## 43 Lecture - PHY301

### **Important Mcqs**

#### In an emitter-stabilized bias circuit, the base voltage is:

- A) fixed
- B) variable
- C) equal to the collector voltage
- D) equal to the emitter voltage

Answer: B) variable

#### What is the purpose of the emitter resistor in an emitter-stabilized bias circuit?

- A) to provide a voltage drop across the base-emitter junction
- B) to provide a voltage drop across the collector-emitter junction
- C) to stabilize the bias point against changes in transistor characteristics
- D) to increase the gain of the circuit

Answer: C) to stabilize the bias point against changes in transistor characteristics

#### In an emitter-stabilized bias circuit, the load line represents:

- A) the voltage across the transistor
- B) the current through the transistor
- C) the power dissipated by the transistor
- D) the operating point of the transistor

Answer: B) the current through the transistor

# If the emitter resistor in an emitter-stabilized bias circuit is increased, what happens to the operating point?

- A) it moves up the load line
- B) it moves down the load line

- C) it stays at the same point on the load line
- D) it cannot be determined without additional information

#### Answer: B) it moves down the load line

#### In an emitter-stabilized bias circuit, what is the effect of increasing the collector resistor?

- A) it increases the voltage gain of the circuit
- B) it decreases the voltage gain of the circuit
- C) it has no effect on the voltage gain of the circuit
- D) it causes the circuit to become unstable

#### Answer: B) it decreases the voltage gain of the circuit

#### The operating point of an emitter-stabilized bias circuit is determined by:

- A) the intersection of the load line and the transistor characteristic curve
- B) the value of the emitter resistor
- C) the value of the collector resistor
- D) the value of the base resistor

#### Answer: A) the intersection of the load line and the transistor characteristic curve

#### In an emitter-stabilized bias circuit, what is the purpose of the bypass capacitor?

- A) to filter out high-frequency signals
- B) to provide a low-impedance path for AC signals
- C) to reduce the DC voltage drop across the emitter resistor
- D) to prevent oscillations in the circuit

#### Answer: C) to reduce the DC voltage drop across the emitter resistor

#### The Q point of an emitter-stabilized bias circuit is:

- A) the same as the operating point
- B) the point where the load line intersects the transistor characteristic curve
- C) the point where the load line intersects the voltage axis

D) the point where the load line intersects the current axis

#### Answer: A) the same as the operating point

#### What is the effect of decreasing the value of the base resistor in an emitter-stabilized bias circuit?

- A) it increases the voltage gain of the circuit
- B) it decreases the voltage gain of the circuit
- C) it has no effect on the voltage gain of the circuit
- D) it causes the circuit to become unstable

Answer: D) it causes the circuit to become unstable

#### The purpose of the load line in an emitter-stabilized bias circuit is to:

- A) represent the voltage gain of the circuit
- B) represent the current gain of the circuit
- C) determine the operating point of the circuit
- D) determine the bias point of the circuit

Answer: C) determine the operating point of the circuit