An NPN bipolar junction transistor has a h_{FE} of 168.

The percentage of majority carriers(electrons) **not** caught by the electric field of the reverse biased Base-Collector junction will be;

○ a. 5.92%

○ b. 99.41%

◉ c. 0.59%

○ d. 1.60%

○ e. 50.59%

If the collector load resistance (R_L) value is reduced in a BJT amplifier, its DC load-line;....

- a. remains same.
- b. moves to the right.
- c. becomes more steep.
- d. becomes less steep.

In a fixed-bias common emitter amplifier using a 5V DC supply and a collector resistor of 716Ω, the BJT has a static current gain of 704. The emitter is grounded.
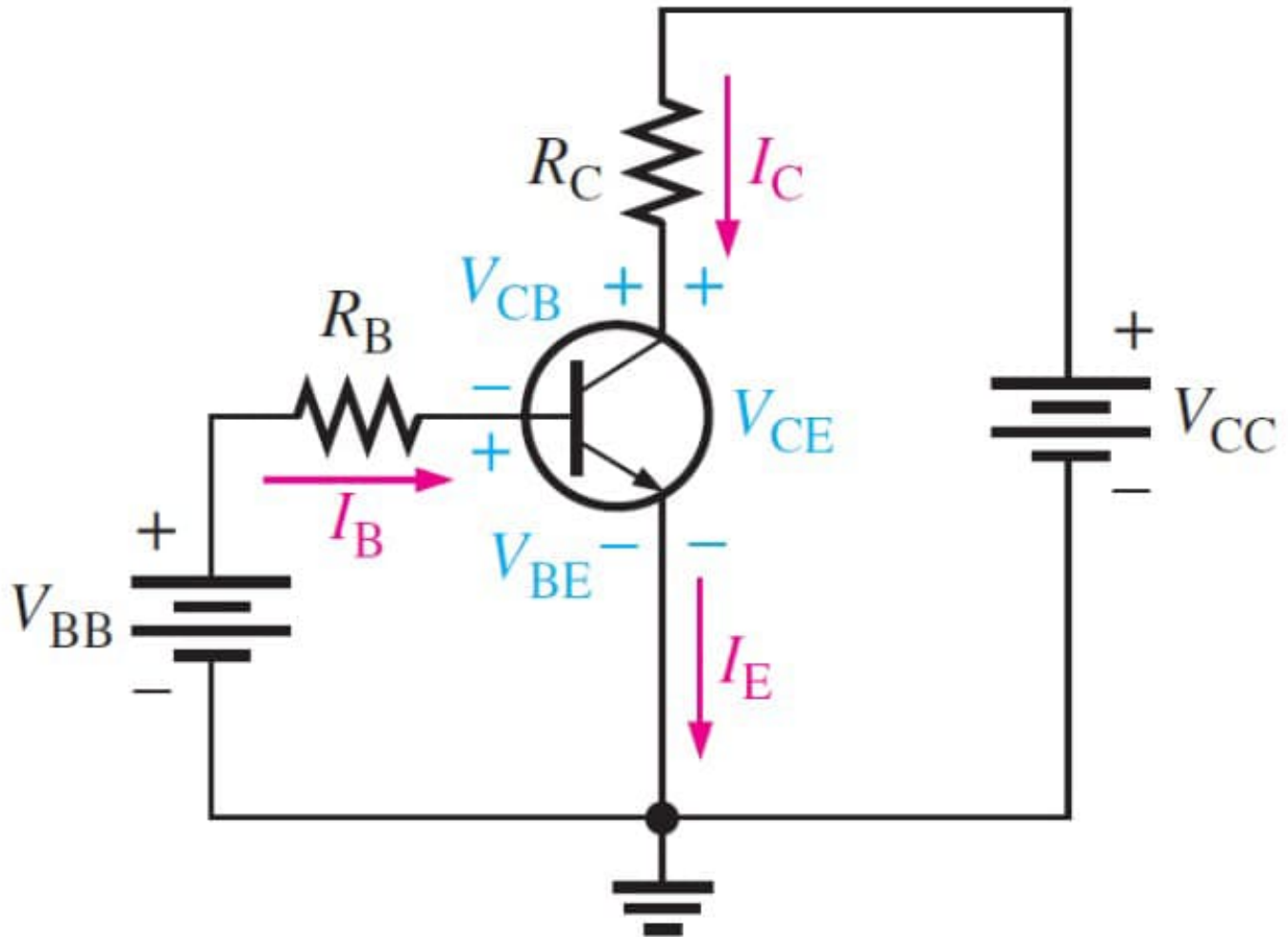
What is the quiescent Base current needed to keep the Q point at the center of the DC load line?

○ a. Answer is not listed here.

○ b. 5.09 μA

○ c. 9.92 μA

⊙ d. 4.96 μA

○ e. 2.54 μA

This base-bias circuit has following parameters.

$V_{CC} = 15$ V, $V_{BB} = 4.4$ V, $R_C = 800\ \Omega$, $R_B = 8.8\ k\Omega$ and $\beta = 63$.

Assume $V_{BE} = 0.7$ V.

Calculate the **Collector current I_C in mA.**

(Round up your answer to two decimal places)

26.49 mA

Answer: 18.75

What is the bias resistor needed between the Base terminal and the 17 V power supply line when a BJT is connected in common emitter amplifier configuration with fixed-bias, with a 159 µA quiescent base current flowing.

a. 102.52 kΩ

b. Correct Answer is not listed here.

c. 106.92 kΩ

d. 1.03 MΩ

e. 71.07 kΩ

When a sinusoidal input signal is applied to a common emitter BJT amplifier, the positive peaks of it's output voltage waveform had flat tops (nearly rectangular shape) while the negative peaks remained sinusoidal. The flat positive peaks are due to;

○ a. The BJT getting into saturation region

○ b. None of the above

○ c. Q-point moving off the load line.

● d. The BJT getting into cut-off region

If a BJT in the amplifying mode operates at the middle of the load line, an increase in the static current gain will move the Q point,

- a. Up
- b. Down
- c. Off the load line.
- d. Nowhere

Which of the following is **not** a true statement regarding a BJT amplifier.

✓ a. Collector voltage drops when the collector current increases in a common emitter amplifier.

○ b. Common emitter amplifier introduces a phase inversion to the signal voltage.

◉ c. There is a phase inversion between the input current and output current waveforms in a common emitter amplifier. phase inversion btw input current and output voltage

✗

○ d. Common base amplifier has a static current gain less than unity. ? in common base => IC = B . IE

Which of the following is **not true** about the input coupling capacitor of an amplifier?

- a. It blocks DC currents from going to the signal input.
- b. It helps to superimpose AC input signal on DC bias.
- c. It helps to increase the voltage gain of the amplifier.
- d. It passes the input signal to the base terminal.

Clear my choice

When the DC load line of a fixed-bias common emitter amplifier is plotted on static output characteristics, it intersects collector current (vertical) axis at 8.1 mA and collector voltage (horizontal) axis at 20 V. Load resistance of the amplifier is;

○ a. 2.47 Ω

○ b. 405.00 Ω

○ c. 3.70 kΩ

◉ d. None of the listed values.

○ e. 1.23 kΩ