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ISRO Tech Asst EEE 04 Jun 2022

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सतीश धवन अंतरिक्ष केंद्र शार, श्रीहरिकोटा

SATISH DHAWAN SPACE CENTRE SHAR
Sriharikota

भारतीय अंतरिक्ष अनुसंधान संगठन
Indian Space Research Organisation



Participant ID	
Participant Name	
Test Center Name	
Test Date	04/06/2022
Test Time	12:30 PM - 2:30 PM
Subject	Electrical and Electronics Engineering(EEE)

Section : Electrical and Electronics Engineering EEE

Q.1

What is $\lim_{\theta \rightarrow 0} \frac{\sin \theta}{\theta}$ equal to

- A. θ
- B. $\sin \theta$
- C. Zero
- D. 1

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934845
Status : Answered
Chosen Option : C

Q.2

The function $f(x) = 3x(x - 2)$ has a

A. minimum at $x = 1$

B. maximum at $x = 1$

C. minimum at $x = 2$

D. maximum at $x = 2$

Ans A. A

B. B

C. C

D. D

Question ID : 5834934849

Status : Answered

Chosen Option : D

Q.3

The value of $(1 + i)^8$ is (where $i = \sqrt{-1}$)

A. $8 + 4i$

B. $8 - 4i$

C. 16

D. 8

Ans A. A

B. B

C. C

D. D

Question ID : 5834934852

Status : Answered

Chosen Option : D

Q.4 A synchronous motor can run at _____ power factor

- A. Unity PF
- B. Leading PF
- C. Lagging PF
- D. All A, B, C

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934814
Status : Answered
Chosen Option : D

Q.5 The total power in a three-phase circuit is expressed as

- A. $P=3V_L I_L \cos\phi$
- B. $P=\sqrt{3}V_P I_P \cos\phi$
- C. $P=\sqrt{3}V_L I_L \cos\phi$
- D. None of the above

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934803
Status : Answered
Chosen Option : C

Q.6 An over excited synchronous motor draws current _____

- A. at lagging Power factor
- B. at leading Power factor
- C. at Unity power factor
- D. depending on the nature of load

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934819
Status : Answered
Chosen Option : D

Q.7 Voltage regulators use

- A. Negative feedback
- B. Positive feedback
- C. No feedback
- D. Current feedback

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934785
Status : Answered
Chosen Option : A

Q.8 Stirling boiler is a

- A. Fire tube boiler
- B. Bend tube water boiler
- C. Vertical straight tube water boiler
- D. Cyclone fired boiler

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934857
Status : Not Answered
Chosen Option : --

Q.9 In UPS, the solid-state switch normally transfers within

- A. 4 ms
- B. 30 ms
- C. 48 ms
- D. 30 s

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934798
Status : Not Answered
Chosen Option : --

Q.10 Three phase-controlled rectifier used in speed control of DC motor converts fixed AC supply into following output voltage

- A. Variable DC
- B. Variable AC
- C. Variable frequency AC
- D. Full rectified AC

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934799
Status : Answered
Chosen Option : A

Q.11 Low resistance is measured by following bridge:

- A. Desauty's bridge
- B. Maxwell's bridge
- C. Kelvin's bridge
- D. Wein bridge

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934805
Status : Answered
Chosen Option : C

Q.12 Buchholtz relay is used for the protection of _____

- A. Alternators
- B. Transmission lines
- C. Switch Yard
- D. Transformers

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934820
Status : Answered
Chosen Option : D

Q.13 The windings where dummy coils are sometimes used is called as:

- A. Forced Winding
- B. Duplex Winding
- C. Triplex Winding
- D. Quadruplex winding

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934837
Status : Answered
Chosen Option : B

Q.14 An electrical load draws 5.5 KW of real power and 2.5 KVAR of inductive reactive power.
The rating of capacitor bank required to obtain a unity load power factor will be

- A. 5.5 KVAR
- B. 2.0 KVAR
- C. 2.5 KVAR
- D. 1.5 KVAR

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934832
Status : Answered
Chosen Option : C

Q.15

A diesel engine has the following possibilities:

- A. Four stroke cycle of operation
- B. Two stroke cycle of operation
- C. Three stroke cycle of operation
- D. A and B are possible

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934827
Status : Answered
Chosen Option : B

Q.16

The ripple factor of a power supply is a measure of

- A. Its voltage regulation
- B. Its diode rating
- C. Purity of power output
- D. Its filter efficiency

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934794
Status : Answered
Chosen Option : C

Q.17 The source of emission of electrons in a CRT is

- A. PN junction diode
- B. Barium and strontium oxide coated cathode
- C. Accelerating Anodes
- D. Post accelerating anodes

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934807
Status : Answered
Chosen Option : B

Q.18 What information does a load curve give?

- A. Variation of the load during different hours of the day
- B. Maximum Demand
- C. Total number of units generated in a day
- D. All of the above

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934834
Status : Answered
Chosen Option : D

Q.19 Transposition of OH lines are done for long transmission lines for the purpose of _____

- A. Equalize the L-E inductance
- B. Equalize the L-E capacitance
- C. Equalize the Line resistance
- D. To Maintain equal Vector angle

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934825
Status : Answered
Chosen Option : A

Q.20 The positive plate in a fully discharged SMF lead acid cell is _____

- A. PbSO_4
- B. Diluted H_2SO_4
- C. PbO_2
- D. Pb

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934829
Status : Answered
Chosen Option : A

Q.21 Which is called 0° connection out of the following?

- A. Delta/Delta
- B. Star/Delta
- C. Delta/Star
- D. Star/Zig-Zag Star

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934812
Status : Answered
Chosen Option : A

Q.22 Bio transformation of an organic compound having concentration (x) can be modelled using an ordinary differential equation $\frac{dx}{dt} + kx^2 = 0$, where 'k' is the reaction rate constant. If $x=a$ at $t=0$, the solution of the equation is

- A. $x = ae^{-kt}$
- B. $\frac{1}{x} = \frac{1}{a} + kt$
- C. $x = a. (1 - e^{-kt})$
- D. $x = a + kt$

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934851
Status : Not Answered
Chosen Option : --

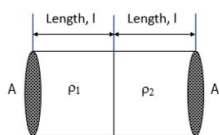
Q.23 In Cumulatively compounded DC machine _____

- A. Series field flux opposes shunt field flux
- B. Series field flux aids shunt field flux
- C. Only Series field flux excites
- D. Only shunt field flux excites

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934813
Status : Answered
Chosen Option : B

Q.24 Two rods having equal lengths and equal cross-sections but with different specific resistances ρ_1 and ρ_2 are joined at one end as shown in the figure given below. What is the effective specific resistance of the combination?



- A. $(\rho_1 \cdot \rho_2) / (\rho_1 + \rho_2)$
- B. $(\rho_1 + \rho_2) / 2$
- C. $(\rho_1 + \rho_2)$
- D. $(\rho_1 \cdot \rho_2) / 2(\rho_1 + \rho_2)$

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934853
Status : Answered
Chosen Option : C

Q.25 In a sequential circuit, the output at any instant of time depends

- A. only on the inputs present at that instant of time
- B. on past outputs as well as present inputs
- C. only on the past inputs
- D. only on the present inputs

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934786
Status : Answered
Chosen Option : A

Q.26 What is the working principle of transformer?

- A. Ohm's Law
- B. Kirchoff's Law
- C. Faraday's law of Mutual Induction
- D. Lenz's Law

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934809
Status : Answered
Chosen Option : C



Q.27

BCD equivalent of decimal number $(85)_{10}$ is

A. 1000 - 1100

B. 1000 - 0101

C. 1101 - 1010

D. 1101 - 0101

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934855
Status : Answered
Chosen Option : B

Q.28 In order to ensure low cost of Electrical Energy generation

- A. The Load factor and Diversity factor should be low
- B. The Load factor should be low but Diversity factor should be high
- C. The Load factor and Diversity Factor should be high
- B. The Load factor should be high but Diversity factor should be low

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934838
Status : Answered
Chosen Option : C

