PROVISIONAL ANSWER KEY

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Question1:-The net electrical charge in an isolated system remains constant. This is known as

A:-Law of conservation of charge

B:-Coulomb's first law

C:-Coulomb's second law

D:-Law of conservation of energy

Correct Answer:- Option-A

Question2:-Two resistances 4 ohm & 3 ohm are connected in series, the effective resistance is

A:-4 ohm

B:-3 ohm

C:-7 ohm

D:-7/12 ohm

Correct Answer:- Option-C

Question3:-Kirchoffs voltage law deals with the conservation of

A:-Momentum

B:-Mass

C:-Potential Energy

D:-Charge

Correct Answer:- Option-D

Question4:-A 250 V bulb passes a current of 0.3 A. Calculate the power in the lamp

A:-75 W

B:-50 W

C:-25 W

D:-90 W

Correct Answer:- Option-A

Question5:-In the certain circuit, having constant resistance the current is tripled, what will happen to power :

A:-It will remain the same

B:-It will increase by 9 times

C:-It will decrease by 9 times

D:-It will increase by three times

Correct Answer:- Option-D

Question6:-One Newton metre is same as

A:-One watt

B:-1 joule

C:-5 joules

D:-1 joule/sec

Correct Answer:- Option-B

Question7:-Two resistors are set to be connected in series when

A:-Same current passes in turn through body

B:-Both carry the same value of current

C:-Total current equals the sum of branch currents

D:-Some of I.R. drops equal the applied e.m.f.

Correct Answer:- Option-A

Question8:-Specific resistance of a substance is measured in

A:-Ω/m

B:-Ω/m^2

C:-Ω –€m

D:-m/Ω

Correct Answer:- Option-C

Question9:-Voltage dependent resistors are used

A:-For inductive circuits

B:-To suppress surges

C:-As heaving elements

D:-As current stabilizers

Correct Answer:- Option-B

Question10:-The current carrying capacity of a copper wire having twice the diameter of another copper wire is

A:-Twice as great

B:-Half as great

C:-Four times as great

D:-Three times as great

Correct Answer:- Option-C

Question11:-Magnetic moment is a

A:-Pole strength

B:-Scalar quantity

C:-Vector quantity

D:-Universal constant

Correct Answer:- Option-C

Question12:-A direct current is sent through a helical spring. The spring tends to

A:-to get longer

B:-to get shorter

C:-to move eastward

D:-to rotate about axis

Correct Answer:- Option-B

Question13:-The magnetic field required to reduce the residual magnetisation to zero is called

A:-retentivity

B:-coercivity

C:-hysterisis

D:-saturation magnetization

Correct Answer:- Option-B

Question14:-A law establishing the fact that the algebraic sum of the rises and drops of the mmf around a closed loop of a magnetic circuit is equal to zero

A:-Kirchoff's circuital law

B:-Maxwell's circuital law

C:-Ampere's circuital law

D:-Coulomb's circuital law

Correct Answer:- Option-C

Question15:-The point in a magnet where the intensity of magnetic lines of force is maximum

A:-Magnetic pole

B:-South pole

C:-North pole

D:-Unit pole

Correct Answer:- Option-A

Question16:-The total number of magnetic lines of force in a magnetic field is called

A:-Magnetic flux

B:-Magnetic flux density

C:-Magnetic flux intensity

D:-Magnetic potential

Correct Answer:- Option-A

Question17:-Eddy current produced in a core

A:-Increase useful energy

B:-Create loss of useful energy

C:-Strengthen the magnetic field

D:-None of the above

Correct Answer:- Option-B

Question18:-Hysterisis loop least depends on

A:-Magnetic field intensity

B:-Frequency

C:-Ambient temperature

D:-Volume of material

Correct Answer:- Option-C

Question19:-An electromagnet is stronger if it uses

A:-less current

B:-a straight wire instead of a coil

C:-a smaller bar of ferromagnetic material

D:-a ferromagnetic material that is easier to magnetize

Correct Answer:- Option-D

Question20:-The inherent property of all matter is/are

A:-Para magnetism

B:-Diamagnetism

C:-Ferromagnetic

D:-None of these

Correct Answer:- Option-A

Question21:-Select the correct answer :
The magnitude of AC voltage generated depends on :
(i) Number of turns on coil
(ii) Number of poles
(iii) Speed of rotation
(iv) Strength of magnetic field

