Default for CIT236 The default category for questions shared in context 'CIT236'. Fill in the Blank (FBQs) FBQ1 The efficiency of rectification is given by the ratio of the output DC power to the total amount of power supplied to the circuit
Input 1.000000
0.0000000 FBQ2 The differentiator is basically apass filter
High 1.0000000
0.0000000 FBQ3 Normally, bipolar transistors behave as current-controlled devices.
Junction 1.0000000
0.000000
0.000000
0.0000000 FBQ4 Field-effect transistors act as acontrolled device.
Voltage 1.0000000
0.000000
0.000000
0.0000000 FBQ5

Consider the block diagram of the pnp transistor shown above, the part labelled â€[−]Xâ€[™] is called

Collector 1.0000000

0.0000000

0.0000000

0.0000000 FBQ6

Consider the block diagram of the pnp transistor shown above, the part labelled â€[¬]Yâ€[™] is called _____.

Base 1.0000000

0.0000000

0.0000000

0.0000000 FBQ7

Consider the block diagram of the pnp transistor shown above, the part labelled $\hat{a} \in \mathbb{Z} \hat{a} \in \mathbb{Z}$ is called?_____.

Emitter 1.0000000

0.0000000

0.0000000

0.0000000 FBQ8

Generally, the line drawn based on the direct current operating characteristics of the circuit is referred to as a ____ line

Load 1.0000000

0.0000000

0.0000000

0.0000000

FBQ9

When identifying the endpoints of a load line, IC(max) is calculated by assuming that VCE is equal to -----____.

Zero 1.0000000 *0* 1.000000
0.000000
0.0000000 FBQ10 The voltage is the ratio between the output voltage and the input voltage
Gain 1.0000000
0.0000000 FBQ11 The is responsible for stepping down the voltage level of incoming AC mains supply
Transformer 1.0000000
0.000000
0.000000
0.0000000 FBQ12 The current power supply utilizes the step down transformer
Direct 1.000000
0.000000
0.000000
0.0000000 FBQ13 The JFET is always operated with the Gate to Source voltage in bias.
Reverse 1.000000
0.000000
0.000000

0.0000000

FBQ14

In the common collect configuration of a BJT, the input terminal is the base while the output terminal is the -----_and the collector is common to both the input and the output.

Emitter 1.0000000

1.0000000

0.0000000

0.0000000

0.0000000

FBQ15

The _____ gate is also referred to as a universal gate, because it can be used to simulate the functions of â€⁻ORâ€⁻, â€⁻ANDâ€⁻ and â€⁻NOTâ€⁻ gates.

NOR

1.0000000

0.0000000

0.0000000

0.0000000

FBQ16

A DC power supply whose terminal voltage remains constant regardless of the amount of current drawn from it is known as a ----- power supply.

Regulated 1.0000000

0.0000000

0.0000000

0.0000000 FBQ17

______factor is the ratio of the rms value of AC components of the output to the DC value of the load voltage

Ripple 1.0000000

0.0000000

0.0000000 FBQ18 The gate can also be realized using the diode and the transistor
AND 1.000000
0.000000
0.000000
0.0000000 FBQ19 In Boolean algebra, A + (B â^™ C) = (A + B) (A + C) is an example of law.
Distributive 1.000000
0.000000
0.000000
0.0000000 FBQ20 In a DC power supply, a converts the AC signal to DC.
Rectifier 1.000000
0.000000
0.000000
0.0000000 FBQ21 A Junction Field Effect Transistor has three terminals namely: source, drain and
Gate 1.000000
0.000000
0.000000
0.0000000 FBQ22 inverse voltage is the maximum voltage the diode has to withstand without

failing when it is non-conducting.

Peak 1.0000000

0.0000000

0.0000000

0.0000000

FBQ23

In the common emitter configuration, the input terminal is the base while the output terminal is the ______ and the emitter is common to both the input and the output.

