CRIS JE

Previous Year Paper

(Electrical) 19 Feb, 2023

Participant ID	
Participant Name	
Test Center Name	
Test Date	19/02/2023
Test Time	12:30 PM - 2:30 PM
Subject	Junior Engineer Electrical

Section : **General Knowledge**

Q.1 **Which of the following organisms is used to produce citric acid commercially?**

Ans
✗ A. Acetobacter aceti
✗ B. Lactobacillus
✗ C. Clostridium butylicum
✓ D. Aspergillus niger

Question ID : **63068078583**
Status : **Not Answered**
Chosen Option : **--**

Q.2 **According to Census of India 2011, which district has the highest population recorded in India?**

Ans
✗ A. Mumbai Suburban
✓ B. Thane
✗ C. Pune
✗ D. Nashik

Question ID : **630680117193**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **When was the individual Satyagraha initiated in India?**

Ans
✗ A. 1930
✗ B. 1920
✓ C. 1940
✗ D. 1942

Question ID : **630680114120**
Status : **Answered**
Chosen Option : **B**

Q.4 **Mosses and liverworts are examples of _____.**

Ans
✗ A. fungi
✓ B. bryophytes
✗ C. algae
✗ D. gymnosperms

Question ID : **63068078598**
Status : **Not Answered**
Chosen Option : **--**

Q.5 **What is the correct chronological order of the events in the context of the government initiatives to remove poverty, using the given codes?**
A)Swarnajayanti Gram Swarozgar Yojana
B)Micro units development refinance agency bank (MUDRA Bank)
C)Deendayal Antayodaya Yojana – National Rural Livelihood Mission
D)Swarnajayanti Shahri Rozgar Yojana

Ans
✓ A. D-A-C-B
✗ B. D-C-B-A
✗ C. B-A-D-C
✗ D. A-B-C-D

Question ID : **630680134731**
Status : **Not Answered**
Chosen Option : **--**

Q.6 **In 1882, the headquarters of the Theosophical Society were established near _____ in India.**

Ans
✗ A. Delhi
✓ B. Madras
✗ C. Bombay
✗ D. Calcutta

Question ID : **630680118823**
Status : **Not Answered**
Chosen Option : **--**

Q.7 **JM Keynes's, 'General Theory of Employment, Interest and Money' was published in:**

Ans
✗ A. 1929
✗ B. 1942
✓ C. 1936
✗ D. 1930

Question ID : **630680127439**
Status : **Not Answered**
Chosen Option : **--**

Q.8 **Which Article pertains to appointment of CAG?**

Ans
✗ A. Article 149
✗ B. Article 150
✓ C. Article 148
✗ D. Article 144

Question ID : **630680134832**
Status : **Not Answered**
Chosen Option : **--**

Q.9 **Under which Article of the Indian Constitution can the boundaries of the State be altered?**

Ans
- ✔ A. Article 3
- ✘ B. Article 6
- ✘ C. Article 4
- ✘ D. Article 5

Question ID : **630680133795**
Status : **Answered**
Chosen Option : **C**

Q.10 **In which of the following sessions of the Indian National Congress, was Mahatma Gandhi elected as the President?**

Ans
- ✔ A. Belgaum Session, 1924
- ✘ B. Lahore Session, 1929
- ✘ C. Gaya Session, 1922
- ✘ D. Kanpur Session, 1925

Question ID : **630680114122**
Status : **Answered**
Chosen Option : **D**

Q.11 **Devka Beach with a beautiful expanse of black sand is in _____.**

Ans
- ✘ A. Mumbai
- ✘ B. Kochi
- ✔ C. Daman
- ✘ D. Vijayawada

Question ID : **63068085281**
Status : **Not Answered**
Chosen Option : **--**

Q.12 **In which Indian state is the Sundarbans Biosphere Reserve located?**

Ans
- ✔ A. West Bengal
- ✘ B. Gujarat
- ✘ C. Odisha
- ✘ D. Rajasthan

Question ID : **630680113500**
Status : **Answered**
Chosen Option : **A**

Section : **General Aptitude Reasoning**

Q.1 **In a certain code language, 'SLEPT' is coded as '18627', and 'TILES' is coded as '75861'.**
What is the code for 'I' in the given code language?

Ans
- ✘ A. 8
- ✔ B. 5
- ✘ C. 1
- ✘ D. 7

Question ID : **630680124752**
Status : **Answered**
Chosen Option : **B**

Q.2 **Three statements are given followed by two conclusions I and II. You have to consider the three statements to be true even if they seem to be at variance from commonly known facts and then decide which of the given conclusion(s) logically follows/follow from the Statements.**
Statements:
I. All deers are tigers.
II. All tigers are pandas.
III. All pandas are elephants.
Conclusions:
I. All elephants are tigers.
II. All deers are pandas.

Ans
✗ A. Both conclusions I and II follow.
✗ B. Neither conclusion I nor conclusion II follows.
✗ C. Only conclusion I follows.
✓ D. Only conclusion II follows.

