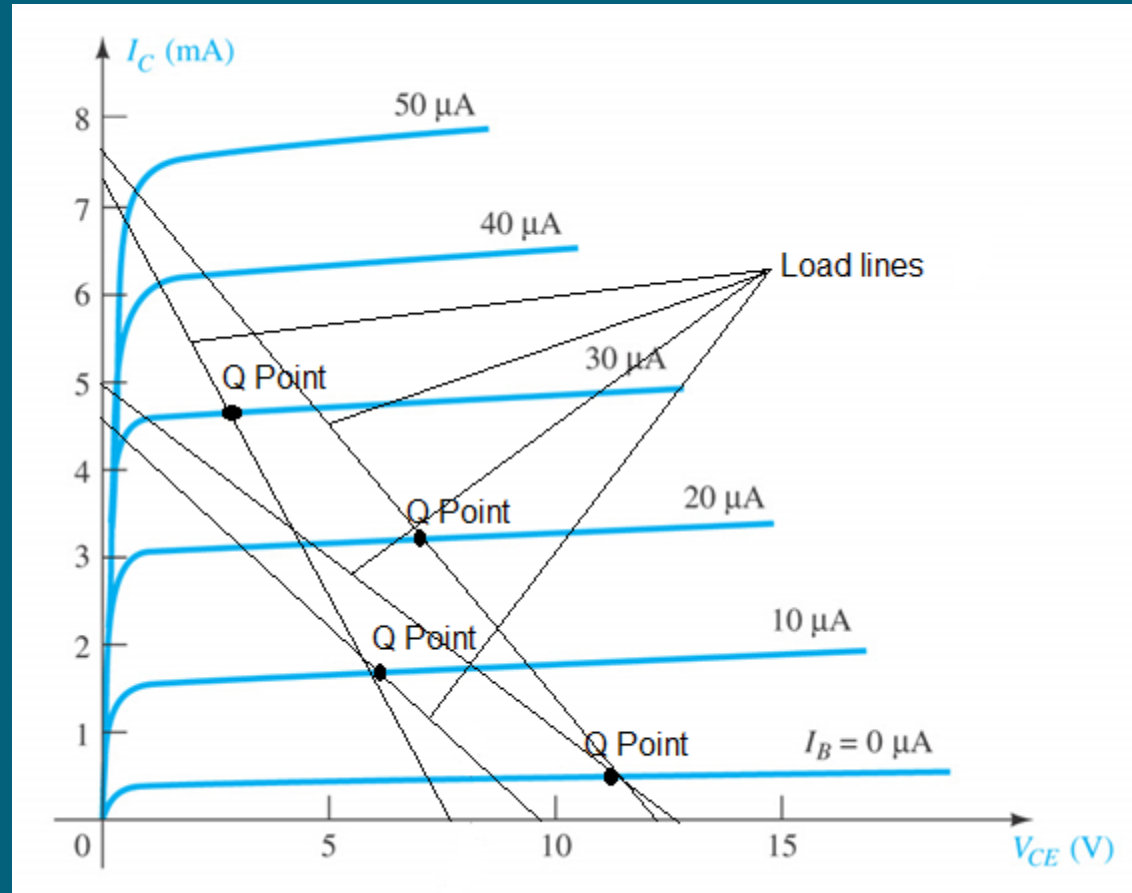
DC Biasing

DC Biasing refers to the DC voltages applied to a transistor in order to turn it on, and then it can amplify the AC signal.

Operating Point

The DC input establishes an operating or *point* called the ***Q-point***.

A specific Q point for each characteristic curve crossin a load line



Biasing and the Three States of Operation

- **Active or Linear Region Operation**
Base–Emitter junction is forward biased
Base–Collector junction is reverse biased
- **Cutoff Region Operation**
Base–Emitter junction is reverse biased
- **Saturation Region Operation**
Base–Emitter junction is forward biased
Base–Collector junction is forward biased