A:-Only (ii, iii & iv)

B:-Only (i, ii & iii)

C:-Only (i, iii & iv)

D:-All are correct

Correct Answer:- Option-C

Question22:-An AC current is given by $i = \mathrm{I}_m \sin(\omega t + \theta)$, then its RMS value is given by

A:-I_m

B:-$0.707 \times I_m$

C:-$0.5 \times I_m$

D:-$1.414 \times I_m$

Correct Answer:- Option-B

Question23:-Consider the voltage equations $V_1 = A \sin(100\pi t + 15^\circ)$ and $V_2 = B \sin(100\pi t - 30^\circ)$. Which of the following statements is correct?

(i) V_1 leads V_2 by 45°

(ii) V_2 leads V_1 by 45°

(iii) Frequency of the voltage waveforms is 100 Hz

(iv) Frequency of the voltage waveforms is 50 Hz

A:-Only (i & iv)

B:-Only (ii & iii)

C:-Only (i & iii)

D:-Only (ii & iv)

Correct Answer:- Option-A

Question24:-Crest factor of sinusoidal alternating voltage is

A:-1.11

B:-1.414

C:-0.707

D:-0.9

Correct Answer:- Option-B

Question25:-The maximum current of a sinusoidal AC circuit is 10 A. What is the instantaneous current at 60°?

A:-7.07 A

B:-5 A

C:-10 A

D:-8.66 A

Correct Answer:- Option-D

Question26:-Form factor of a waveform is given by the equation

A:-Maximum value / RMS value

B:-RMS value / Maximum value

C:-RMS value / Average value

D:-Maximum value / Average value

Correct Answer:- Option-C

Question27:-Which of the following statements is / are correct regarding alternating current flowing through a pure inductive circuit?

(i) Voltage lags behind current by an angle 90°

(ii) Current lags behind voltage by an angle 90°

(iii) Average power over one cycle is positive

A:-Only (i & iii)

B:-Only (ii & iii)

C:-Only (i)

D:-Only (ii)

Correct Answer:- Option-D

Question28:-In an AC circuit containing pure capacitance only reactance is

A:-Directly proportional to frequency

B:-Inversely proportional to frequency

C:-Directly proportional to square of frequency

D:-Independent of frequency

Correct Answer:- Option-B

Question29:-Which of the following is the correct relation between line current and phase current in a star connected system?

A:-Line current = Phase current

B:-Line current = $\sqrt{3}$ Phase current

C:-Line current = $\frac{1}{\sqrt{3}}$ Phase current

D:-Line current = 3 × Phase current

Correct Answer:- Option-A

Question30:-Which of the following statements are correct for a three-phase delta connected system?
(i) Line voltage = $\sqrt{3}$ phase voltage
(ii) Line current = Phase current
(iii) Line currents are 30° ahead of the respective phase currents
(iv) Line currents are 30° behind the respective phase currents

A:-Only (i) & (iii)

B:-Only (ii) & (iv)

C:-Only (iii)

D:-Only (iv)

Correct Answer:- Option-D

Question31:-Which of the following type of instruments may be categorized as transfer instruments?

A:-Moving coil

B:-Moving iron

C:-Hotwire instruments

D:-Electrodynamic

Correct Answer:- Option-D

Question32:-Which of the following methods is NOT suitable for measuring high resistance?