Collector 1.0000000

0.0000000

0.0000000

0.0000000

FBQ24

In the DC analysis of transistors amplifiers, all capacitors are regarded as _____ circuits.

Open 1.0000000

0.0000000

0.0000000

0.0000000 FBQ25 In a DC power supply, the easiest way to smooth a circuit is by adding a ______ in parallel to the resistive load.

Capacitor 1.0000000

0.0000000

0.0000000

0.0000000 FBQ26

_____ regulation is defined as ratio of change in output to a given change in input supply voltage of a voltage regulator circuit.

Line 1.0000000

0.0000000

0.0000000

0.0000000 FBQ27

_____ regulation is the change in output voltage between no load current condition and full load current condition, expressed as a percentage.

Load 1.0000000

0.0000000

0.0000000

0.0000000 FBQ28

_____ regulators control or maintain a constant DC voltage output by continuously adjusting the voltage drop across a power transistor connected between the unregulated input and the load.

Series 1.0000000

0.0000000

0.0000000

0.0000000 FBQ29

_____ protection circuits prevent the current through the series pass transistor from exceeding a predetermined value.

Overload 1.0000000

0.0000000

0.0000000

0.0000000

FBQ30 The measure of the AC components present in the rectifier output is known as factor.

Ripple 1.0000000
0.000000
0.000000
0.0000000 FBQ31 The load lines enables the visualization of the characteristics
Transistor 1.000000
0.000000
0.000000
0.0000000 FBQ32 Basic laws of Boolean algebra are implemented as switching devices called gates
Logic 1.000000
0.000000
0.000000
0.0000000 FBQ33 A heat is a metallic material attached to an integrated circuit chip or a high power dissipating transistor to increase the total surface area from which heat can dissipate.
Sink 1.0000000
0.000000
0.000000
0.0000000 FBQ34 In the laws of Boolean algebra, (A + B) = (B + A) is an example of law
Commutative 1.0000000

0.0000000

0.0000000

0.0000000 FBQ35 In Boolean algebra, (A + B) + C = A + (B + C) is an example of _____ law.

Associative 1.0000000 *Associate* 1.0000000

0.0000000

0.0000000 FBQ36

For the logic gate shown above, if the inputs A = 1 and B = 1, the output Q is equal to _____. (numeric answer only)

0

1.0000000

0.0000000

0.0000000

0.0000000 FBQ37

For the logic gate shown above, if the input A = 0 and B = 1, the output Q is equal to _____. (numeric answer only)

1

1.0000000

0.0000000

0.0000000

FBQ38

For the logic gate shown above, if the input A = 0 and B = 0, the output Q is equal to _____. (numeric answer only)

1

1.0000000

0.0000000

0.0000000

0.0000000 FBQ39

For the logic gate shown above, if the input A = 1 and B = 1, the output Q is equal to _____. (numeric answer only)

1

1.0000000

0.0000000

0.0000000

0.0000000 FBQ40

For the logic gate shown above, if the input A = 0 and B = 0, the output Q is equal to _____. (numeric answer only)

1

1.0000000

0.0000000

0.0000000

0.0000000 FBQ41 For the logic gate shown above, if the input A = 0 and B = 1, the output Q is equal to _____. (numeric answer only)

0

1.0000000

0.0000000

0.0000000

0.0000000 FBQ42 A digital signal 101011 is applied to a NOT gate. The output is equal to

010100 1.0000000

0.0000000

0.0000000

0.0000000 FBQ43

Consider the truth table shown above, the value of Q is equal to ______.

1 1.0000000

0.0000000

0.0000000

0.0000000

FBQ44

The ______ gate is a logic gate which will give a high output if and only if all its inputs are high.

AND 1.0000000

0.0000000

0.0000000

0.0000000 FBQ45

__ map is used for simplifying logic design by describing all possible combinations of the variables present in the logic function of interest

Karnaugh 1.0000000 *K* 1.0000000

0.0000000

0.0000000

FBQ46

Line _____ _____ is defined as ratio of change in output to a given change in input supply voltage.

