

Department of Electronics
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Unit – I Electronic Components & Signals

1. For 180 K ohm resistor with 10 % tolerance, the color band will be in the sequence of
 - a. Brown-grey-yellow-gold
 - b. Brown-grey-yellow-silver
 - c. Brown-blue-yellow-silver
 - d. Brown-grey-yellow-gold

Answer: brown-grey-yellow-silver

2. Transistor is
 - a. A passive component
 - b. Active component
 - c. None of these
 - d. Both a & b

Answer: active component

3. Inductor is
 - a. Active component
 - b. Passive component
 - c. None of these
 - d. Both a & b

Answer: passive component

4. In electronics the term IC denotes
 - a. Industrial control
 - b. Integrated circuits
 - c. Internal combustion
 - d. International circuits

Answer: integrated circuits

5. What is the unit of inductance?

- a. Joule
- b. Farad
- c. Henry
- d. Watts

Answer: henry

6. Which value is equal to one Pico farad?

- a. 10^6 farad
- b. 10^{12} farad
- c. 10^{-6} farad
- d. 10^{-12} farad

Answer: 10^{-12} farad

7. Which of the following elements comprise of the passive devices?

- a. Resistors, capacitors & SCRs
- b. Vacuum tubes, SCRs & diodes
- c. Transformers, inductors & diodes
- d. Transformers, TRIACs & DIACs

Answer: transformers, inductors & diodes

8. Active devices can also be used as

- a. Amplifiers
- b. Choppers
- c. Converters
- d. Inverters

Answer: amplifiers

9. A CRO is a

- a. Cathode ray oscillator
- b. Cathode ray oscilloscope
- c. Capacitor- resistor oscillator
- d. Capacitor- resistor output

Answer: cathode ray oscilloscope

10. There are two main characteristics of a

- resistor are
- Current & voltage
 - Current & power
 - Resistance & power
 - Resistance & current

Answer: resistance & power

Unit – II Diodes & their Applications

- The DC current through each diode in a bridge rectifier equals:
 - The load current
 - Half the DC load current
 - Twice the DC load current
 - One-fourth the DC load current

Answer: the load current

- In a power supply diagram, which block indicates a smooth dc output?
 - Transformer
 - Filter
 - Rectifier
 - Regulator

Answer: regulator

- Testing a good diode with an ohmmeter should indicate
 - High resistance when forward or reverse biased
 - Low resistance when forward or reverse biased
 - High resistance when reverse biased & low resistance when forward biased
 - High resistance when forward biased & low resistance when reverse biased

Answer: high resistance when reverse biased & low resistance when forward biased

- Shunting the ac component away from the load is the task of a:
 - Transformer
 - Filter
 - Regulator
 - Rectifier

Answer: filter

5. When used as a voltage regulator, Zener diode is normally
- Not biased
 - Forward biased
 - Reverse biased
 - None of the above

Answer: reverse biased

6. For a germanium diode, the barrier potential is
- 0.3 volt
 - 0.3 eV
 - 0.7 volt
 - 0.7 eV

Answer: 0.3 volt

7. The output from an unfiltered half wave or full wave rectifier is a
- Smooth DC voltage
 - Steady DC voltage
 - Pulsating DC voltage
 - AC voltage

Answer: pulsating DC voltage

8. In the breakdown region, a Zener diode behaves like a
- Constant voltage
 - Constant current
 - Constant resistance
 - None of the above

Answer: constant voltage

9. A Zener diode has breakdown
- Undefined
 - Zero
 - Sharp
 - None of the above

Answer: sharp

10. The maximum efficiency of a half wave rectifier is

- a. 40.6 %
- b. 81.2 %
- c. 50 %
- d. 25 %

Answer: 40.6 %

Unit- III Bipolar Junction Transistor

1. In a BJT

- a. The base region is sandwiched between emitter & collector
- b. The collector is sandwiched between base & emitter
- c. The emitter region is sandwiched between base & collector
- d. None of the above

Answer: the base region is sandwiched between emitter & collector

2. Amplifiers & oscillators using BJT, operate in region

- a. Inverted mode
- b. Active....
- c. Cut off
- d. Saturation

Answer: active

3. The arrow in a transistor terminal represents

- a. Emitter
- b. Collector
- c. Base
- d. None of the above

Answer: emitter

4. Transistor is a device which is a

- a. Transferring voltage device
- b. Current operated one
- c. Power operated one
- d. Voltage operated one

Answer: current operated one

5. Transistor works as an open switch when emitter junction is biased & collector junction is biased
- a. Forward, forward
 - b. Reverse, reverse
 - c. Reverse, forward
 - d. Forward, reverse

Answer: reverse, reverse

6. When a transistor is in active region the resistance is between
- a. Emitter to collector
 - b. Base to collector
 - c. Emitter to base
 - d. All of the above

Answer: base to collector

7. In a NPN transistor, are the minority carrier. a. Electron
- b. Holes
 - c. Donor ions
 - d. Acceptor ions

Answer: holes

8. In a transistor
- a. $I_B = I_C + I_E$
 - b. $I_C = I_E + I_B$
 - c. $I_E = I_C + I_B$
 - d. $I_E = I_C - I_B$

Answer: $I_E = I_C + I_B$

9. The value of α of a transistor is
- a. 0
 - b. 1
 - c. More than 1
 - d. Less than 1

Answer: less than 1

10. The value of β of a transistor is

- a. Between 20 & 500
- b. 1
- c. Less than 1
- d. 0

Answer: between 20 & 500

Unit – IV Field Effect Transistor

1. Junction Field Effect Transistor (JFET) contain how many diodes?

- a. 4
- b. 3
- c. 2
- d. 1

Answer: 2

2. A “U” shaped, opposite-polarity material built near a JFET-channel center is called the: a. Gate

- b. Block
- c. Drain
- d. Heat sink

Answer: Gate

3. What is the input impedance of a common-gate configured JFET?

- a. Very low
- b. Low
- c. High
- d. Very high

Answer: very low

4. JFET terminal “legs” are connections to the drain, the gate, & the:

- a. Channel
- b. Source
- c. Substrate

d. Cathode

Answer: source

5. With the E-MOSFET, when gate input voltage is zero, drain current is:
- a. At saturation
 - b. Zero
 - c. IDSS
 - d. Widening the channel

Answer: zero

6. How will electrons flow through a p-channel JFET?
- a. From source to drain
 - b. From source to gate
 - c. From drain to gate
 - d. From drain to source

Answer: from drain to source

7. A JFET is also called Transistor
- a. Unipolar
 - b. Bipolar
 - c. Unijunction
 - d. None of the above

Answer: unipolar

8. A MOSFET is sometimes called JFET
- a. Many gate
 - b. Open gate
 - c. Insulated gate
 - d. Shorted gate

Answer: insulated gate

9. The pinch-off voltage of a JFET is about
- a. 5 V
 - b. 0.6 V
 - c. 15 V
 - d. 25 V

Answer: 5 V

10. The gate voltage in a JFET at which drain current becomes zero is called..... voltage
- a. Saturation
 - b. Pinch-off
 - c. Active
 - d. Cut-off

Answer: pinch-off