Q.29 A series RLC circuit consisting of $R = 10\Omega$, $X_L = 20\Omega$ and $X_C = 20\Omega$ is connected across an A.C. supply of 200V r.m.s. The RMS voltage across the capacitor is

- A. $200\angle(-90^\circ)$
- B. $200\angle(+90^\circ)$
- C. $400\angle(+90^\circ)$
- D. $400\angle(-90^\circ)$

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934792
Status : Answered
Chosen Option : C

Q.30 A 33 kV overhead line when erected across or along streets, it requires to have minimum statutory clearance to ground this much:

- A. 4.6 m
- B. 5.8 m
- C. 5.0 m
- D. 6.1 m

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934843
Status : Answered
Chosen Option : D



Q.31

Power factor can be defined as:

- A. Reactive power ÷ Active power
- B. Reactive power ÷ Apparent power
- C. True power ÷ Apparent power
- D. Apparent power ÷ Reactive power

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934826
Status : Answered
Chosen Option : B

Q.32 What is the secondary full load line current of a 3-phase, 11KV/433 V, 2 MVA, 50Hz, Delta/Star, step down transformer?

- A. 100 A
- B. 500 A
- C. 4617 A
- D. 2666 A

Ans A. A
 B. B
 C. C
 D. D



Question ID : 5834934816
Status : Answered
Chosen Option : C

Q.33 As per Indian Electricity Rules, the supplier shall not permit frequency of AC supply to vary by more than ___ % of declared frequency

- A. 9%
- B. 6%
- C. 3%
- D. 1.5%

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934841
Status : Answered
Chosen Option : D

Q.34 VFD for motor control stands for

- A. Voltage Fluctuation Damper
- B. Variable Flux Drive
- C. Variable Frequency Drive
- D. Variable Fixed Drive

Ans A. A
 B. B
 C. C
 D. D



Question ID : 5834934795
Status : Answered
Chosen Option : C

Q.35 If the light falling on a photodiode increases, the reverse current through it

- A. increases
- B. decreases
- C. remains unaffected
- D. none of the above

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934782
Status : Answered
Chosen Option : B

Q.36 Directional relay responds to _____

- A. Flow of power
- B. Voltage polarities
- C. Flow of current
- D. All of these

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934822
Status : Answered
Chosen Option : C



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Q.37 Yokes with rectangular cross section are used for

- A. Large capacity Transformers
- B. Medium capacity Transformers
- C. Small capacity Transformers
- D. All of the above

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934839
Status : Answered
Chosen Option : D

Q.38 Time interval from instant of contact separation to time of arc extinction is called

- A. Opening time
- B. Arcing time
- C. Closing time
- D. None of the above

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934823
Status : Answered
Chosen Option : B

Q.39 When two transformers of equal voltage ratios are operating in parallel, they will share the load under

- A. 50% - 50%
- B. Proportional to their KVA ratings
- C. Proportional to their iron losses
- D. 100% first transformer, balance second transformer

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934810
Status : Answered
Chosen Option : B

Q.40

Positive feedback means the returning signal

- A. opposes the original change
- B. aids the original change
- C. is equivalent to negative feedback
- D. is amplified

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934788
Status : Answered
Chosen Option : B

Q.41 A transformer having 1200 primary turns is connected to a 240 V ac supply. For a secondary voltage of 360 V, the number of turns on the secondary should be

- A. 800
- B. 1800
- C. 360
- D. 2700

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934815
Status : Answered
Chosen Option : B

Q.42 Which of the electrical equipment can work under water?

- A. Equipment with IP 64 Protection
- B. Equipment with IP 68 Protection
- C. Equipment with IP 54 Protection
- D. Equipment with IP 20 Protection

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934831
Status : Not Answered
Chosen Option : --

Q.43 In a balanced wheat stone bridge, $R_1 = 50 \text{ k}\Omega$, $R_2 = 60 \text{ k}\Omega$, $R_3 = R_x$ and $R_4 = 100 \text{ k}\Omega$. The value of R_x is

- A. $30 \text{ k}\Omega$
- B. $60 \text{ k}\Omega$
- C. $15 \text{ k}\Omega$
- D. $120 \text{ k}\Omega$