Regulation 1.0000000

0.0000000

0.0000000

0.0000000

FBQ47

operating area' is defined as the area on the V and I The â€~ curve within which the device can be operated without the risk of failure or degradation.

Safe

1.0000000

0.0000000

0.0000000

0.0000000

FBQ48

The transistor when operating as a switch is biased in the saturation or cutoff region but for the transistor to be used as an amplifier, it is biased in the _____ region.

Active 1.0000000

0.0000000

0.000000

FBQ49 For a ______ feedback system, the feedback voltage is 1800 out of phase with the input voltage.

Negative 1.0000000

0.0000000

0.0000000

0.0000000 FBQ50

The ________ feedback arrangement is often unstable and is mostly used in the design of oscillators.

Positive 1.0000000

0.0000000

0.000000

0.0000000 Multiple Choice Questions (MCQs) MCQ1 The ____ is NOT a Bipolar Junction Transistor configuration.

Common output

1.0000000 Common emitter

0.0000000 Common collector

0.0000000 Common base

0.0000000 MCQ2 The transistor is a three-terminal semiconductor device which can be used for _____ and switching

Moderating

0.0000000 Transferring

0.0000000 Amplification

1.0000000 Routing

0.0000000 MCQ3

The base-emitter (BE) junction of a Bipolar Junction Transistor (BJT) acts like a diode when it is ______-biased

Forward

1.0000000 Reverse

0.0000000 positively

0.0000000 negatively

0.0000000 MCQ4

Why is the common emitter (CE) configuration preferred for amplifiers in circuit design?

The gain for the CB configuration is always less than 1

0.0000000

The CC and CE configurations both have a high gain

0.0000000

The input impedance of the CE configuration is higher than that of the CC

1.0000000

It enables the visualization of the transistor characteristics

0.0000000

MCQ5 The load line is a line drawn based on the ______ operating characteristics of the circuit.

Direct current

Alternative current

0.0000000 current

0.0000000 voltage

0.0000000

MCQ6

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

Biasing

1.0000000 switch

0.0000000 amplifier

0.0000000 operation

0.0000000 MCQ7 Which of the following options is NOT normally found in an amplifier circuit?

The Current Circuit

1.0000000 The Bias Circuit

0.0000000 The Load Circuit

0.0000000 The Coupling Circuit

0.0000000 MCQ8 Which of the following options is used to calculate the voltage gain?

Output voltage / Input voltage

1.0000000 Input voltage / Terminal voltage

Input voltage / Output voltage

0.0000000 Output voltage / Terminal voltage

0.0000000 MCQ9 _____ is NOT true about the positive feedback arrangement of a feedback amplifier?

The feedback voltage is 180 O out of phase with the input voltage

1.0000000 This arrangement is mainly used for in oscillator design

0.0000000 It leads to instability in systems

0.0000000 The arrangement increases the input voltage amplitude

0.000000

MCQ10

The ratio of the rms value of AC components to the DC value of load voltage is referred to as the _____

Rectification Factor

1.0000000 Voltage Regulation

0.0000000 Form Factor

0.0000000 Ripple Factor

0.0000000 MCQ11 In the Series Derived Shunt-Fed Feedback Topology, the input is connected in

Series

0.0000000 Sequence

0.0000000 Parallel

1.0000000 Linear

0.0000000 MCQ12 Zener diode can be applied in the following application areas except _____?

Voltage Converter

1.0000000 Voltage Regulation

0.0000000 Voltage Limiter

0.0000000 Meter Protection

0.0000000 MCQ13

In ______, the transistor operates somewhere between saturation and cut-off state