A:-Loss of charge

B:-Megohm bridge

C:-Wheatstone bridge

D:-Insulation megger

Correct Answer:- Option-C

Question33:-The Time base circuit in a cathode ray oscilloscope (CRO) generates

A:-Square waveform

B:-Sawtooth waveform

C:-Sine waveform

D:-PWM square waveform

Correct Answer:- Option-B

Question34:-Consider the following statements about an electrodynamometer type wattmeter

(i) The fixed coils/field coils are connected in series with the load.
(ii) The moving coil/pressure coil is connected across the voltage.
(iii) The fixed and moving coils are iron cored.
(iv) The deflecting torque produced not only considers voltage and current but also the power factor of the load.
(v) The compensating coil in an LPF wattmeter is connected in series with the pressure coil circuit but made identical to the current coil.

Which of the above statements are correct?

A:-(i), (ii) and (iii)

B:-(i), (ii), (iv) and (v)

C:-(i), (ii), (iii) and (v)

D:-(i), (ii) and (iv)

Correct Answer:- Option-B

Question35:-Consider the following statements

(i) The secondary side is nearly short circuited for current transformer(CT) operation while it is nearly open circuited for potential transformer (PT) operation.
(ii) The primary current in a potential transformer (PT) is dependent on the secondary burden while it is not in a current transformer (CT).

A:-(i) is correct, (ii) is incorrect

B:-(i) is incorrect, (ii) is correct

C:-(i) and (ii) are incorrect

D:-(i) and (ii) are correct

Correct Answer:- Option-D

Question36:-Match the following.

(a) Hay's bridge	(i) capacitance
(b) Schering bridge	(ii) inductance
(c) Kelvin double bridge	(iii) low resistance
(d) Maxwell bridge	(iv) inductance, high Q factor

A:-(a)-(iv), (b)-(ii), (c)-(iii) - (d)-(i)

B:-(a)-(ii), (b)-(iii), (c)-(i) - (d)-(iv)

C:-(a)-(iv), (b)-(i), (c)-(iii) - (d)-(ii)

D:-(a)-(ii), (b)-(i), (c)-(iv) - (d)-(iii)

Correct Answer:- Option-C

Question37:-A 220 V, 5 A DC energy meter is tested at its rated voltage and current under the following two methods:

(i) Direct loading
(ii) Phantom loading, where the current circuit is supplied by a 9 V battery.

The resistance of the pressure coil is 9680 Ω and the resistance of the current coil is 0.5 Ω. Determine the difference in power consumed between the two testing methods.

A:-1100 W

B:-45 W

C:-162 W

D:-1055 W

Correct Answer:- Option-D

Question38:-A stationary closed Lissajous pattern on an oscilloscope has 2 horizontal tangencies and 3 vertical tangencies for a horizontal input with frequency 12 kHz. The frequency of the vertical input is

A:-8 kHz

B:-18 kHz

C:-24 kHz

D:-6 kHz

Correct Answer:- Option-A

Question39:-When two wattmeter method is used for power measurement in a balanced three phase system, one of the wattmeters reads 800 W while the other reads 400 W. The total power consumption and power factor of the load respectively is

A:-1200 W, 0.5

B:-400 W, 0.5

C:-1200 W, 0.866

D:-400 W, 0.866

Correct Answer:- Option-C

Question40:-A moving coil instrument has a resistance of 15 ohm and gives full scale deflection for 1 mA. To extend its range to 50 mA, _____ may be used.

A:-0.3Ω shunt resistor

B:-0.3Ω series resistor

C:-3.33Ω shunt resistor

D:-3.33Ω series resistor

Correct Answer:- Option-A

Question41:-Human body experiences shock due to:

A:-Flow of current

B:-Voltage level

C:-Power

D:-Resistance

Correct Answer:- Option-A

Question42:-Currents which cannot cause direct physiological harm but can cause involuntary muscular reactions are called

A:-Fault current

B:-Primary Shock current

C:-Secondary Shock current

D:-Leakage current

Correct Answer:- Option-C

Question43:-For a normal healthy person, a current of about 10 to 30 mA can cause

A:-Tingling Sensation

B:-Muscular Contraction

C:-Ventricular Fibrillation

D:-Loss of heart beat

Correct Answer:- Option-B

Question44:-Which of the following is commonly used as the fuse element in an HRC fuse?