Question ID : **63068084166**
Status : **Answered**
Chosen Option : **D**

Q.3 **Each vowel in the word SHAMEFUL is changed to the letter following it in the English alphabetical order and each consonant is changed to the letter preceding it in the English alphabetical order. Which vowel will be found in the group of letters thus formed?**

Ans
✗ A. I
✓ B. E
✗ C. A
✗ D. O

Question ID : **63068084096**
Status : **Answered**
Chosen Option : **B**

Q.4 **A man rows 75 km downstream and 30 km upstream taking 6 hours each way. What is the velocity of the current?**

Ans
✗ A. 1.2 km/h
✗ B. 2.9 km/h
✓ C. 3.75 km/h
✗ D. 5.84 km/h

Question ID : **630680102066**
Status : **Answered**
Chosen Option : **C**

Q.5 **In a row of 25 people facing south, Deepthi is 7^{th} from the right end. If Hima sits fifth to the right of Deepthi, what is Hima's position from the left end of the row?**

Ans
✗ A. 22
✓ B. 24
✗ C. 23
✗ D. 21

Question ID : **63068083551**
Status : **Answered**
Chosen Option : **B**

Q.6 **The ratio of milk and water in a mixture is 7 : 2. Another mixture with a ratio 8 : 1 is mixed with the first mixture. If these are mixed in the ratio 1 : 2, what is the ratio of water and milk in the final mixture?**

Ans

✗ A. 27:23

✓ B. 4:23

✗ C. 23:27

✗ D. 23:4

Question ID : **63068091908**
Status : **Answered**
Chosen Option : **D**

Q.7 Find the value of given expression.

$(\frac{5}{3})^{-2} \times \frac{5}{2}$

Ans

✓ A. $\frac{9}{10}$

✗ B. $\frac{3}{5}$

✗ C. $\frac{3}{10}$

✗ D. $\frac{9}{5}$

Question ID : **63068060059**
Status : **Answered**
Chosen Option : **A**

Q.8 **'P % Q' means 'P is the wife of Q',**
'P & Q' means 'P is the mother of Q',
'P × Q' means 'P is the brother Q',
'P # Q' means 'P is the husband of Q',
'P $ Q' means 'P is the daughter of Q',
'P @ Q' means 'P is the sister of Q'.
If'G @ H # K & R × L % O', then how is G related to L?

Ans

✗ A. Mother

✗ B. Mother's sister

✗ C. Sister

✓ D. Father's sister

Question ID : **63068085560**
Status : **Answered**
Chosen Option : **D**

Q.9 **Two statements I and II have been given. These statements may be independent causes, or effects of independent causes, or effects of a common cause. One of the statements may be the effect of the other statement. Read both the statements and select the correct option.**
I. The government has banned the use of single-use plastic products.
II. Single-use plastic products end up in the sea and cause marine pollution.

Ans
✗ A. I is the cause and II is its effect.
✗ B. Both I and II are effects of independent causes.
✗ C. Both I and II are independent causes.
✓ D. II is the cause and I is its effect.

Question ID : **63068059424**
Status : **Answered**
Chosen Option : **D**

Q.10 **Write the ratios 4 : 5; 2 : 3; 3 : 4; 5 : 6 in ascending order.**

Ans
✓ A. 2 : 3; 3 : 4; 4 : 5; 5 : 6
✗ B. 5 : 6; 4 : 5; 3 : 4; 2 : 3
✗ C. 2 : 3; 5 : 6; 4 : 5; 3 : 4
✗ D. 4 : 5; 5 : 6; 2 : 3; 3 : 4

Question ID : **63068071093**
Status : **Answered**
Chosen Option : **A**

Q.11 **After a 28% hike in the monthly salary, Ankita's monthly salary rose to Rs.60,000. What was her monthly salary before the increase?**

Ans
✗ A. Rs.45,925
✗ B. Rs.47,250
✓ C. Rs.46,875
✗ D. Rs.46,625

Question ID : **630680104272**
Status : **Answered**
Chosen Option : **C**

Q.12 **The radii of two cones are in ratio 2 : 1 and their slant heights are equal. Find the ratio of their curved surface areas.**

Ans
✓ A. $2:1$
✗ B. $2:\sqrt{3}$
✗ C. $\sqrt{10}:1$
✗ D. $\sqrt{10}:2$

Question ID : **630680135893**
Status : **Answered**
Chosen Option : **A**

Section : **Basic concepts**

Q.1 **1 kWh is equal to how many kcals:**

Ans
- ✗ A. 86 kcals
- ✗ B. 8600 kcals
- ✓ C. 860 kcals
- ✗ D. 8.6 kcals

Question ID : **630680171762**
Status : **Answered**
Chosen Option : **C**

Q.2 **Which of the following is the difference in the energy levels of a unit charge located at each of two points in a circuit?**

Ans
- ✗ A. Power
- ✓ B. Voltage
- ✗ C. Work force
- ✗ D. Current

Question ID : **630680171764**
Status : **Answered**
Chosen Option : **B**

Q.3 **In a parallel circuit, _____ current flows through the ____ resistance of branch.**

Ans
- ✓ A. high; low
- ✗ B. high; high
- ✗ C. low; low
- ✗ D. single; double

Question ID : **630680171766**
Status : **Answered**
Chosen Option : **A**

Q.4 **A source of energy which transmits some information is known as _____.**

Ans
- ✓ A. signal
- ✗ B. danger
- ✗ C. time
- ✗ D. ring

Question ID : **630680171767**
Status : **Answered**
Chosen Option : **A**

Q.5 **The graph network has 08 nodes and 03 independent loops. The number of branches of the graph is:**

Ans
- ✓ A. 10
- ✗ B. 03
- ✗ C. 12
- ✗ D. 06

Question ID : **630680171763**
Status : **Answered**
Chosen Option : **A**

Q.6 **Calculate the value of R, if the current flowing through it is –2.6 mA and the voltage across its terminal is –7.3V.**