Linear Regulator

1.0000000 Step-down Regulator

0.0000000 Step-up Regulator

0.0000000 Inverting Regulator

0.0000000 MCQ14 An ______ amplifier can perform operations such as addition, subtraction, differentiation or integration

Operational

1.0000000 Efficient

0.0000000 Optimizing

0.0000000 Consistent

0.0000000 MCQ15 The OR gate is a Boolean mathematical equivalence of
Addition
1.000000 Multiplication
0.000000 nversion
0.000000 Negation
0.0000000 MCQ16 The positive feedback current is used mainly in
Oscillators
1.000000 Capacitors
0.000000 Oscilloscopes
D.0000000 Transformers
0.0000000 MCQ17 The OP AMP differentiator is basically a pass filter
High
1.0000000 _ow
0.000000 Medium
0.000000 Гор
0.0000000 MCQ18 n the half wave rectifier, the output ripple frequency is

Twice the input frequency

1.0000000 Equal to the input frequency

0.0000000 Zero

0.0000000 Half the input frequency

0.0000000 MCQ19 Any amplifier circuit has the following parts except _____

The Electric Circuit

1.0000000 The Bias Circuit

0.0000000 The Load Circuit

0.0000000 The Coupling Circuit

0.0000000 MCQ20 A digital signal 101010 is applied to a NOT gate. what will be the output?

010101

1.0000000 010101

0.0000000 101010

0.0000000 111000

0.0000000 MCQ21 In the common emitter configuration, the output is derived from the _____?

Collector

1.0000000 Base 0.0000000 Emitter

0.0000000 Supply

0.0000000 MCQ22 Which configurations of the bipolar junction transistor (BJT) has the lowest gain?

Common Base

1.0000000 Common Emitter

0.0000000 Common Drain

0.0000000 Common Collector

0.0000000 MCQ23 _____ is NOT a stage in the conversion of AC to a DC power supply.

Transformer

0.0000000 Rectifier

0.0000000 Filter

0.0000000 Thermistor

1.0000000 MCQ24 What is the output terminal of the common collector configuration of a BJT?

Collector

0.0000000 Amplifier

0.0000000 Emitter 1.0000000 Base

0.0000000 MCQ25 Which logic gate is also known as an inverter?

OR

0.0000000 NOT

1.0000000 NOR

0.0000000 NAND

0.0000000 MCQ26 Which logic gate is also known as a universal gate?

NOR

1.0000000 OR

0.0000000 NAND

0.0000000 AND

0.0000000

MCQ27 What is the output of a $\hat{a} \in NOT$ gate $\hat{a} \in M$ when the digital signal 110101 is applied to its input?

001100

0.0000000 0 1 0 1 0 1

0.0000000 0 0 1 0 1 0

1.0000000 1 1 0 1 0 1

0.0000000 MCQ28 In free air operation, the thermal resistance consists of _____ and thermal resistance from core to ambient thermal resistance from core to junction 0.0000000 Thermal resistance from free air to ambient 0.0000000 Cut-off region 0.0000000 thermal resistance from junction to case 1.0000000 MCQ29 In Boolean algebra, __ is a table which gives the output state for all the possible input combination Output table 0.0000000 Truth table 1.0000000 To-do-table 0.0000000 Logic table 0.0000000 MCQ30 Which of the following basic Boolean algebraic identities is NOT correct? A + 0 = A0.0000000 A + 1 = 10.0000000 A â^™ A = A 0.0000000 A â^™ 0 = 1 1.0000000 MCQ31

In the Series Derived Shunt-Fed Feedback Topology, the input is connected in

Series

0.0000000 Serial

0.0000000 Parallel

1.0000000 Linear

0.0000000 MCQ32

In ______, the transistor operates somewhere between saturation and cut-off state

Linear Regulator

1.0000000 Step-down Regulator

0.0000000 Step-up Regulator

0.0000000 Inverting Regulator

0.0000000 MCQ33 In voltage divider bias, the DC bias Voltage and Current are _____

Dependent on temperature

1.0000000 Independent on temperature

0.0000000 Constant

0.0000000 Negligible

0.0000000 MCQ34 Which option is the output terminal of the common emitter configuration of a BJT?

Collector

1.0000000 Base

0.0000000 Emitter

0.0000000 Supply

0.0000000 MCQ35 The following are components of DC power supply except _____

Rectifiers

0.0000000 The Transformer

0.0000000 Half Wave Rectifier

0.0000000 Inverter

1.0000000 MCQ36

Which equation correctly represents the flow of electrons in an npn transistor?

