पावरग्रिड POWERGRID
पावर ग्रिड कॉर्पोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
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Participant ID	
Participant Name	
Test Center Name	
Test Date	27/07/2021
Test Time	12:00 PM - 1:00 PM
Subject	Field Supervisor (Electrical)

Section : **General English**

Q.1 **The sentence below has been divided into three parts. Select the part of the sentence that has an error. If the sentence has no error, select the option 'No Error'.**

I've thrown many a men/ down the catacombs, and/ none have ever returned.

Ans

✗ A. No Error
✗ B. none have ever returned.
✗ C. down the catacombs, and
✓ D. I've thrown many a men

Question ID : **663695229**
Status : **Answered**
Chosen Option : **D**

Q.2 **Some parts of a sentence have been jumbled up, and labelled P, Q, R and S. Select the option that gives the correct sequence in which these parts can be rearranged to form a meaningful and grammatically correct sentence.**

It serves as an

P. a consequential and
Q. weighty concept
R. excellent first point
S. of contact with such

as reconciliation.

Ans

✗ A. RQPS
✓ B. RSPQ
✗ C. RPSQ
✗ D. RQSP

Question ID : **663695230**
Status : **Answered**
Chosen Option : **B**

Q.3 **Select the most appropriate 'one word ' for the expressions given below.**

Ceremony in which a crown is placed on the head of a new king or queen

Ans
- ✗ A. Upend
- ✗ B. Affliction
- ✓ C. Coronation
- ✗ D. Convocation

663695227
Status : **Answered**
Chosen Option : **D**

Q.4 **Fill in the blank with the most appropriate choice.**

Pagans regarded staring as _____, as parents of well-mannered children still do.

Ans
- ✗ A. resplendent
- ✓ B. impudent
- ✗ C. provident
- ✗ D. independent

Question ID : **663695228**
Status : **Answered**
Chosen Option : **B**

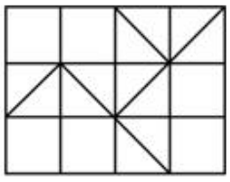
Q.5 **Four words are given, out of which only one word is spelt correctly. Choose the correctly spelt word.**

Ans
- ✓ A. acetic
- ✗ B. aesetic
- ✗ C. asetic
- ✗ D. acsetic

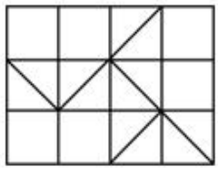
Question ID : **663695226**
Status : **Answered**
Chosen Option : **A**

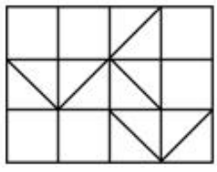
Section : **Reasoning**

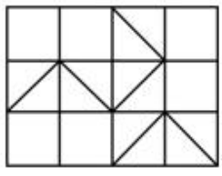
Q.1 Find the water image of the following figure.

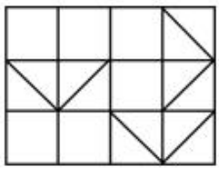


Ans

✔ A. 

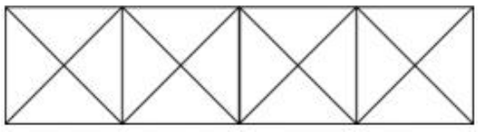
✘ B. 

✘ C. 

✘ D. 

Question ID : **663695235**
Status : **Answered**
Chosen Option : **A**

Q.2 Find the number of squares in the given figure.



Ans

✘ A. 6

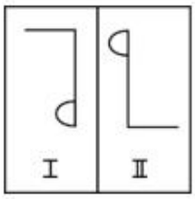
✔ B. 7

✘ C. 4

✘ D. 5

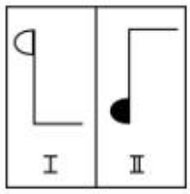
Question ID : **663695232**
Status : **Answered**
Chosen Option : **A**

Q.3 Choose a pair similar to the pair given in the question figure.

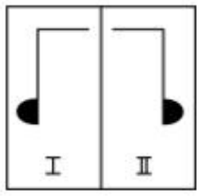


Ans

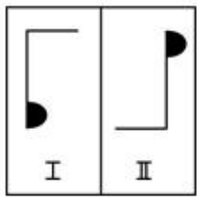
✗ A.



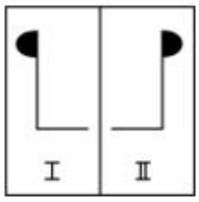
✗ B.



✓ C.



✗ D.



Question ID : **663695240**
Status : **Answered**
Chosen Option : **C**

Q.4 **Out of the given options, three are similar in a certain manner. However, one option is NOT like the other three. Select the option which is different from the rest.**

Ans

✗ A. Earth

✗ B. Venus

✗ C. Saturn

✓ D. Moon

Question ID : **663695238**
Status : **Answered**
Chosen Option : **D**

Q.5 What is the sum of all the numbers on the dial of a telephone?