Ans
- ✔ A. 2.81 k ohms
- ✘ B. 281 ohms
- ✘ C. 281 k ohms
- ✘ D. 28.1 k ohms

Question ID : **630680171761**
Status : **Answered**
Chosen Option : **A**

Q.7 **An active component is that which is capable of delivering _____ to some external device.**

Ans
- ✔ A. power
- ✘ B. lowest level
- ✘ C. work
- ✘ D. final value

Question ID : **630680171765**
Status : **Answered**
Chosen Option : **A**

Q.8 **Which type signal is denoted by δt?**

Ans
- ✘ A. Unit step
- ✘ B. Unit parabolic
- ✔ C. Unit impulse
- ✘ D. Unit ramp

Question ID : **630680171768**
Status : **Answered**
Chosen Option : **D**

Section : **Circuit law**

Q.1 **The Laplace transform of a function F(t) = exp (–αt) sin wt u(t) is:**

Ans
- ✘ A. w/(s+ α)
- ✘ B. w/(((s+α) (s+α)) + w)
- ✘ C. w/(((s+α)) + w w)
- ✔ D. w/(((s+α) (s+α)) + w w)

Question ID : **630680171770**
Status : **Answered**
Chosen Option : **D**

Q.2 **If there are '6' meshes in an electric circuit, then according to mesh analysis, how many mesh equations are being formed?**

Ans
- ✘ A. 8
- ✘ B. 2
- ✔ C. 6
- ✘ D. 4

Question ID : **630680171776**
Status : **Answered**
Chosen Option : **C**

Q.3 **In electric circuit analysis, a supermesh is formed when:**

Ans
- ✗ A. a resistor is shared by two meshes
- ✓ B. a current source is shared by two meshes
- ✗ C. large number of mesh is present in the circuit
- ✗ D. the circuit is non planar

Question ID : **630680171772**
Status : **Answered**
Chosen Option : **A**

Q.4 **In an electric circuit, which of the following Vs is a linear dependent source?**

Ans
- ✗ A. Vs = 0.6 × I1 × V2
- ✗ B. Vs = 0.6 × I1 × I1 + V2 × V2
- ✓ C. Vs = 0.6 × I1 + 14 × V2
- ✗ D. Vs = 0.6 I1 × I1

Question ID : **630680171773**
Status : **Answered**
Chosen Option : **A**

Q.5 **In an electric network, if the voltage across input terminals is 4 V and the current entering to its terminal is –5A, then _____.**

Ans
- ✗ A. the network consumes no power
- ✗ B. the network consumes 20 W of power
- ✗ C. the network supplies no power
- ✓ D. the network supply 20 W of power

Question ID : **630680171771**
Status : **Answered**
Chosen Option : **D**

Q.6 **Which type of circuit arrangement is NOT done in electrical systems?**

Ans
- ✗ A. Parallel
- ✗ B. Series and parallel
- ✓ C. Zigzag combination
- ✗ D. Series

Question ID : **630680171774**
Status : **Answered**
Chosen Option : **C**

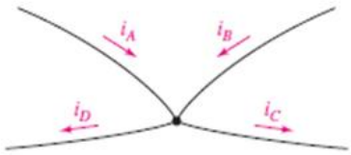
Q.7 **Wb/AT is the unit of which of the following parameters?**

Ans
- ✗ A. Reluctance
- ✗ B. MMF
- ✗ C. Flux
- ✓ D. Permanence

Question ID : **630680171775**
Status : **Answered**
Chosen Option : **D**

Q.8 As per the Kirchhoff Current Law, which expression is correct for the below graph?

i_A, i_B, i_C, i_D are currents.



Ans
- ✗ A. $i_A + i_B + i_C - i_D = 0$
- ✗ B. $i_A + i_B - i_C + i_D = 0$
- ✗ C. $i_A - i_B - i_C - i_D = 0$
- ✓ D. $i_A + i_B - i_C - i_D = 0$

Question ID : **630680171769**
Status : **Answered**
Chosen Option : **D**

Section : **Magnetic Circuit**

Q.1 **Which of the following is a non-physical quantity measured in the units of energy, which is used to derive expressions for force or torque developed in an electromagnetic system?**

Ans
- ✗ A. Field energy
- ✓ B. Co-energy
- ✗ C. Quantum energy
- ✗ D. Electric energy

Question ID : **630680171782**
Status : **Answered**
Chosen Option : **B**

Q.2 **The value of induced EMF in a conductor of length 150 cm, moving at an angle of 30° to the direction of uniform magnetic field of flux density 1.2 wb/m^2 with a velocity of 60 m/s, is:**

Ans
- ✓ A. 54 V
- ✗ B. 60 V
- ✗ C. 52 V
- ✗ D. 45 V

Question ID : **630680171780**
Status : **Answered**
Chosen Option : **A**

Q.3 **If the magnetic flux produced by inductors are in the opposite direction to each other, then the coils are known as _____.**

Ans
- ✗ A. cumulatively coupled
- ✗ B. the end to end connection of two or more inductors
- ✓ C. differentially coupled
- ✗ D. series adding

Question ID : **630680171784**
Status : **Answered**
Chosen Option : **C**

Q.4 **What is the series adding inductance of two coils of inductance 70 mH and 30 mH, if the mutual inductance is 40 mH?**

