Blank Quiz

Quiz 2

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1. Thermal runaway doesn't occur with FETs. (True/false)

True

2. JFET is a

- (●) Unipolar device
- ( ) Bipolar device
- ( ) None of the above

Clear selection

3._____provides a current gain and power gain but no voltage gain.

- (●) CC amplifier
- ( ) CE amplifier
- ( ) CB amplifier
- ( ) BJT

Clear selection

4. Darlington pair act as single transistor that has_____ current gain and _____ input impedance

- (●) High, High
- ( ) High, Low
- ( ) Low, High
- ( ) Low, Low

Clear selection

5. Source terminal through which majority charge carriers

- (●) Enter the channel
- ( ) Leave the channel
- ( ) None of the above

Clear selection

6. The equation for the load line of a transistor network can be determined by applying

- ( ) Kirchhoff's voltage law to the collector network
- ( ) Kirchhoff's voltage law to the base network
- ( ) Kirchhoff's voltage law to the emitter network
- ( ) None of the above

7. Condition for thermal stability of operating point of a BJT amplifier

- ( ) Using resistance biasing
- ( ) Using fixed bias circuit
- ( ) Operating point should be shift with temperature variation
- (●) Operating point should not be shift with temperature variation

Clear selection

8. Zener diodes and avalanche diode have

- ○ positive temperature coefficient and negative temperature coefficient
- ○ zero temperature coefficient and positive temperature coefficient
- ◉ Negative temperature coefficient and positive temperature coefficient
- ○ positive temperature coefficient and zero temperature coefficient

Clear selection

9. Determine the temperature coefficient of a 5V Zener diode at 25 degrees Celsius, if the nominal voltage drops to 4.8V at a temperature of 100 degree Celsius.

- ◉ +0.0533%
- ○ -0.0523%
- ○ +0.0523%
- ○ -0.0533%

Clear selection

10. Break down phenomenon is

- ○ Irreversible process
- ○ Reversible process
- ◉ None of the above

Clear selection

11. Condition for thermal stability is defined as

- (●) Rate at which heat released at the collector junction must not exceed the rate at which heat can be dissipated under steady state condition
- ( ) Rate at which heat released at the emitter junction must not exceed the rate at which heat can be dissipated under steady state condition
- ( ) Rate at which heat released at the base junction must not exceed the rate at which heat can be dissipated under steady state condition

Clear selection

12. Which of the following statement hold true for collector region?

- [ ] interchangeable with emitter region
- [x] physically larger to dissipate power
- [x] moderately doped region
- [ ] all of the above

13. NPN transistor is preferred more because

- [x] Have high frequency response
- [ ] Low frequency response
- [x] High mobility of electrons
- [ ] None of the above

14. For a given transistor, current amplification factor (alpha)= 0.98, emitter current= 2mA. Calculate current gain factor(beta) and base current.

- (●) 49, 0.04mA
- ( ) 49,40mA
- ( ) 39,0.04mA
- ( ) 39,40mA

Clear selection

15. Ebers-Moll model is tradeoff between

- ( ) Accuracy and efficiency
- (●) Accuracy and complexity
- ( ) Power and energy
- ( ) Power and efficiency

Clear selection

16. CB configuration is used for audio-frequency circuits because

- ( ) Current gain < 1 and input & output resistances are different
- ( ) Current gain >1 and input & output resistances are similar
- ( ) Voltage gain <1 and input & output resistances are different
- ( ) Voltage gain>1 and input & output resistances are similar

17. Arrow in the transistor symbol defines

- ○ Direction of electronic current
- ◉ Direction of conventional current
- ○ Doesn't symbolize current

Clear selection

18. Early effect is defined as

- ○ Modulation of the effective base width by the emitter voltage
- ○ Modulation of the effective emitter width by the collector voltage
- ○ Modulation of the effective base width by the collector voltage
- ○ Modulation of the effective collector width by the emitter voltage

19. For faithful amplification it is essential that

- ○ Emitter base junction is forward biased
- ○ Collector base junction is reversed biased
- ○ Proper zero-signal collector current
- ◉ All of the above

Clear selection

20. Compensation techniques for operating point stability make use of

- (●) Temperature sensitive device
- ( ) Resistive biasing circuit
- ( ) Both a and b
- ( ) None of the above

Clear selection

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