A:-Copper

B:-Alloy of Tin and Lead

C:-Aluminium

D:-Silver

Correct Answer:- Option-D

Question45:-Which protective device disconnect the current when leakage current flows to earth?

A:-Fuse

B:-MCB

C:-RCCB

D:-Isolator

Correct Answer:- Option-C

Question46:-Double insulation method in portable electric drill eliminates the need for

A:-Neutral wire

B:-Earthing Connection

C:-Fuse

D:-Switch

Correct Answer:- Option-B

Question47:-A battery consists of three cells each rated 12V,100Ah are connected in series. What is the total capacity of the battery bank?

A:-100Ah

B:-167Ah

C:-300Ah

D:-150Ah

Correct Answer:- Option-A

Question48:-If 12 solar cells, each having a terminal voltage of 1 V are connected in series, what will be the total terminal voltage

A:-3V

B:-9V

C:-12V

D:-24V

Correct Answer:- Option-C

Question49:-A load consumes 100 W at 10 V. If each cell provides 2V and can supply 5A, determine the total number of cells required

A:-10

B:-12

C:-8

D:-6

Correct Answer:- Option-A

Question50:-A UPS system requires 240V and 50A. Each cell provides 2V and can deliver 10A. Determine the total number of cells required.

A:-100

B:-200

C:-400

D:-600

Correct Answer:- Option-D

Question51:-What type of switch is commonly used in staircase wiring to control one lamp from two positions?

A:-SPST

B:-SPDT

C:-TPTT

D:-Limit Switch

Correct Answer:- Option-B

Question52:-What is the fundamental purpose of adding charcoal and salt to an earthing pit?

A:-To insulate the electrode from corrosion

B:-To prevent insect infestation

C:-To generate a chemical voltage

D:-To lower the soil's electrical resistance

Correct Answer:- Option-D

Question53:-What is the purpose of the arc chute found inside a miniature circuit breaker?

A:-To vent ionized gasses safely outside the switchboard enclosure

B:-To divide, cool, and extinguish the high-energy electric arc formed during contact separation

C:-To pre-heat the contacts to reduce contact resistance upon closure

D:-To magnetically pull the contacts back into the closed position

Correct Answer:- Option-B

Question54:-Inside an HRC fuse body, what is the specific role of the packed quartz sand powder?

A:-To quench the electrical arc generated during a fault blowout

B:-To conduct excess current away safely

C:-To keep the metal caps physically glued together

D:-To alert users by changing colour when blown

Correct Answer:- Option-A

Question55:-An industrial facility runs a balanced 3-phase heavy motor supply. Which main switch must be Installed for this purpose?

A:-SPST Switch

B:-ICDP Switch

C:-ICTP Switch

D:-SPDT Switch

Correct Answer:- Option-C

Question56:-What type of fault is an MCB's internal bimetallic strip designed to protect against?

A:-Rapid, high-magnitude dead short circuits

B:-Delayed thermal overload protection

C:-Neutral line disconnects

D:-High-frequency harmonic distortions

Correct Answer:- Option-B

Question57:-A point source of 150 candela (cd) light intensity emits light uniformly in all directions. Determine the total luminous flux emitted by the source.

A:-150 lm

B:-600 lm

C:-1885 lm

D:-4712 lm

Correct Answer:- Option-C

Question58:-An electrical circuit powering a 230 V water pump is protected by a standard 30 mA Residual Current Circuit Breaker (RCCB). If the pump develops an internal insulation fault that results in a leakage current of 0.015 A directly to earth. which of the following statements best describes the outcome?

A:-The RCCB will trip immediately and cut off the power supply to the pump.

B:-The RCCB will not trip, and the water pump will continue to operate normally.

C:-The pump will overheat and burn out without triggering the RCCB.

D:-The RCCB will trip only if the supply voltage drops below 230 V.

Correct Answer:- Option-B

Question59:-A 3-phase 415 V balanced industrial load consumes a total active power of 15 kW at a power factor of 0.82 lagging. Assuming a standard safety multiplier of 1.25 for motor starting currents and continuous operation, what is the ideal nominal current rating for the 3-pole MCB protecting this circuit?