Ans

✗ A. 210 mH

✗ B. 100 mH

✗ C. 140 mH

✓ D. 180 mH

Question ID : **630680171783**
Status : **Answered**
Chosen Option : **D**

Q.5 **Two coils have self-inductance of 20 H and 20 H connected in series, and the mutual inductance between the two coils is 2.5 H. The value of total equivalent inductance is:**

Ans

✗ A. 40 H

✓ B. 45 H

✗ C. 12.5H

✗ D. 42.5 H

Question ID : **630680171779**
Status : **Answered**
Chosen Option : **B**

Q.6 **What will be the magnitude of force between two parallel current carrying conductors if the distance between them is doubled:**

Ans

✗ A. Four times

✓ B. Half

✗ C. Remains the same

✗ D. Two times

Question ID : **630680171778**
Status : **Answered**
Chosen Option : **B**

Q.7 **In two parallel conductors, the currents flowing in the same direction make the conductors _____ each other and the currents flowing in the opposite directions make the conductors _____ each other.**

Ans

✗ A. repel; attract

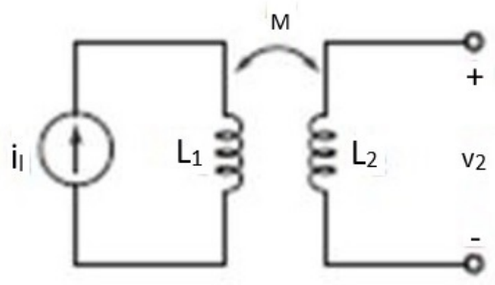
✗ B. attract; attract

✓ C. attract; repel

✗ D. repel; repel

Question ID : **630680171781**
Status : **Answered**
Chosen Option : **C**

Q.8 For the given magnetic circuit, the correct expression for mutual inductance is:



Ans
- ✗ A. $V_2(t) = M_{21}\, di_2(t)/dt$
- ✓ B. $V_2(t) = M_{21}\, di_1(t)/dt$
- ✗ C. $V_2(t) = M_{21} - di_1(t)/dt$
- ✗ D. $V_2(t) = M_{21} + di_1(t)/dt$

Question ID : **630680171777**
Status : **Answered**
Chosen Option : **B**

Section : **AC Fundamentals**

Q.1 **Which of the following indicates an inductance, resistance and capacitance containing AC circuit?**

Ans
- ✗ A. RC circuit
- ✓ B. RLC circuit
- ✗ C. LC circuit
- ✗ D. RL circuit

Question ID : **630680171789**
Status : **Answered**
Chosen Option : **B**

Q.2 **The sinusoidal variable value can be represented by a rotating line called _____.**

Ans
- ✗ A. frequency
- ✗ B. amplitude
- ✗ C. angular velocity
- ✓ D. phasor

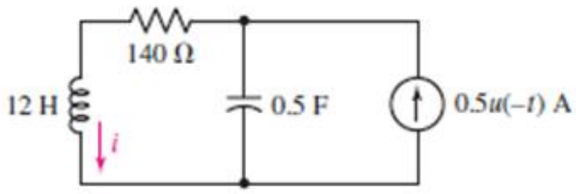
Question ID : **630680171790**
Status : **Answered**
Chosen Option : **D**

Q.3 **In a series RLC circuit, the current is maximum at _____.**

Ans
- ✗ A. lower inductance
- ✗ B. lower resistance
- ✓ C. resonant frequency
- ✗ D. higher capacitance

Question ID : **630680171791**
Status : **Answered**
Chosen Option : **C**

Q.4 What is the value of α (neper frequency) for the given circuit?



Ans

✔ A. 140 s^{-1}

✘ B. 14 s^{-1}

✘ C. 0.14 s^{-1}

✘ D. 1.4 s^{-1}

Question ID : **630680171786**
Status : **Not Answered**
Chosen Option : **--**

Q.5 **Which of the following methods is NOT used for solving parallel circuits?**

Ans

✘ A. Vector or phasor method

✘ B. Vector algebra

✔ C. Direct algebra summation

✘ D. Admittance method

Question ID : **630680171788**
Status : **Answered**
Chosen Option : **C**

Q.6 **The value of average power delivered to a 4 Ω resistor by the current I_2 = 2cos 10t – 3cos10t A is:**

Ans

✔ A. 2 W

✘ B. 4 W

✘ C. 3 W

✘ D. 5 W

Question ID : **630680171785**
Status : **Answered**
Chosen Option : **A**

Q.7 **Which of the following statements is correct regarding balance load?**

Ans

✔ A. A balance load draws equal power from all the three phases.

✘ B. In a balance load, the voltage lags behind 90° from each other in all three phases.

✘ C. A balance load draws unequal power from all the three phases.

✘ D. A balance load can never draw power from all three phases.

Question ID : **630680171787**
Status : **Answered**
Chosen Option : **A**

Q.8 **Which of the following is an INCORRECT arrangement of a 3 phase circuit?**

Ans
- ✗ A. Star-star connection
- ✓ B. Star-zigzag connection
- ✗ C. Delta-delta connection
- ✗ D. Star-delta connection

Question ID : **630680171792**
Status : **Answered**
Chosen Option : **B**

Section : **Measurement and Measuring instruments**

Q.1 **In the case of moving coil instruments, the moving coil is wound on a thin aluminum former to produce the _____ force.**

Ans
- ✓ A. eddy currents damping
- ✗ B. air friction
- ✗ C. gravitational controlling
- ✗ D. spring controlling

Question ID : **630680171798**
Status : **Answered**
Chosen Option : **A**

Q.2 **Which of the following is NOT correct about moving iron type instruments?**

Ans
- ✓ A. The scale of this type of instrument is uniform.
- ✗ B. The scale of this type of instrument is non-uniform.
- ✗ C. One of the type is repulsion type.
- ✗ D. One of the type is attraction type.

