

Duration: 30 Mins

Total Marks: 25

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1. 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) NPN has lower switching speed
- D) Low operating voltage

Answer: B) NPN has higher switching speed

2. What is the maximum emitter to base voltage V_{EB} (max) for the transistor BC 147?

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

Answer: B) 6V

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

- A) V_{CC} in volts
- B) V_{CB} (max) in volts
- C) V_{BE} (max) in volts
- D) V_{CE} (max) in volts

Answer: D) V_{CE} (max) in volts

4. What in the current gain of a common ? base amplifier?

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

Answer: A) Less than 1

5. What is the current gain of common collector amplifier?

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

Answer: B) Very high

6. What is the name of the circuit that shifts the original signal in a vertical downward direction?

- A) Peak clipper circuit
- B) Negative clamping circuit
- C) Combination clipper circuit
- D) Positive clamping circuit

Answer: B) Negative clamping circuit

7. What is the name of the circuit that shifts the original signal in a vertical upward direction?

- A) Combination clipper circuit
- B) Peak clipper circuit
- C) Positive clamping circuit
- D) Negative clamping circuit

Answer: C) Positive clamping circuit

8. What is the name of multi-stage amplifiers?

- A) Complementary symmetry amplifier
- B) Darlington pair amplifier
- C) Cascoded amplifier
- D) Cascaded amplifier

Answer: D) Cascaded amplifier

9. Which type of clipper is that a small portion of the negative half cycle of signal is removed?

- A) Positive clamper
- B) Biased positive clipper
- C) Combination clipper
- D) Biased negative clipper

Answer: D) Biased negative clipper

10. When does the biased positive clipper removes the portion of input signal?

- A) Signal voltage becomes greater than bias battery voltage
- B) During the negative half cycle of input
- C) Signal voltage equals the bias battery voltage
- D) Signal voltage is lesser than bias battery

Answer: A) Signal voltage becomes greater than bias battery voltage

11. How the negative feedback is called?

- A) Regenerative feedback
- B) Current controlled feedback
- C) Voltage controlled feedback
- D) Degenerative feedback

Answer: D) Degenerative feedback

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

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

Answer: B) Silicon material used

13. What should be the time constant $t = RC$ for a good clamper circuit with reference to time period of the input signal?

- A) Five times the time period of signal
- B) Half the time period of signal
- C) Double the time of signal frequency
- D) RC values should be at least ten times

Answer: D) RC values should be at least ten times

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

- A) Epitaxial versus watt transistors B) Medium power transistors
C) High power transistors D) Low power transistors

Answer: D) Low power transistors

15. What are the basic components required for a clipping circuit?

- A) Diode and resistor B) Diode and capacitor
C) Transistor and diode D) Capacitor and resistor

Answer: A) Diode and resistor

16. Which circuit is used to clip portion of both positive and negative half cycle of input signal voltage?

- A) Combination clipper circuit B) Biased negative clipper circuit
C) Unbiased clipper circuit D) Biased positive clipper circuit

Answer: A) Combination clipper circuit

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

- A) I_C / I_E B) I_E / I_C
C) I_E / I_C D) I_B / I_E

Answer: A) I_C / I_E

18. Which coding system for transistor type numbering system is followed by American standard?

- A) PRO-ELECTRON standard B) Home codes
C) JIS standard D) JEDEC standard

Answer: D) JEDEC standard

19. Which application the clamper circuit is used in electronics?

- A) Radio receivers B) Storage counters
C) Radars D) Power supplies

Answer: D) Power supplies

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

- A) Common collector configuration B) Common drain amplifier configuration
C) Common base configuration D) Common emitter configuration

Answer: D) Common emitter configuration

21. What is the use of clamper in electronic circuits?

- A) For DC component restoration B) For positive peak clipping
C) For slicing both peaks D) For negative peak clipping

Answer: A) For DC component restoration

22. Why transistor made of silicon is preferred over the germanium semiconductor material?

- A) Higher thermal stability B) Complex design
C) Silicon transistor needs low cut-in-voltage D) Requires complicated bias arrangement

Answer: A) Higher thermal stability

23. When does the biased negative clipper remove the portion of input signal?

- A) Signal voltage equals the bias battery voltage B) Signal voltage is lesser than bias battery voltage
C) During the positive half cycle of input D) Signal voltage becomes greater than bias battery voltage

Answer: D) Signal voltage becomes greater than bias battery voltage

24. What is the name of the circuit that shifts the waveform upward or downward without disturbing its shape?

- A) Clipper circuit B) Biased clipper circuit
C) Combination clipper circuit D) Clamper circuit

Answer: D) Clamper circuit

25. What is the function of clipper circuit?

- A) Rectification B) Regulation
C) Amplification D) Wave shaping

Answer: D) Wave shaping