A:-20 A

B:-25 A

C:-32 A

D:-40 A

Correct Answer:- Option-C

Question60:-Why are Type D MCBs chosen for equipment like X-ray machines and heavy industrial motors?

A:-They have less voltage drop

B:-They allow for high startup current surges without causing nuisance trips.

C:-They trip much faster on small overloads than Type B breakers.

D:-They work without an earth connection.

Correct Answer:- Option-B

Question61:-Which of the following statement/s is/are correct regarding the functions of yoke in a DC generator?
(i) It provides mechanical support for the poles
(ii) It acts as a protective cover
(iii) It does not carry the magnetic flux produced by the poles.

A:-Only (i)

B:-Only (ii) & (iii)

C:-Only (i) & (ii)

D:-(i), (ii) & (iii)

Correct Answer:- Option-C

Question62:-Which of the following statement/s is/are correct regarding the working of a DC generator?
(i) The emf induced in the armature conductors is alternating emf.
(ii) To obtain unidirectional current in the external circuit, slip rings are used.

A:-Only (i)

B:-Only (ii)

C:-Both (i) & (ii)

D:-Both statements are wrong

Correct Answer:- Option-A

Question63:-Determine the generated EMF of a DC shunt generator delivering an armature current of 20 A at a terminal voltage of 250 V and having an armature resistance of 0.5 ohm.

A:-240 V

B:-260 V

C:-230 V

D:-250 V

Correct Answer:- Option-B

Question64:-A 6-pole wave wound DC shunt generator has an armature resistance of 1 ohm and a shunt field winding resistance of 145 ohm with 500 armature conductors and a useful flux per pole of 0.05 Wb. Which of the following combinations of generated EMF and speed are possible for the above DC generator?
(i) 750 V, 600 RPM
(ii) 250 V, 600 RPM
(iii) 1500 V, 1200 RPM
(iv) 500 V, 1200 RPM

A:-Only (i) & (iii)

B:-Only (ii) & (iv)

C:-Only (i) & (iv)

D:-Only (ii) & (iii)

Correct Answer:- Option-A

Question65:-Which of the following statement/s is/are NOT correct regarding lap and wave winding?

(i) For a given number of poles and armature conductors, lap winding gives more EMF than wave winding.

(ii) Wave winding is suitable for high voltage, low current machines.

(iii) When large currents are required, it is necessary to use lap winding.

A:-Only (i) & (ii)

B:-Only (ii)

C:-Only (iii)

D:-Only (i)

Correct Answer:- Option-D

Question66:-Which of the following is/are correct with respect to DC generator characteristics?

(i) Open circuit characteristic shows the relation between no-load generated emf and the field current at a given fixed speed.

(ii) Internal characteristic gives the relation between emf actually induced in the armature (after allowing for demagnetizing effect of armature reaction) and armature current.

(iii) External characteristic gives relation between terminal voltage and load current.

A:-Only (i) & (iii)

B:-Only (i)

C:-Only (iii)

D:-(i), (ii) & (iii)

Correct Answer:- Option-D

Question67:-The difference between armature torque and shaft torque in a DC motor is due to :

(i) Copper loss

(ii) Iron loss

(iii) Friction loss

A:-Only (iii)

B:-Only (ii) & (iii)

C:-Only (i)

D:-(i), (ii) & (iii)

Correct Answer:- Option-B

Question68:-Read the following statements: Assertion (I) and Reason (II). Choose one of the correct alternatives given below:

Assertion (I) : Back emf in a DC motor acts like a governor, i.e., it makes a motor self-regulating.

Reason (II) : If motor speed is high, then back emf is small and hence the armature current is large. If speed is less, then back emf is more and motor draws less current.

A:-Both Assertion (I) and Reason (II) are true and Reason (II) is the correct explanation of Assertion (I)

B:-Both Assertion (I) and Reason (II) are true and Reason (II) is NOT the correct explanation of Assertion (I)

C:-Assertion (I) is true but Reason (II) is False

D:-Assertion (I) is False but Reason (II) is True

Correct Answer:- Option-C

Question69:-Which of the following statement/s is /are NOT correct regarding Swinburne’s test of a DC machine?

