1). In which one of the following circuits both output and input will be in analog format?
a) Analog b) Digital c) Both a and b d) None of the above

2). In which one of the following circuits both output and input will be in digital format?
a) Analog b) Digital c) Both a and b d) None of the above

3). In which one of the following circuits the input is analog and the output is digital or the input will be digital and the output will be analog?
a) Analog b) Digital c) Mixed d) None of the above

4). Which one of the following is a type of electronic circuit?
a) Analog b) Digital c) Both a and b d) All of the above

5). The diode is a semiconductor device which is made of _____ type of materials
a) One b) Two c) Three d) Four

6). In which material will have an excess of holes?
a) P-type b) N-type c) Both a and b d) None of the above

7). In which material will have an excess of electrons?
a) P-type b) N-type c) Both a and b d) None of the above

8). In how many ways does the diode can operate?
a) One b) Two c) Three d) Four

9). What are the applications of diodes?
a) Rectifiers b) Clippers c) Clampers d) All of the above

Which one of the following signals is a continuous and naturally occurring or physically occurring signal?
a) Analog signal b) Digital signal c) Both a and b d) None of the above

The S-R flip flop consist of _____
a) 4 AND gates b) Two additional AND gates c) An additional clock input d) 3 AND gates

What is one disadvantage of an S-R flip-flop?
a) It has no Enable input b) It has a RACE condition c) It has no clock input d) Invalid State

What is the hold condition of a flip-flop?
a) Both S and R inputs activated b) No active S or R input c) Only S is active d) Only R is active

How is a J-K flip-flop made to toggle?
a) J = 0, K = 0 b) J = 1, K = 0 c) J = 0, K = 1 d) J = 1, K = 1

In J-K flip-flop, "no change" condition appears when _____
a) J = 1, K = 1 b) J = 1, K = 0 c) J = 0, K = 1 d) J = 0, K = 0

On a J-K flip-flop, when is the flip-flop in a hold condition?
a) J = 0, K = 0 b) J = 1, K = 0 c) J = 0, K = 1 d) J = 1, K = 1

What does the circle on the clock input of a J-K flip-flop mean?

a) Level enabled b) Positive edge triggered c) negative edge triggered d) Level triggered

What does the direct line on the clock input of a J-K flip-flop mean?

a) Level enabled b) Positive edge triggered c) negative edge triggered d) Level triggered

Flip flop is at 'set' state when outputs Q and Q' are respectively

a) 1 and 0 b) 0 and 1 c) 1 and 1 d) 0 and 0

D flip flop contains output that are

a) complement b) similar c) infinite d) zero

Flip flop is at 'reset' state when outputs Q and Q' are respectively

a) 1 and 0 b) 0 and 1 c) 1 and 1 d) 0 and 0

Sequential circuits require a

a) timing motors b) timing transformers c) timing generators d) timing flips

Circuit which has a feedback is

a) combinational circuit b) sequential circuit c) systematic circuit d) correctional circuit

Circuit which has two stable states are termed as

a) combinational circuit b) bistable circuits c) unit stable circuits d) tri stable circuits

Flip flop is considered set when it stores

a) logic 1 b) logic x c) logic z d) logic 0

If we don't want to change the state of SR flip flop, S and R must be

a) 1 and 0 respectively b) 0 and 1 respectively c) 1 and 1 respectively d) 0 and 0 respectively

Logic circuits which don’t have memory are

a) combinational circuit b) sequential circuit c) systematic circuit d) correctional circuit

Logic circuits that incorporate memory are called

a) combinational circuit b) sequential circuit c) systematic circuit d) correctional circuit

In order to obtain a P-type germanium, the germanium should be doped with a ..... impurity

A. Trivalent B. Tetravalent C. Pentavalent D. Any of the above

For a germanium P-N junction, the barrier potential is nearly.....

A.0.15 V B.0.3 V C.0.45 V D.0.6 V/span>

For a silicon P-N junction, the barrier potential is about

A.0.7 V B.0.8 V C.0.9 V D.1.0 V

A zener diode is invariably used with

A. Reverse bias B. Forward bias C. Zero bias D. Any of the above

The crystal diode is used as a

A.Rectifer B.Amplifier C.Oscillator D.Any of the above

Which of the following is a passive component?

A. Vacuum tube devices B. Capacitors C. Semiconductor devices D. All of the above

A room temperature P-type material will have....

A.More of electrons B.More of holes C.Equal number of electrons and holes

Which of the following elements belog to the same group of periodic tables as that of silicon and germanium

A.Phosphorous B.Carbon C.Sodium D.Boron

The switching speed is high in _____ diode

Schottky diode PN diode Both a and b None of the above

The reverse leakage current is _____ in Schottky diode

a) High b) Low c) Very high d) Moderate

An Analog Signal is continuous in both____ and _____.

a) Frequency, power b) Time, amplitude c) Modulation, waveform d) Segments, packets

Choose the SI unit of electric potential energy :

(a) Joule (b) Coulomb (c) Newton per coulomb (d) Erg

100) In _____the conductivity lies between insulator's and conductors?

a) Insulator's b) Semiconductors c) Both a and b d) None of the above

In which one of the following does the electricity can't pass?

a) Insulator's b) Semiconductors c) Both a and b d) None of the above

In which one of the following only a little current flows?

a) Insulator's b) Semiconductors c) Conductors d) None of the above

In which one of the following electricity can pass easily?

a) Insulator's b) Semiconductors c) Conductors d) None of the above

In which one of the following no current flows?

a) Insulator's b) Semiconductors c) Both a and b d) None of the above

What are the advantages of the PN junction diode?

a) Smaller b) Cheaper c) Strong and not easily destroyed d) All of the above

The current always enters through _____ pin?

a) Anode b) Cathode c) Both a and b d) None of the above

The current always exists through _____ pin?

a) Anode b) Cathode c) Both a and b d) None of the above

14. As the temperature of a semiconductor increases its

A.Conductivity increases B.Resistivity increases

C.Atomic number decreases D.Temperature co-efficient becomes zero

At room temperature N-type material will have....

A.More of electrons B.More of holes C.Equal number of electrons and holes

Which of the following elements belong to the same group of periodic tables as that of silicon and germanium

A.Phosphorous B.Carbon C.Sodium D.Boron

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A D flip-flop is constructed by connecting an inverter between the SET and clock terminals.

a) True b) False

Pulse-triggered or level-triggered devices are the same.

a) True b) False

A flip-flop is in the CLEAR condition when $Q = 1, \overline{Q} = 1$.

a) True b) False

Some flip-flops have invalid states

a) True b) False

A reverse biased diode will act as an open switch. T

The number of electrons in a stable atom is the same as the number of protons in its nucleus. T

A rectifying diode can change ac voltage to dc voltage. T

A zener diode can be used to provide voltage regulation in a power supply. T

The positive lead of a diode is the cathode. F

The forward biased characteristics of a zener diode are the same as those of a diode. T

Breakdown voltage and peak inverse voltage are the same. T

***Reverse biasing* a *pn* junction allows the flow of majority current. F**

An LED can be tested with an ohmmeter. F