Ans
✗ A. 40
✗ B. 0
✓ C. 45
✗ D. 90

Question ID : **663695239**
Status : **Answered**
Chosen Option : **C**

Q.6 Simplify using BODMAS rule,

$(122 + 189) - 550 \div 5^2 + 10)$

Ans
✗ A. 279
✗ B. 319
✓ C. 299
✗ D. 289

Question ID : **663695237**
Status : **Answered**
Chosen Option : **C**

Q.7 Select the option that is related to the third term on the same basis as the second term is related to the first term.

HUMANE : CRUEL :: SIMILAR : ?

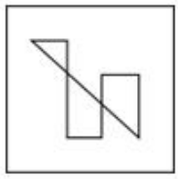
Ans
✗ A. AKIN
✗ B. ALIKE
✗ C. INDISTINGUISHABLE
✓ D. DIFFERENT

Question ID : **663695233**
Status : **Answered**
Chosen Option : **D**

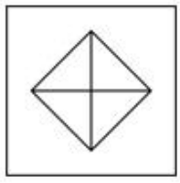
Q.8 From the given answer figures, select the one in which the question figure is hidden/embedded.

Ans

✗ A.



✗ B.



✗ C.

✓ D.

Question ID : **663695231**
Status : **Answered**
Chosen Option : **D**

Q.9 **Find the wrong number from the series.**

2, 4, 12, 48, 220, 1440

Ans

✗ A. 4

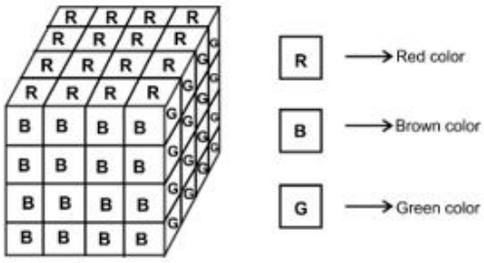
✗ B. 12

✗ C. 48

✓ D. 220

Question ID : **663695234**
Status : **Answered**
Chosen Option : **D**

Q.10 How many cubes have three surfaces painted?



Ans
- ✗ A. 5
- ✗ B. 6
- ✗ C. 10
- ✓ D. 8

Question ID : **663695236**
Status : **Answered**
Chosen Option : **D**

Section : **Quantitative Aptitude**

Q.1 If a × b = 16, where 'a' and 'b' are positive integers, how many ordered pairs of 'a' and 'b' exist?

Ans
- ✗ A. 3
- ✓ B. 5
- ✗ C. 4
- ✗ D. 2

Question ID : **663695249**
Status : **Answered**
Chosen Option : **A**

Q.2 The perimeter of the wire used to enclose a rectangle is 100 cm. What will be the area of the square formed using this same piece of wire?

Ans
- ✗ A. 900 sq. cm
- ✗ B. 2500 sq. cm
- ✗ C. 500 sq. cm
- ✓ D. 625 sq. cm

Question ID : **663695244**
Status : **Answered**
Chosen Option : **D**

Q.3 **An amount of money triples itself under compound interest in 9 years. What is the rate of interest p.a. compounded annually?**

Ans
- ✗ A. 12%
- ✓ B. 13%
- ✗ C. 11%
- ✗ D. 15%

Question ID : **663695248**
Status : **Answered**
Chosen Option : **A**

Q.4 **The cost price of a cloth to a merchant is Rs. 1,000. He marks it up by 100% but gives two successive discounts of 10% each. What is the effective sales price for this merchant?**

Ans
- ✗ A. Rs. 1,600
- ✓ B. Rs. 1,620
- ✗ C. Rs. 1,800
- ✗ D. Rs. 1,820

Question ID : **663695245**
Status : **Answered**
Chosen Option : **B**

Q.5 **Which among the following is the greatest?**

Ans
- ✗ A. .4848...
- ✗ B. 1/2
- ✓ C. 0.75^2
- ✗ D. .35

Question ID : **663695247**
Status : **Answered**
Chosen Option : **C**

Q.6 **If x – 2 is a factor of x^2 – ax + 4 = 0, what is the value of 'a' (the sign '^' means 'to the power')?**

Ans
- ✗ A. 8
- ✗ B. -4
- ✓ C. 4
- ✗ D. -8

Question ID : **663695243**
Status : **Answered**
Chosen Option : **C**

Q.7 What is the average of the salary received according to the table given below?

