

**Duration: 30 Mins**

**Total Marks: 25**

**ID: ITISKILL9897HH**

Student Name: \_\_\_\_\_ Roll No: \_\_\_\_\_

**1.** What is the maximum emitter to base voltage VEB (max) for the transistor BC 147?

- A) 6V                                      B) 5V  
C) 4V                                      D) 8V

- A) 0.2 V                                      B) 0.3 V  
C) 1.4 V                                      D) 0.7 V

**2.** What is the advantage of using bias in transistor circuits?

- A) Easily sets saturated              B) Provides positive feed back  
C) Gives maximum distortion      D) Never reach saturation

**9.** Which type of amplifier is used to operate the loud speaker?

- A) RF amplifier                              B) IF amplifier  
C) Voltage amplifier                      D) Power amplifier

**3.** What will happen when the forward bias voltage across the PN junction is increased excessively?

- A) Increases the cut - in - voltage      B) Junction ruptured and short circuited  
C) Barrier width of junction increases      D) No current flows through the junction

**10.** Which class of amplifier uses fixed bias because of its important advantage of transistor will never go to saturation?

- A) Class - C                                      B) Class - A  
C) Class - AB                                      D) Class - B

**4.** What is the meaning of first letter indicated in the transistor code number BC 107?

- A) Silicon material used              B) Indium material used  
C) Germanium material used      D) Antimony material used

**11.** What is the current gain of a common ? base amplifier?

- A) Greater than 1                              B) Less than 1  
C) Infinity                                      D) Unity

**5.** Why NPN type of transistors are preferred over the PNP type transistors?

- A) NPN has good bias stability              B) NPN has higher switching speed  
C) Low operating voltage              D) NPN has lower switching speed

**12.** How can you confirm a transistor as defective?

- A) By ohm meter testing              B) By physical testing  
C) By voltage measurements      D) By circuit testing

**6.** What is the current gain of common collector amplifier?

- A) High                                      B) Low  
C) Very high                                      D) Medium

**13.** What type of packaging is generally used to transistors utilized for low power amplification?

- A) Ceramic packaging                      B) Plastic packaging  
C) Metal packaging                      D) Plastic packaging with metal heatsinks

**7.** Where does the depletion region exist in a bipolar transistor?

- A) Between emitter - base electrodes      B) Between E-B and B-C electrodes  
C) Between collector - base electrodes      D) Between collector and emitter electrodes

**14.** In which quantity affects the Q point of a transistor amplifier?

- A) Increased temperature              B) Mismatching signals  
C) Proper biasing methods              D) Decreased temperature

**8.** What is the overall base emitter voltage required to turn the darlington pair?

**15.** What is the voltage gain in a transistor if the input voltage is 40mv and the output voltage is 3.6V?

- A) 180                                      B) 270  
C) 90                                      D) 45

**16.** What is the name of multi-stage amplifiers?

- A) Cascaded amplifier                      B) Darlington pair amplifier

C) Cascoded amplifier

D) Complementary symmetry amplifier

17. Which parameter of passive component can be calculated using the formula ?

A) Capacitance

B) Capacitive reactance

C) Inductive reactance

D) Inductance

18. What is the input impedance of darlington pair transistors?

A) Very high input impedance

B) Very low input impedance

C) Medium input impedance

D) Uniter

19. Which configuration of transistor amplifier is most commonly used in electronic circuits?

A) Common base configuration

B) Common collector configuration

C) Common emitter configuration

D) Common drain amplifier configuration

20. Which type of packaging is used to transistors utilized for medium power amplification?

A) Ceramic packaging

B) Plastic packaging with metal heatsinks

C) Plastic packaging

D) Metal packaging

21. Why transistors made of silicon is preferred over the

germanium semiconductor material?

A) Requires complicated bias arrangement

B) Higher thermal stability

C) Silicon transistor needs low cut-in-voltage

D) Complex design

22. What is the formula used to calculate the current gain (alpha) of common base amplifier?

A)  $I_B / I_E$

B)  $I_E / I_C$

C)  $I_E / I_C$

D)  $I_C / I_E$

23. How does the values of bias resistors selected for collector current in class -B amplifiers?

A) Q point set slightly below cut-off

B) Quiescent current at mid point

C) Quiescent current over the cut-off value

D) Quiescent current beyond the cut-off point

24. How the maximum permissible voltage that can be applied across the collector ? Emitter junction of a transistor is indicated?

A)  $V_{CE}$  (max) in volts

B)  $V_{CB}$  (max) in volts

C)  $V_{BE}$  (max) in volts

D)  $V_{CC}$  in volts

25. Which type of transistors are required to amplify signals from the microphone /transducer?

A) Epitaxial versa watt transistors

B) High power transistors

C) Medium power transistors

D) Low power transistors