(i) It is economical because the power required to test a machine is small.

(ii) The effect of change in iron loss from no load to full load is considered.

(iii) The efficiency can be predetermined at any load.

A:-Only (ii)

B:-Only (ii) & (iii)

C:-Only (i)

D:-Only (i) & (iii)

Correct Answer:- Option-A

Question70:-Which of the following statement/s is /are correct regarding armature or rheostatic speed control of a DC shunt motor?
(i) This method is used when speeds below no-load speed is required.
(ii) As the controller resistance is increased, speed is decreased.
(iii) Smaller the resistance in armature circuit, greater is the fall in speed.

A:-Only (i)

B:-Only (i) & (ii)

C:-Only (i) & (iii)

D:-(i), (ii) & (iii)

Correct Answer:- Option-B

Question71:-A 200 KVA transformer has an iron loss of 1 kW and full load copper loss of 2 kW. Its load kVA corresponding to maximum efficiency is

A:-50

B:-100

C:-141.4

D:-400

Correct Answer:- Option-C

Question72:-A 6 pole 50 Hz 3 phase induction motor runs at 950 r.p.m. and has rotor copper loss of 5 kW. The rotor input in kW is

A:-100

B:-10

C:-95

D:-5.3

Correct Answer:- Option-A

Question73:-In an alternator the armature reaction is completely magnetizing when the load power factor is

A:-Unity

B:-0.707

C:-Zero lagging

D:-Zero leading

Correct Answer:- Option-D

Question74:-Consider the statements about a stepper motor
(1) The rotor has no windings
(2) The Pull-out torque of a stepper motor refers to minimum torque required for starting
(3) The resolution of a stepper motor increases with increase in step angle
Which of the statement/s is/are correct?

A:-Only (1)

B:-Only (3)

C:-(2) & (3)

D:-(1) & (2)

Correct Answer:- Option-A

Question75:-Which of the following methods are suitable for speed control of squirrel cage induction motors.
(1) Voltage control
(2) Rotor resistance control
(3) Frequency control
(4) Pole changing

A:-(2), (3) and (4)

B:-(1), (3) and (4)

C:-(1), (2) and (3)

D:-(2) and (4)

Correct Answer:- Option-B

Question76:-A transformer has full load copper loss of 400 W. The copper loss at half full load will be

A:-400 W

B:-200 W

C:-250 W

D:-100 W

Correct Answer:- Option-D

Question77:-Consider the following statements :
(1) The all-day efficiency of a transformer depends on amount and duration of load.
(2) The hysteresis loss in a transformer depends on square of frequency.
(3) In a transformer OC test is conducted on 1v side and SC test on hv side
Identify the correct statements?

A:-Only (1)

B:-(1) & (3)

C:-(1) & (2)

D:-Only (3)

Correct Answer:- Option-B

Question78:-The rotor circuit frequency of a 4 pole, 3-phase induction motor connected to a 50 Hz supply under locked rotor condition is

A:-2 Hz

B:-20 Hz

C:-50 Hz

D:-70 Hz

Correct Answer:- Option-C

Question79:-A 50 KVA, 500 V alternator gave the following test results :
Open circuit test : A field current of 12 A produced an emf of 300 V.
Short circuit test : A field current of 12 A caused a current of 175 A to flow in the short-circuited armature.
The synchronous impedance of the alternator (in Ω)€is€

A:-1.71

B:-2.85

C:-25

D:-41.67

Correct Answer:- Option-A

Question80:-In case of split phase motor, the phase shift between currents in the two windings is around

A:-30°

B:-70°

C:-90°

D:-120°

Correct Answer:- Option-A

Question81:-What is the hexadecimal equivalent of decimal number 568?

A:-1F8

B:-238

C:-2AB

D:-388

Correct Answer:- Option-B

Question82:-Which logic gate acts as an enable or inhibit device?