Question ID : **630680171796**
Status : **Answered**
Chosen Option : **A**

Q.3 **Which of the following is NOT correct for electrostatic type instrument?**

Ans
- ✗ A. It uses air friction type of damping.
- ✗ B. It is used for DC and AC measurement.
- ✓ C. It uses eddy current type of damping.
- ✗ D. It uses gravity or spring type of control.

Question ID : **630680171795**
Status : **Answered**
Chosen Option : **A**

Q.4 **Which of the following three phase wattmeter arrangements is used for measuring the power in balanced and unbalanced loads?**

Ans
- ✗ A. 3-element 4-wire type
- ✓ B. 2-element 3-wire type
- ✗ C. 1-element 2-wire type
- ✗ D. 3-element 3-wire type

Question ID : **630680171797**
Status : **Answered**
Chosen Option : **A**

Q.5 **The dynamometer wattmeter has _____ external terminals to which connections must be made in order to measure power.**

Ans

✗ A. five

✗ B. three

✗ C. two

✓ D. four

Question ID : **630680171794**
Status : **Answered**
Chosen Option : **D**

Q.6 **Which of the following transformers is called parallel transformer?**

Ans

✓ A. Potential transformer

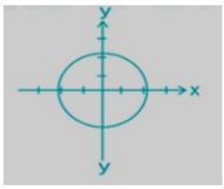
✗ B. Auto transformer

✗ C. Two winding transformer

✗ D. Current transformer

Question ID : **630680171800**
Status : **Answered**
Chosen Option : **D**

Q.7



What is the phase angle difference of the above Lissajous figures as seen on the CRO screen?

Ans

✓ A. 90°

✗ B. 120°

✗ C. 0°

✗ D. 45°

Question ID : **630680171799**
Status : **Answered**
Chosen Option : **A**

Q.8 **An alternating current is measured by a rectifier and a hot wire ammeter and the readings are found to be 30 A and 32 A, respectively. What is the form factor of the current wave?**

Ans

✓ A. 1.184

✗ B. 118.4

✗ C. 11.84

✗ D. 0.184

Question ID : **630680171793**
Status : **Answered**
Chosen Option : **A**

Section : **Electrical Machines**

Q.1 **Which of the following statements is INCORRECT for BLDC motors?**

Ans

✗ A. They have high controllability

✓ B. They have high power consumption

✗ C. They offer high efficiency

✗ D. They have a long operating life

Question ID : **630680171804**
Status : **Not Answered**
Chosen Option : **--**

Q.2 **Which of the following is the correct starter for a DC series motor?**

Ans

✓ A. 2 point starter

✗ B. 4 point starter

✗ C. 3 point starter

✗ D. 1 point field and 2 point armature starter

Question ID : **630680171806**
Status : **Answered**
Chosen Option : **B**

Q.3 **Which of the following is NOT a type of loss in a transformer?**

Ans

✓ A. Humidity loss

✗ B. Dielectric loss

✗ C. Copper loss

✗ D. Core loss

Question ID : **630680171802**
Status : **Answered**
Chosen Option : **A**

Q.4 **Which of the following methods is used for speed control of DC series motor?**

Ans

✗ A. Series parallel speed control

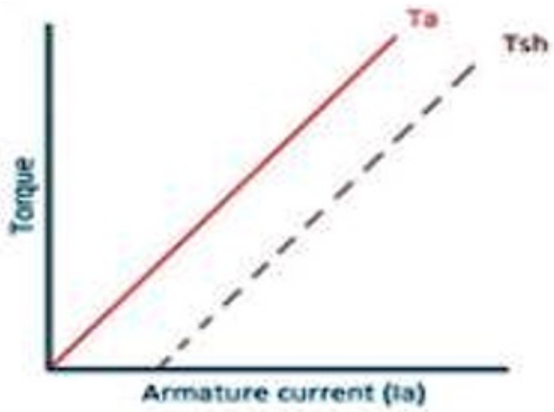
✓ B. Diverter field control

✗ C. Shunted armature control

✗ D. Temperature control

Question ID : **630680171801**
Status : **Not Answered**
Chosen Option : **--**

Q.5



Identify the motor that represents the above charectristics?

Ans

- ✔ A. Shunt motor
- ✘ B. Short shunt motor
- ✘ C. Long shunt motor
- ✘ D. Series motor

Question ID : **630680171805**
Status : **Not Answered**
Chosen Option : **--**

Q.6 Which of the following is NOT a starter used for DC machines?

Ans

- ✘ A. Three point starter
- ✘ B. Four point starter
- ✔ C. Humidity based starter
- ✘ D. Automatic starter

Question ID : **630680171807**
Status : **Answered**
Chosen Option : **C**

Q.7 A distribution transformer is a type of _____ transformer.

Ans

- ✘ A. shell type
- ✘ B. isolation
- ✘ C. step up
- ✔ D. step down

Question ID : **630680171808**
Status : **Answered**
Chosen Option : **D**

Q.8 In a transformer, which side of it will be shorted for performing short circuit test?

