

FBQ1: The two components of a  $\hat{\epsilon}$ . amplifier are amplifier system and the feedback system

Answer: feedback

FBQ2: There are  $\hat{\epsilon}$  basic types of feedback arrangements

Answer: Two

FBQ3: The feedback ration  $\hat{I}^2$  is often determined by the ratio of two  $\hat{\epsilon}$ .

Answer: resistors

FBQ4: The Ideal  $\hat{\epsilon}$ . parameters are derived to simplify circuit analysis

Answer: Op Amp

FBQ5: The two basic configurations of the operational amplifier are the noninverting op amp configuration and the inverting  $\hat{\epsilon}$  Op Amp

Answer: Inverting

FBQ6: The  $\hat{\epsilon}\hat{\epsilon}\hat{\epsilon}\hat{\epsilon}$ .. parameters are specifications used in the analysis of transistor amplifiers

Answer: Hybrid

FBQ7: The transistor can serve either as a ---- or an amplifier

Answer: switch

FBQ8:  $\hat{\epsilon}\hat{\epsilon}\hat{\epsilon}\hat{\epsilon}\hat{\epsilon}$ .. can be defined as the setting up of the DC voltages and current in an electronic circuit

Answer: Biasing

FBQ9: Integration is a mathematical process of determining the area under a -----

Answer: curve

FBQ10: The adder circuit of the operational amplifier provides an output voltage proportional to the algebraic sum of the inputs, each multiplied by a  $\hat{\epsilon}$ . gain factor

Answer: constant

FBQ11:  $\hat{\epsilon}$ . is the process by which the rate of change of a curve at any given point can be determined

Answer: Differentiator

FBQ12: The differentiator is basically a high pass  $\hat{\epsilon}$ .

Answer: filter

FBQ13: There are two types of ----- power supply namely unregulated Power Supply and Regulated Power Supply

Answer: DC

FBQ14: The  $\hat{\epsilon}$ . is responsible for stepping down the voltage level of incoming AC mains supply

Answer: transformer

FBQ15: A power supply whose terminal voltage is affected significantly by the amount of load. As the load draws more current the DC terminal voltage becomes less

Answer: Unregulated

FBQ16: The transformer steps up the voltage from the ac mains

Answer: step-up

FBQ17: The power supply utilizes the step down transformer

Answer: DC

FBQ18: The purpose of the rectifier is to convert the AC signal from the AC to DC

Answer: transformer

FBQ19: There are two classes of rectifiers namely the half wave rectification and the full wave rectification

Answer: full

FBQ20: The efficiency of rectification is given by the ratio of the output DC power to the total amount of input power supplied to the circuit

Answer: efficiency

FBQ21: Efficiency of Rectifiers is also called the conversion efficiency

Answer: conversion

FBQ22: In the positive feedback arrangement, the feedback voltage is in the same phase as the input voltage and it increases the input voltage amplitude

Answer: positive

FBQ23: The operational amplifier is a direct coupled amplifier capable of amplifying signals from DC up to a few MHz

Answer: operational amplifier

FBQ24: The peak inverse voltage is the maximum voltage the diode has to withstand without failing when it is not conducting

Answer: Peak Inverse

FBQ25: The measure of the AC components present in the rectifier output is known as the ripple factor

Answer: Ripple

FBQ26: Biasing can be defined as the setting up of the DC voltages and current in an electronic circuit

Answer: electronic

FBQ27: Load regulation is the change in output voltage between no load current condition and full load current condition, expressed in percentage

Answer: Regulation

FBQ28: A \_\_\_\_\_ is a metal structure usually with fins that is bonded, clipped or clamped to the device package to facilitate heat flow from case to ambient

Answer: heat sink

FBQ29: The load lines enables the \_\_\_\_\_ of the transistor characteristics

Answer: visualization

FBQ30: The equation  $(A + B) + C = A + (B + C)$  represents \_\_\_\_\_ laws of Boolean algebra?