A:-OR gate

B:-NOT gate

C:-AND gate

D:-XOR gate

Correct Answer:- Option-C

Question83:-Choose the Correct Statement

A:-Boolean multiplication corresponds to OR operation

B:-Boolean addition corresponds to OR operation

C:-Boolean addition corresponds to NOT operation

D:-Boolean multiplication corresponds to XOR operation

Correct Answer:- Option-B

Question84:-Which gate pair is directly related through De Morgan’s theorem?

A:-AND and OR

B:-XOR and XNOR

C:-Buffer and NOT

D:-NAND and NOR

Correct Answer:- Option-D

Question85:-Which adder circuit can handle carry input from a previous stage?

A:-Half adder

B:-Full adder

C:-Parallel adder

D:-Serial adder

Correct Answer:- Option-B

Question86:-Select the correct statement:

A:-Edge-triggered flip-flops are bistable devices with synchronous input

B:-States of latches are normally independent of asynchronous inputs

C:-Flip-flops can change state except on the triggering edge of a clock pulse

D:-All are correct

Correct Answer:- Option-A

Question87:-The unique feature of a J-K flip-flop compared to an S-R flip-flop is its:

A:-Asynchronous input

B:-Toggle operation

C:-Clock frequency

D:-Reset terminal

Correct Answer:- Option-B

Question88:-To construct a modulus-18 binary counter, the required number of flip-flops is:

A:-5

B:-4

C:-3

D:-18

Correct Answer:- Option-A

Question89:-A serial in/serial out shift register with 4 flip-flops provides a delay of 20 μs. The operating clock frequency is:

A:-50 kHz

B:-100 kHz

C:-200 kHz

D:-400 kHz

Correct Answer:- Option-C

Question90:-A 4-bit Digital to Analog converter has a full-scale output voltage of 30 V. What is the output voltage when the input is 1010?

A:-10 V

B:-15 V

C:-20 V

D:-30 V

Correct Answer:- Option-C

Question91:- The maximum efficiency of a full-wave rectifier without filter is _____

A:-40.6 %

B:-81.2 %

C:-50%

D:-100 %

Correct Answer:- Option-B

Question92:-The ripple factor of a half-wave rectifier without filter is _____

A:-0.482

B:-0.812

C:-1.41

D:-1.21

Correct Answer:- Option-D

Question93:-The correct relationship between latching current (I_L) and holding current (I_H) in an SCR is:

A:-$I_L < I_H$

B:-$I_L = I_H$

C:-$I_L > I_H$

D:-$I_L = I_H = 0$

Correct Answer:- Option-C

Question94:-A UJT relaxation oscillator generally produces:

A:-Sine wave

B:-Square wave

C:-DC output

D:-Sawtooth wave

Correct Answer:- Option-D

Question95:-A regulated power supply provides:

A:-Constant DC voltage

B:-Pulsating DC only

C:-Variable output voltage

D:-High-frequency AC

Correct Answer:- Option-A

Question96:-MOSFET is a:

A:-Current-controlled device

B:-Voltage-controlled device

C:-Temperature-controlled device

D:-Resistance-controlled device

Correct Answer:- Option-B

Question97:-IGBT stands for:

A:-Integrated Gate Bipolar Transistor

B:-Insulated Gate Bipolar Transistor

C:-Insulated Gate Base Transistor

D:-Internal Gate Bipolar Transistor

Correct Answer:- Option-B

Question98:-Which battery water should be used in lead-acid inverter batteries?

A:-Salt water

B:-Tap water

C:-Distilled water

D:-Mineral water

Correct Answer:- Option-C

Question99:-A DIAC starts conducting when the applied voltage exceeds:

A:-Breakover voltage

B:-Holding voltage

C:-Cutoff voltage

D:-Threshold current

Correct Answer:- Option-A

Question100:-A TRIAC is equivalent to:

A:-Two SCRs in series

B:-Two SCRs in antiparallel

C:-One diode

D:-One transistor

Correct Answer:- Option-B