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934808
Status : Answered
Chosen Option : D

Q.44 The reactance offered by a capacitor to alternating current of frequency 50 Hz is 10Ω . If frequency is increased to 100 Hz, reactance becomes _____

- A. 5
- B. 2.5
- C. 40
- D. 20

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934861
Status : Answered
Chosen Option : A

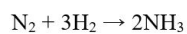
Q.45 Electricity Boards insist on customers to improve the power factor because

- A. Higher power factor produce higher losses in transmission
- B. For a given power the higher the power factor, the larger must be the size of alternator
- C. For a given power the lower the power factor, the Larger must be the size of alternator
- D. For a given power the lower the power factor, the lower the cross section area of transmission line

Ans A. A
 B. B
 C. C
 D. D

Question ID : **5834934828**
Status : **Answered**
Chosen Option : **C**

Q.46 Consider the following equation for the formation of Ammonia from Nitrogen and Hydrogen



How many hydrogen molecules are required to react with 100 molecules of Nitrogen ?

- A. 100
- B. 200
- C. 300
- D. 400

Ans A. A
 B. B
 C. C
 D. D



Question ID : **5834934860**
Status : **Not Answered**
Chosen Option : **--**

Q.47 Each diode of single-phase half wave rectifier conducts for

- A. 90°
- B. 180°
- C. 270°
- D. 360°

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934796
Status : Answered
Chosen Option : B

Q.48 In case the combination of Circuit Breaker and HRC fuse is used in a circuit, the circuit breaker will operate for :

- A. Overload current
- B. Only Short Circuit Current
- C. Only Earth fault Current
- D. B and C above

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934842
Status : Answered
Chosen Option : D

Q.49 Which of the following are the requirements of protection of power station building against direct strokes_____

- A. Interception and Conduction
- B. Interception, conduction and dissipation
- C. Interception
- D. Conduction and dissipation

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934824
Status : Answered
Chosen Option : D

Q.50 The latching current of SCR is 18 mA. Its holding current will be

- A. 7.2 mA
- B. 20 mA
- C. 50 mA
- D. 30 mA

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934800
Status : Answered
Chosen Option : A

Q.51 For a transistor of any configuration,

- A. $I_E = I_C + I_B$
- B. $I_B = I_C + I_E$
- C. $I_E = I_B - I_C$
- D. $I_C = I_E + I_B$

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934787
Status : Answered
Chosen Option : A

Q.52

The accuracy of a measuring instrument is determined by

- A. Closeness of the value indicated by it to the correct value of the measured
- B. Repeatability of the measured value
- C. Speed with which the instruments reading approaching to final value
- D. Largest change in the value of the measurand that could be detected by the instrument

Ans ✓ A. A

✗ B. B

✗ C. C

✗ D. D

Question ID : 5834934802

Status : **Answered**

Chosen Option : **B**

Q.53

Consider the following statements with reference to observations made by an astronaut on the surface of the moon.

1. The astronaut finds that a simple pendulum continues to oscillate for a much longer time than that on the earth.
2. No atmosphere exists there

Which of the following statements given above is/are correct?

- A. Only 1
- B. Only 2
- C. Both 1 and 2
- D. Neither 1 nor 2

Ans ✗ A. A

✗ B. B

✓ C. C

✗ D. D

Question ID : 5834934847

Status : **Answered**

Chosen Option : **C**



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Q.54 Which of the following does not represent an I/O device?

A. Speaker which beeps

B. Joystick

C. Plotter

D. ALU

Ans A. A

B. B

C. C

D. D

Question ID : 5834934789

Status : Answered

Chosen Option : D

Q.55 What is the condition for achieving maximum efficiency of transformer?

A. Iron loss = $\frac{1}{2}$ Copper loss

B. Copper loss = $\frac{1}{2}$ Iron loss

C. Iron Loss = Copper loss

D. Iron Loss = 2 x copper loss

Ans A. A

B. B

C. C

D. D



Question ID : 5834934859

Status : Answered

Chosen Option : C

Q.56 A tube light is specified as Daylight 6500deg K. What is the meaning of it?