Ans

- ✔ A. Low voltage side
- ✘ B. High volatge side
- ✘ C. Secondary side
- ✘ D. Primary side

Question ID : **630680171803**
Status : **Answered**
Chosen Option : **A**

Section : **Fractional Kilowatt Motors and single phase induction Motors**

Q.1 **Fractional HP _____ are often used for powering clocks and other timing devices.**

Ans
- ✗ A. shaded pole motors
- ✗ B. phase split motors
- ✗ C. induction motors
- ✓ D. synchronous motors

Question ID : **630680171813**
Status : **Answered**
Chosen Option : **D**

Q.2 **A resistance split phase motor is generally used in:**

Ans
- ✓ A. washing machines
- ✗ B. spacecrafts
- ✗ C. rail traction
- ✗ D. electric vehicles

Question ID : **630680171810**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **Which of the following fractional horse power motors has higher starting torque and better efficiency compared with others?**

Ans
- ✗ A. Reluctance
- ✗ B. Shaded-pole
- ✓ C. Universal
- ✗ D. Synchronous

Question ID : **630680171812**
Status : **Answered**
Chosen Option : **C**

Q.4 **A commutator motor can operate at a much _____ speed than an induction motor; it can output _____ power than a similar size induction motor.**

Ans
- ✗ A. higher; less
- ✓ B. higher; more
- ✗ C. lower; less
- ✗ D. lower; more

Question ID : **630680171816**
Status : **Answered**
Chosen Option : **B**

Q.5 **Which of the following machines does NOT convert electrical energy into mechanical energy?**

Ans
- ✗ A. Induction motor
- ✓ B. Transformer
- ✗ C. Synchronous motor
- ✗ D. DC motor

Question ID : **630680171809**
Status : **Answered**
Chosen Option : **B**

Q.6 **Which of the following is the correct statement regarding the main winding of a split phase induction motor?**

Ans
- ✔ A. It has high inductive reactance.
- ✘ B. It has low inductive reactance.
- ✘ C. It has high resistance.
- ✘ D. It has low capacitive reactance.

Question ID : **630680171811**
Status : **Answered**
Chosen Option : **A**

Q.7 **Which of the following single phase induction motors is known as a resistance start motor?**

Ans
- ✘ A. Shaded-pole motor
- ✘ B. Capacitor-start
- ✘ C. Capacitor-start capacitor-run
- ✔ D. Split phase

Question ID : **630680171814**
Status : **Answered**
Chosen Option : **A**

Q.8 **The starting torque of a resistance-start induction motor is about _____the full-load torque.**

Ans
- ✘ A. 3 times
- ✘ B. 2 times
- ✘ C. 2.5 times
- ✔ D. 1.5 times

Question ID : **630680171815**
Status : **Answered**
Chosen Option : **A**

Section : **Synchronous Machines**

Q.1 **Select the correct option from the following statements regarding the synchronous motor.**
Statement 1: Dampers do not completely prevent hunting.
Statement 2: Dampers make synchronous motors self starting.

Ans
- ✔ A. 1-Correct, 2-Correct
- ✘ B. 1-Correct, 2-Incorrect
- ✘ C. 1-Incorrect , 2-Incorrect
- ✘ D. 1-Incorrect, 2-Correct

Question ID : **630680171819**
Status : **Answered**
Chosen Option : **C**

Q.2 **A 30 pole, 500 V, 50 Hz, 3 phase delta connected synchronous motor is operated at zero load with normal excitation. If the rotor is decelerated by 0.5° (mechanically) from its synchronous position, then find the rotor displacement in electrical degrees.**

Ans

✗ A. 0.25°

✗ B. 0.5°

✗ C. 10°

✓ D. 5°

Question ID : **630680171818**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **The method which gives more accurate results in voltage regulation for synchronous motors is:**

Ans

✗ A. MMF Method

✗ B. Ampere Turn Method

✓ C. Potier Method

✗ D. Synchronous Impedance Method

Question ID : **630680171820**
Status : **Answered**
Chosen Option : **C**

Q.4 **What value of torque is available in a salient pole rotor even at zero excitation?**

Ans

✗ A. Medium

✗ B. High

✓ C. Very small

✗ D. Zero

Question ID : **630680171824**
Status : **Answered**
Chosen Option : **D**

Q.5 **Which of the following voltage drop is considered negligible in a synchronous alternator?**

Ans

✗ A. Armature resistance drop

✓ B. Armature slip ring brush drop

✗ C. Armature leakage reactance drop

✗ D. Armature reaction drop

Question ID : **630680171823**
Status : **Answered**
Chosen Option : **B**

Q.6 **By which method can the direction of rotation of a synchronous motor be reversed?**

Ans

✓ A. Reversing supply phase sequence

✗ B. Reversing the current to the field winding

✗ C. Reversing polarity of rotor poles

✗ D. Reversing the placing of motor physically

Question ID : **630680171821**
Status : **Answered**
Chosen Option : **A**

Q.7 **Which of the following is correct regarding a synchronous capacitor?**

Ans
- ✗ A. It is an ultra capacitor.
- ✓ B. It is an overexcited synchronous motor running without mechanical load.
- ✗ C. It is an ordinary static capacitor.
- ✗ D. It is an overexcited synchronous motor running with mechanical load.