Answer: Associative

FBQ31: The equation  $A(B + C) = AB + AC$  represents \_\_\_\_\_ laws of Boolean algebra

Answer: Distributive

FBQ32: The equation  $A(A + B) = A$  represents \_\_\_\_\_ laws of Boolean algebra

Answer: Redundance

FBQ33: The ratio of change in output to a given change in input supply voltage is regarded as \_\_\_\_\_ regulation

Answer: line

FBQ34: \_\_\_\_\_ factor is the ratio of the rms value of AC components of the output to the DC value of the load voltage

Answer: ripple

FBQ35: Peak Inverse Voltage is the maximum voltage the \_\_\_\_\_ has to withstand without failing when it is non conducting

Answer: diode

FBQ36: The ratio of the output DC power to the overall amount of input power supplied to a circuit is regarded as the \_\_\_\_\_ of rectification.

Answer: efficiency of rectification

FBQ37: The \_\_\_\_\_ is responsible for stepping down the voltage level of incoming ac mains supply

Answer: transformer

FBQ38: Differentiator is the process by which the rate of change of a \_\_\_\_\_ at any given point can be determined

Answer: curve

FBQ39: Voltage Series Fed Feedback is also referred to as \_\_\_\_\_ derived series-feedback

Answer: Shunt

FBQ40: Typical \_\_\_\_\_ are subject to changes such as temperature, DC supply levels and ageing

Answer: amplifiers

FBQ41: Feedback is made up of Amplifier system and the feedback system  
Answer: amplifier

FBQ42: OR gate is otherwise regarded as ---- OR  
Answer: inclusive

FBQ43: Coupling Circuit, the Load Circuit and the Bias are components parts of an amplifier circuit  
Answer: amplifier

FBQ44: The total input impedance of the circuit is the combination of  $R_1$ ,  $R_2$  and  $R_{in}$  (base)  
Answer: parallel

FBQ45: Voltage gain refers to the ratio between the output voltage and the input voltage  
Answer: gain

FBQ46: Professionally speaking, Junction FET is commonly abbreviated as JFET  
Answer: JFET

FBQ47: There are two basic types of feedback arrangements namely positive and negative feedback  
Answer: feedback

FBQ48: There are basically four types of feedback amplifier circuit topologies depending on how the signals are added at the input  
Answer: four

FBQ49: Shunt Derived Series Fed Feedback is also known as series feedback  
Answer: Voltage

FBQ50: The Ideal Op Amp parameters are derived to simplify analysis  
Answer: circuit

MCQ1: The rate of loss of heat is proportional to the temperature difference between the junction and the ambient  
Answer: Junction

MCQ2: In free air operation, the thermal resistance consists of two components namely junction to case and thermal resistance from core to ambient  
Answer: thermal resistance from junction to case

MCQ3: Basic laws of Boolean algebra are implemented as switching devices called logic gates  
Answer: logic gates

MCQ4: DeMorgan's Theorem allows gates to be converted to others by simply  
Answer: Inverting the inputs of the selected gate

MCQ5: The following gates are used to convert gates to others except

Answer: Convert all NOR operations to ANDs

MCQ6: The Inclusive OR is otherwise called

Answer: The OR gate

MCQ7:  $\nabla$  is a table which gives the output state for all the possible input combination

Answer: Truth table

MCQ8: If Input A = 0 and Input B = 1, from the truth table, what is the value of the output C in an OR gate?

Answer: 1

MCQ9: If Input A = 1 and Input B = 1, from the truth table, what is the value of the output C in an OR gate?

Answer: 1

MCQ10: The AND gate can also be realized using the  $\nabla$  and the transistor.

Answer: diode

MCQ11: If Input A = 1 and Input B = 1, from the truth table, what is the value of the output C in an AND gate?

Answer: 1

MCQ12: If Input A = 1, Input B = 1 and Input C = 0 from the truth table, what is the value of the output D in an AND gate?

Answer: 0

MCQ13: If Input A = 1, Input B = 1 from the truth table, what is the value of the output C in a NOR gate?

Answer: 0

MCQ14: If Input A = 1, Input B = 0 from the truth table, what is the value of the output C in a NOR gate?

Answer: 0

MCQ15: The NAND gate is also a universal gate as it can be constructed to get either an  $\nabla$  or an OR gate operation.

Answer: AND gate

MCQ16: If Input A = 1, Input B = 0 from the truth table, what is the value of the output C in a NAND gate?