- A. Lamp filament vis at 6500 deg K
- B. Ballast heat is around 6500 deg K
- C. The colour temperature of output light
- D. Lamp is suitable in day time

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934840
Status : Answered
Chosen Option : B

Q.57 NOR gate is logically equivalent to

- A. an OR gate followed by AND gate
- B. an OR gate followed by NAND gate
- C. an AND gate followed by OR gate
- D. an OR gate followed by an inverter

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934783
Status : Answered
Chosen Option : D

Q.58 The current in the primary winding of a current transformer depends upon

- A. Burden of the secondary winding of the transformer
- B. Load connected to the system in which CT is installed
- C. Both burden of the transformer secondary winding and load connected to the system
- D. None of the above

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934806
Status : Answered
Chosen Option : B

Q.59

The value of the integral $\int_{-\infty}^{\infty} \frac{dx}{1+x^2}$ is

- A. $-\pi$
- B. $-\frac{\pi}{2}$
- C. $\frac{\pi}{2}$
- D. π

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934850
Status : Answered
Chosen Option : C

Q.60 Arcing contacts in circuit breaker are made of _____

- A. Electrolytic copper
- B. Tungsten
- C. Copper tungsten alloy
- D. Aluminium

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934821
Status : Answered
Chosen Option : C

Q.61 Which is not a reason, for all non-current carrying metal parts associated with HV/EHV installations are ensured to be effectively earthed to a grounding system?

- A. To limit the Step and Touch potential to tolerable values
- B. To ensure tripping of breakers on overload
- C. To maintain resistance of earth connection to such a value as to make operation of protective device effective
- D. To limit ground potential rise to tolerable values

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934844
Status : Answered
Chosen Option : D

Q.62 To save energy during braking, which type of braking is used?

- A. Regenerative
- B. Plugging
- C. Dynamic
- D. Rheostatic

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934801
Status : Answered
Chosen Option : A

Q.63 In a full wave rectifier without filter, the ripple factor is

- A. 0.482
- B. 1.21
- C. 1.79
- D. 2.05

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934797
Status : Answered
Chosen Option : A

Q.64 The ratio of r.m.s to average value of a sinusoidal alternating voltage is known as

- A. Peak factor
- B. Power factor
- C. Form factor
- D. Q-factor

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934784
Status : Answered
Chosen Option : C



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Q.65

A JFET

A. is a voltage controlled device

B. is a current controlled device

C. has a low input voltage

D. has a very large voltage gain

Ans A. A

B. B

C. C

D. D

Question ID : 5834934856

Status : Answered

Chosen Option : A

Q.66 HRC fuses are preferred over re-wirable fuses because of

A. High Rupturing Capacity

B. Low Temperature Rise

C. High Speed of operation

D. All of the above

Ans A. A

B. B

C. C

D. D

Question ID : 5834934833

Status : Answered

Chosen Option : D

Q.67 Depreciation rate is less in case of

- A. Nuclear power station
- B. Steam power station
- C. Hydro electric power station
- D. Diesel power plant

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934835
Status : Answered
Chosen Option : A

Q.68 Why Swinburne's test can't be conducted on a DC series motor?

- A. As it is a no-load test
- B. As it is a Full load test
- C. As it is regenerative test
- D. None of the above

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934817
Status : Answered
Chosen Option : A

Q.69 A kitchen with electric appliances is operating on 230 V, 50 Hz LT supply for 10 hours. The load comprises of lighting load of 2 kW @0.9 p.f lagging on R-phase, heater load 1 kW @UPF on Y phase, and a 2 kW grinder @0.8 p.f lagging, 4 kW dish washer @0.95 p.f and 4 kW freezer @0.85 p.f. what is the energy consumption by the workshop?