Question ID : **630680171822**
Status : **Answered**
Chosen Option : **B**

Q.8 **The device used to determine the correct timing for the synchronising of two alternators is:**

Ans
- ✗ A. dynamometer
- ✗ B. phase sequence indicator
- ✗ C. frequency meter
- ✓ D. synchroscope

Question ID : **630680171817**
Status : **Answered**
Chosen Option : **D**

Section : **Generation, Transmission and Distribution**

Q.1 **Which of the following generation plants has the least transportation cost?**

Ans
- ✗ A. Diesel
- ✗ B. Nuclear
- ✗ C. Steam
- ✓ D. Hydro

Question ID : **630680171826**
Status : **Answered**
Chosen Option : **B**

Q.2 **Which of the following is mainly used for the bulk power transmission line for long distance transmissions?**

Ans
- ✓ A. DC transmission line
- ✗ B. Short-transmission line
- ✗ C. Pi model of a medium transmission line
- ✗ D. T model of a medium transmission line

Question ID : **630680171831**
Status : **Answered**
Chosen Option : **A**

Q.3 **The ratio of the total connected load to the maximum demand is known as:**

Ans
- ✗ A. capacity factor
- ✗ B. plant factor
- ✗ C. load factor
- ✓ D. demand factor

Question ID : **630680171827**
Status : **Answered**
Chosen Option : **D**

Q.4 **Which terminology of economics of power plants is defined as the reserve generating capacity which is available for service but is NOT in operation?**

Ans

✗ A. Hot reserve

✓ B. Cold reserve

✗ C. Spinning reserve

✗ D. Firm power

Question ID : **630680171830**
Status : **Answered**
Chosen Option : **B**

Q.5 **Which part of the total annual expenditure in a power plant does NOT vary either with the capacity of the plant or with plant operation?**

Ans

✗ A. Running charges

✗ B. Operating charges

✓ C. Fixed charges

✗ D. Semi fixed charges

Question ID : **630680171829**
Status : **Answered**
Chosen Option : **C**

Q.6 **Which of the following is NOT a loss considered for cables?**

Ans

✗ A. Dielectric loss

✗ B. Sheath loss

✓ C. Humidity loss

✗ D. Ionization

Question ID : **630680171828**
Status : **Answered**
Chosen Option : **D**

Q.7 **Which of the following is correct for underground cables?**

Ans

✗ A. Underground transmission can be 10-14 times as cheapest as overhead.

✗ B. Produced hazard to low flying aircraft or to wildlife

✓ C. Undergrounding is more expensive.

✗ D. High subjected to damage from severe weather conditions

Question ID : **630680171832**
Status : **Answered**
Chosen Option : **C**

Q.8 **Which of the following components is NOT a part of wind power plants?**

Ans

✗ A. Converters

✗ B. Turbine

✓ C. Coal

✗ D. Junction box

Question ID : **630680171825**
Status : **Answered**
Chosen Option : **C**

Section : **Estimation and Costing**

Q.1 **Which of the following is NOT a purpose of estimating and costing?**

Ans

✗ A. To avoid the misuse of money

✗ B. To know the necessary material and the cost to be incurred before starting the project

✗ C. To ensure all the materials required for the execution of the project are available

✓ D. To take more time for completion of the project

Question ID : **630680171837**
Status : **Answered**
Chosen Option : **D**

Q.2 **Which of the following statements is correct regarding cleat wiring?**

Ans

✗ A. Appearance is good.

✗ B. Regular cleaning is not required.

✗ C. Installation is difficult.

✓ D. Skilled manpower is required .

Question ID : **630680171839**
Status : **Answered**
Chosen Option : **B**

Q.3 **Which of the following cables transmits signals in the form of light?**

Ans

✗ A. Twisted pair cable

✓ B. Optical fibre cable

✗ C. Unwired cable

✗ D. Coaxial cable

Question ID : **630680171835**
Status : **Answered**
Chosen Option : **B**

Q.4 **The appearance of which of the following wiring systems is very good compared to others?**

Ans

✗ A. Wood casing capping wiring

✓ B. Conduit wiring

✗ C. Cleat wiring

✗ D. Batten or TRS wiring

Question ID : **630680171840**
Status : **Answered**
Chosen Option : **B**

Q.5 **Which of the following elements of estimating and costing is updated according to market rate from time to time?**

Ans

✗ A. Material schedule costing

✗ B. Performa for making estimates

✗ C. Market survey

✓ D. Price lists

Question ID : **630680171838**
Status : **Answered**
Chosen Option : **A**

Q.6 Which of the following is NOT used as underground cable?

Ans
- ✔ A. Wooden cable
- ✘ B. XLPE cable
- ✘ C. Oil filled cable
- ✘ D. A three core belted type cable

Question ID : **630680171834**
Status : **Answered**
Chosen Option : **A**

Q.7 The full form of ELCB is:

Ans
- ✘ A. Electronics Lighting Control Board
- ✔ B. Earth Leakage Circuit Breaker
- ✘ C. Electronically Live Circuit Breaker
- ✘ D. Electrically Live Circuit Board

Question ID : **630680171833**
Status : **Answered**
Chosen Option : **B**

Q.8 Which of the following is true for tenders?

Ans
- ✘ A. It offers fixed price.
- ✘ B. It is a document of estimated cost for supplying goods/services.
- ✔ C. It helps in finding out the best price.
- ✘ D. It has a narrow scope.