IE = IB + IC

1.0000000 IC = IE + IB

0.0000000 I = IE + IB

0.0000000 IB = IE + IC

0.0000000

MCQ37

Which of the following configurations would you use to reduce the effect of the transistor gain on the collector current (IC) to improve system stability?

Base Bias with Collector and Emitter Feedback

0.0000000 Base Bias with Collector Feedback

1.0000000 Voltage Divider Bias

0.0000000 **Base Bias**

0.0000000

MCQ38

Which Transistor Hybrid parameter is approximately equal to the ratio \hat{l} VBE/ \hat{l} IB and the forward resistance of the BE junction?

hie

1.0000000 hre

0.0000000 hfe

0.0000000 hoe

0.0000000 MCQ39

Which of the transistor hybrid parameter is calculated using the formula Î" IC / Î" VCE?

hie

0.0000000 hre

0.0000000 hfe

0.0000000 hoe

1.0000000 MCQ40

The current ratio Î" IC / Î" IB is used to calculate which transistor hybrid parameter?

hie

0.0000000 hre

0.0000000 hfe

1.0000000 hoe 0.0000000 MCQ41 Which of the following Boolean algebraic identities is NOT equal to A? A + A0.0000000 A + 1 1.0000000 1 * A 0.0000000 A * A 0.0000000 MCQ42 In Boolean algebra, which of the following options is an example of distributive law? $A (B + C) = A \hat{a}^{\top M} B + A \hat{a}^{\top M} C$ 1.0000000 (A + B) + C = A + (B + C)0.0000000 A + B = B + A0.0000000 A(A + B) = A0.0000000 MCQ43 Which of the following options is a simplification of the Boolean expression: A â[™] B + A â^™ B-B-0.0000000 A + B-0.0000000 А 1.0000000 В

0.0000000 MCQ44

Consider the logic gates shown above, which of the following options is equivalent to the output Q?

A + B

0.0000000 A â^™ B

1.0000000 A-+B-

0.0000000 A-â^™B-

0.0000000 MCQ45

Consider the logic gates shown above, which of the following options is equivalent to the output Q?

A- â^™ B

0.0000000 A + B

0.0000000 A- + B

0.0000000 A â^™ B

1.0000000 MCQ46

Consider the logic gate shown above, what is the output $\hat{a} \in \mathbb{Q} \hat{a} \in \mathbb{W}$ if two signals A = 0110 and B = 0011 are fed to the input.

Q = 1 1 0 1

1.0000000 Q = 1 1 0 1

0.0000000 Q = 0 0 1 1

0.0000000Q = 0 1 0 1

0.0000000 MCQ47

Which of the following options is NOT true about the common base configuration of a Bipolar Junction Transistor?

Current gain is always less than 1

0.0000000 Current gain is equal to ICIE

0.0000000 Preferred choice for current amplification

1.0000000 Has high output resistance

0.0000000

MCQ48

Which of the following materials is often used for the construction of heat sinks due to its light weight and low resistivity?

Aluminium

1.0000000 Copper

0.0000000 Zinc

0.0000000 Iron

0.0000000 MCQ49 Using Boolean algebra, ____ expression is equivalent to:

A â[^]™ B + A (CD + CD-)

A â^™ B + D-

0.0000000 A (B + C)

1.0000000 A (B + D)

0.0000000 A (B + D-)

0.0000000

MCQ50

Which of the following expressions is equivalent to $(A + B) \hat{a}^{TM} (A + C)$ after simplifying using Boolean algebra ?

A + (B â^™ C)

1.0000000 A + B + C

0.0000000 A â^{^™} (B + C)

0.0000000 A â[^]™ (A + C)