- A. 130 Units
- B. 100.9 Units
- C. 13 Units
- D. 65 Units

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934836
Status : Answered
Chosen Option : A

Q.70 Rotor speed of induction motor can be determined from

- A. $N = (1+s) N_s$
- B. $N = (1-s) N_s$
- C. $N = (s-1) N_s$
- D. $N = (s+2) N_s$

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934811
Status : Answered
Chosen Option : B

Q.71 Overall efficiency of the following generation plant is least:

- A. Thermal power plant
- B. Nuclear power plant
- C. Hydro Electric power plant
- D. Diesel power plant

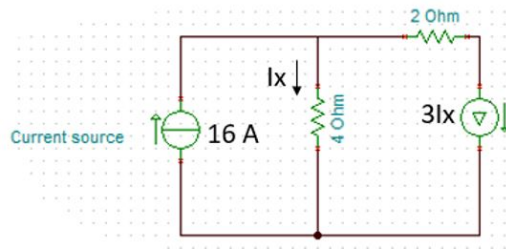
Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934830
Status : Answered
Chosen Option : A



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Q.72 Find the current I_x and the voltage across 2Ω resistance for the circuit shown in the figure.



- A. 6A, 12V
- B. 5A, 20V
- C. 4A, 24V
- D. 3A, 24V

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934793
Status : Answered
Chosen Option : C

Q.73 The sensitivity of an instrument is the

- A. Smallest increment in the input that can be detected with certainty
- B. Largest input change to which the instrument fails to respond
- C. Ratio of the change in the magnitude of the output to the corresponding change in the magnitude of the input
- D. Closeness of the output values for repeated applications of a constant input

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934804
Status : Answered
Chosen Option : A

Q.74 A resistance of $60\ \Omega$, capacitive reactance of $100\ \Omega$ and an inductive reactance of $20\ \Omega$ are connected to form a series RLC circuit. The impedance and power factor of the circuit will be

- A. $100\ \Omega$, 0.8 lagging
- B. $60\ \Omega$ unity
- C. $100\ \Omega$, 0.6 leading
- D. $20\ \Omega$, 0.6 leading

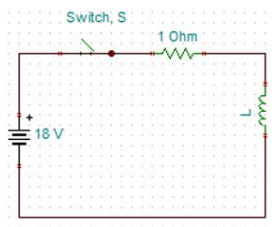
Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934790

Status : Answered

Chosen Option : A

Q.75 In the circuit, S was initially open. At time $t=0$, S is closed. When the current through the inductor is $6\ \text{A}$, the rate of change of current through the resistor is $6\ \text{A/sec}$, the value of the inductor would be



- A. 1 H
- B. 2 H
- C. 3 H
- D. 4 H

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934791

Status : Answered

Chosen Option : A

Q.76 Angle between synchronously rotating stator flux and rotor poles of a synchronous motor is called _____

- A. Synchronous angle
- B. Torque angle
- C. Power factor angle
- D. Slip angle

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934818
Status : Answered
Chosen Option : B

Q.77 What is the frequency of a wave whose time period is 0.05 seconds?

- A. 5Hz
- B. 10Hz
- C. 20Hz
- D. 40Hz

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934846
Status : Answered
Chosen Option : C



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Q.78 Three non-zero velocity vectors \vec{A} , \vec{B} and \vec{C} , satisfy $\vec{A} \cdot \vec{B} = \vec{A} \cdot \vec{C} = 0$. The vectors \vec{B} and \vec{C} are not collinear. The vector \vec{A} is either along or opposite to

- A. $\vec{B} + \vec{C}$
- B. \vec{B}
- C. $\vec{B} \times \vec{C}$
- D. \vec{C}

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934858
Status : Not Answered
Chosen Option : --

Q.79 The height of a building is 78.4m. If a stone drops from the edge of the roof of the building, how much time does it take to reach the ground?

- A. 8 seconds
- B. 4 seconds
- C. 12 seconds
- D. 16 seconds

Ans A. A
 B. B
 C. C
 D. D

Question ID : 5834934848
Status : Answered
Chosen Option : A



Q.80 RMS value of a rectangular wave of period T , having a value $+V$ for a duration T_1 ($<T$) and $-V$ for the duration, $T-T_1 = T_2$ equals

- A. V
- B. $(T_1-T_2)/2$
- C. $V/\sqrt{2}$
- D. T_1/T_2

Ans A. A
 B. B
 C. C
 D. D

Question ID : **5834934854**
Status : **Answered**
Chosen Option : **C**



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