Question ID : **630680171836**
Status : **Answered**
Chosen Option : **C**

Section : **Utilization and Electrical Energy**

Q.1 The unit of radiant and luminous intensity in radiometry is:

Ans
- ✘ A. lumen
- ✔ B. watts/steradians
- ✘ C. steradians/watt
- ✘ D. candela

Question ID : **630680171844**
Status : **Answered**
Chosen Option : **D**

Q.2 Which of the following is known as low pressure mercury vapour lamp, which produces visible light?

Ans
- ✘ A. Carbon filament lamp
- ✘ B. Coil filament lamp
- ✘ C. Incandescent lamp
- ✔ D. Fluorescent lamp

Question ID : **630680171846**
Status : **Not Answered**
Chosen Option : **--**

Q.3 **Which type of DC motors generally employs a flywheel, where sudden and temporary loads are applied?**

Ans
- ✔ A. Cumulative compound motor
- ✘ B. Series motor
- ✘ C. Deferential compound motor
- ✘ D. Shunt motor

Question ID : **630680171847**
Status : **Answered**
Chosen Option : **C**

Q.4 **High pressure mercury vapour lamp is a type of:**

Ans
- ✘ A. fluorescent lamp
- ✘ B. incandescent lamp
- ✔ C. discharge lamp
- ✘ D. LED lamp

Question ID : **630680171843**
Status : **Answered**
Chosen Option : **B**

Q.5 **The incandescent lamp glass envelope contains:**

Ans
- ✘ A. only argon gas
- ✘ B. a mixture of hydrogen and nitrogen gases
- ✘ C. a mixture of hydrogen and argon gases
- ✔ D. a mixture of nitrogen and argon gases

Question ID : **630680171842**
Status : **Answered**
Chosen Option : **D**

Q.6 **Which of the following is NOT a feature/characteristic of electric welding?**

Ans
- ✘ A. Superior temperature controlling
- ✔ B. Creates weaker welds
- ✘ C. High speed welds
- ✘ D. Automatic welding is possible

Question ID : **630680171845**
Status : **Answered**
Chosen Option : **B**

Q.7 **Four point starters are virtually identical to three point starters, but they have an additional terminal, labelled the ____ terminal.**

Ans
- ✘ A. L
- ✔ B. N
- ✘ C. A
- ✘ D. F

Question ID : **630680171848**
Status : **Not Answered**
Chosen Option : **--**

Q.8 **The index of refraction for a particular material is defined as:**

Ans
- ✔ A. Speed of light in vacuum / Speed of light in material
- ✘ B. speed of light in material / Speed of light in vacuum
- ✘ C. Speed of light in vacuum + Speed of light in material
- ✘ D. Speed of light in vacuum × Speed of light in material

Question ID : **630680171841**
Status : **Answered**
Chosen Option : **B**

Section : **Basic Electronics**

Q.1 **Diffusion of electrons and holes takes place near the PN junction, resulting in the region called the _____.**

Ans
- ✘ A. avalanche layer
- ✘ B. voltage divider
- ✔ C. depletion layer
- ✘ D. electron volt

Question ID : **630680171853**
Status : **Answered**
Chosen Option : **C**

Q.2 **The device used to regulate voltage in an electrical system is:**

Ans
- ✘ A. Snubber
- ✘ B. JFET
- ✘ C. MOSFET
- ✔ D. Zener Diode

Question ID : **630680171851**
Status : **Answered**
Chosen Option : **D**

Q.3 **In which of the following conditions of the diode is the voltage at the cathode comparatively higher than that at the anode?**

Ans
- ✘ A. Forward biased
- ✔ B. Reversed biased
- ✘ C. Negative biased
- ✘ D. Positive biased

Question ID : **630680171854**
Status : **Answered**
Chosen Option : **A**

Q.4 **How many layers and junctions are there in a bipolar junction transistor?**

Ans
- ✘ A. 2 layers, 1 junction
- ✔ B. 3 layers, 2 junctions
- ✘ C. 4 layers, 3 junctions
- ✘ D. 3 layers, 3 junctions

Question ID : **630680171855**
Status : **Answered**
Chosen Option : **B**

Q.5 **The correct statement under the reverse bias condition of p-n junction diode is:**

Ans

✗ A. electron mobility increases

✗ B. it offers low resistance

✓ C. depletion layer increases

✗ D. depletion layer decreases

Question ID : **630680171850**
Status : **Answered**
Chosen Option : **C**

Q.6 **For a common emitter, the forward current AC amplification factor ß (AC) is defined as: Where Ic is the collector current, Ib is the base current, Ie is the emitter current and Vce is the collector emitter voltage.**

Ans

✓ A. ΔIc/ΔIb (Vce = Constant)

✗ B. ΔIb/ΔIc (Vce = Constant)

✗ C. ΔIc/ΔIe (Vce = Constant)

✗ D. ΔIc × ΔIb (Vce = Constant)

Question ID : **630680171849**
Status : **Answered**
Chosen Option : **A**

Q.7 **What is the part of FET called which covers both sides of N type layer with heavily doped to form PN junction?**

Ans

✗ A. Channel

✗ B. Drain

✗ C. Source

✓ D. Gate

Question ID : **630680171856**
Status : **Not Answered**
Chosen Option : **--**

Q.8 **For JFET, if gate to source voltage is less than the pinch off level, then the drain current ID is:**

Ans

✗ A. equal to drain voltage

✓ B. some value depends on load condition

✗ C. zero

✗ D. infinity

Question ID : **630680171852**
Status : **Answered**
Chosen Option : **C**