Answer: 1

MCQ17: If Input A = 0, Input B = 1 from the truth table, what is the value of the output C in a NAND gate?

Answer: 0

MCQ18: If Input A = 0, Input B = 0 from the truth table, what is the value of the output C

in a NAND gate?

Answer: 1

MCQ19: The ratio of the rms value of AC components to the DC value of load voltage is referred to as the \_\_\_\_\_

Answer: Rectification Factor

MCQ20: In the Series Derived Shunt-Fed Feedback Topology the input is connected in \_\_\_\_\_

Answer: parallel

MCQ21: Zener diode can be applied in the following application areas except

Answer: Voltage Converter

MCQ22: In \_\_\_\_\_, the transistor operates somewhere between saturation and cut-off state

Answer: Linear Regulator

MCQ23: A major disadvantage of the \_\_\_\_\_ pass transistor regulator is that they are inefficient

Answer: series

MCQ24: The positive feedback current is used mainly in \_\_\_\_\_

Answer: oscillators

MCQ25: In the voltage divider bias, the DC bias Voltage and Current are \_\_\_\_\_

Answer: Dependent on temperature

MCQ26: The OP AMP differentiator is basically a \_\_\_\_\_ pass filter

Answer: high

MCQ27: Using a truth table, the expression  $A + A'B$  can be shown to be \_\_\_\_\_

Answer:  $A + B$

MCQ28: In the half wave rectifier, the output ripple frequency is \_\_\_\_\_

Answer: Twice the input frequency

MCQ29: Which of the following is true about BJT transistors?

Answer: BJTs are current controlled devices

MCQ30: Any amplifier circuit has the following parts EXCEPT

Answer: The Electric Circuit

MCQ31: Given  $I_{DSS} = 12\text{mA}$ ,  $V_{GS}(\text{off}) = -5\text{V}$ , determine the value of  $I_D$  at  $V_{GS} = 0, -1, -4$

Answer: 0.48mA

MCQ32: A digital signal 101011 is applied to a NOT gate. what will be the NOT gate output

Answer: 010100

MCQ33: In the common emitter configuration the output is gotten from the \_\_\_\_\_

Answer: Collector

MCQ34: What are the limitations of batteries as the commonest source of AC supply

Answer: Availability

MCQ35: The following are examples of voltage regulators except

Answer: Zener diode voltage transformers

MCQ36: The following are components of DC power supply except

Answer: Inverter

MCQ37: There are DC power classified as either; series regulators shunt regulators or

Answer: switching regulators

MCQ38: Voltage regulators ensure that the terminal voltage remains unchanged regardless of the  $\Delta$  in the input voltage provided the operational limits are not exceeded

Answer: variations

MCQ39: Ripple factor is a measure of the  $\Delta$  (fluctuating components) present in the rectifier output

Answer: AC components

MCQ40: The following are examples of voltage regulators except  $\Delta$

Answer: Transformer diode

MCQ41: The operational amplifier is a direct coupled amplifier capable of  $\Delta$ ... signals from DC up to a few MHz

Answer: Amplifying

MCQ42: The total input impedance of the circuit is the  $\Delta$  combination of  $R_1$ ,  $R_2$  and  $R_{in}(\text{base})$ .

Answer: parallel

MCQ43: The  $\Delta$  is a low pass filter and produces more output for low frequency signals

Answer: calculator

MCQ44: Amplifiers have a frequency range over which the gain and phase shift are approximately  $\Delta$ .

Answer: constant

MCQ45: The  $\Delta$  parameters are derived to simplify circuit analysis

Answer: Ideal Op Amp

MCQ46: The  $\Delta$  configuration has the input signal connected to its non-inverting

input

Answer: Non-inverting op amp

MCQ47: The  $\text{NAND}$  gate is also known as an inverter

Answer: NAND

MCQ48: The  $\text{NOR}$  gate is also referred to as a universal gate

Answer: NOR

MCQ49: If a digital signal 101011 is applied to a NOT gate what will be the NOT gate output?

Answer: 0 1 0 1 0 0

MCQ50: Any amplifier circuit has the following parts except  $\text{DC Analysis}$

Answer: DC Analysis

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