Month	Salary
January	Rs 10,000
February	Rs 11,000
March	Rs 12,000
April	Rs 13,000
May	Rs 14,000
June	Rs 15,000
July	Rs 15,000
August	Rs 14,000
September	Rs 13,000
October	Rs 12,000
November	Rs 11,000
December	Rs 10,000

Ans
✗ A. Rs. 13,500
✗ B. Rs. 12,000
✗ C. Rs. 13,000
✓ D. Rs. 12,500

Question ID : **663695242**
Status : **Answered**
Chosen Option : **D**

Q.8 **Pavan can do work X in 5 days and work X and Y in 16 days. If Prakash can do work X in 10 days, in how many days will Prakash do work Y alone?**

Ans
✗ A. 32 days
✗ B. 11 days
✓ C. 22 days
✗ D. 10 days

Question ID : **663695246**
Status : **Answered**
Chosen Option : **C**

Q.9 **From a vessel containing 1 litre of pure acid, 100 ml pure acid was drawn out in each of the beakers A and B. The acid in both the beakers was diluted by adding water in different proportions. After that, the contents of A and B were added back to the vessel. The concentration of acid in the vessel now is 80%. Had the contents of beakers A and B be mixed with each other instead of adding into the vessel, what would be the concentration of acid in that mixture?**

Ans
✓ A. 4/9
✗ B. 5/9
✗ C. 3/7
✗ D. 2/7

Question ID : **663695250**
Status : **Answered**
Chosen Option : **B**

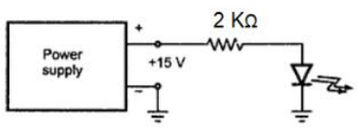
Q.10 **49, 65 and 73 are three numbers. Which of the following number leaves the same remainder when it divides the above mentioned numbers?**

Ans
- ✗ A. 7
- ✗ B. 9
- ✗ C. 5
- ✓ D. 4

Question ID : **663695241**
Status : **Answered**
Chosen Option : **D**

Section : **Electrical Engineering**

Q.1 What is the current through LED used in the given circuit? (Assume the drop across the LED as 2 V.)



Ans
- ✓ A. 6.5 mA
- ✗ B. 5 mA
- ✗ C. 3 mA
- ✗ D. 7.2 mA

Question ID : **663695283**
Status : **Answered**
Chosen Option : **D**

Q.2 **Which of the following is NOT a type of transmission of drive?**

Ans
- ✓ A. Horizontal drive
- ✗ B. Belt drive
- ✗ C. Rope drive
- ✗ D. Chain drive

Question ID : **663695279**
Status : **Answered**
Chosen Option : **A**

Q.3 **Which of the following devices is used to measure insulation resistance?**

Ans
- ✗ A. Ammeter
- ✓ B. Megger
- ✗ C. Wattmeter
- ✗ D. Voltmeter

Question ID : **663695264**
Status : **Answered**
Chosen Option : **B**

Q.4 **A 220 V DC shunt motor has an armature resistance of 0.2 ohm and runs at 800 rpm, taking an armature current 40 A. It is desired to reduce the speed to 600 rpm. If the armature current remains the same, find the additional resistance to be connected in series with the armature circuit.**

Ans
- ✔ A. 1.33 ohm
- ✘ B. 2.05 ohm
- ✘ C. 2 ohm
- ✘ D. 1.05 ohm

Question ID : **663695280**
Status : **Answered**
Chosen Option : **A**

Q.5 **Inside a conductor, electrostatic field is:**

Ans
- ✘ A. equal to and less than zero
- ✘ B. less than zero
- ✔ C. equal to zero
- ✘ D. greater than zero

Question ID : **663695253**
Status : **Answered**
Chosen Option : **C**

Q.6 **An alternating voltage e = 100 sin 215t is applied to a device which offers an ohmic resistance of 10 Ω to the flow of current in one direction, while preventing the flow of current in opposite direction. Calculate form factor of half wave rectified alternating current over one cycle.**

Ans
- ✘ A. 5
- ✔ B. 1.57
- ✘ C. 3.58
- ✘ D. 2.5

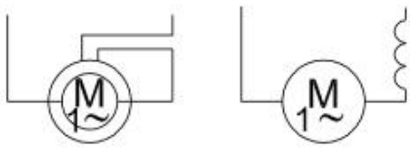
Question ID : **663695261**
Status : **Answered**
Chosen Option : **B**

Q.7 **Oscillator classifications is NOT based on:**

Ans
- ✔ A. input waveform
- ✘ B. output waveform
- ✘ C. range of operating frequency
- ✘ D. circuit components

Question ID : **663695286**
Status : **Answered**
Chosen Option : **B**

Q.8 Select the CORRECT description for the given figure.



Ans
- ✗ A. Synchronous motor
- ✗ B. Repulsion motor, single phase
- ✗ C. AC shunt motor, single phase
- ✓ D. AC series motor, single phase

Question ID : **663695285**
Status : **Answered**
Chosen Option : **D**

Q.9 **Which transformer is used for rating less than 200 MVA in power system?**

Ans
- ✗ A. Pulse transformer
- ✗ B. Instrument transformer
- ✓ C. Distribution transformer
- ✗ D. Power transformer

Question ID : **663695288**
Status : **Answered**
Chosen Option : **D**

Q.10 **A 50 Hz, 6-pole turbo-generator rated 120 MVA, 14.5 KV has inertia constant of 20 MJ/MVA. Find stored energy in the rotor at synchronous speed.**

Ans
- ✗ A. 2200 MJ
- ✓ B. 2400 MJ
- ✗ C. 1200 MJ
- ✗ D. 2000 MJ

Question ID : **663695291**
Status : **Answered**
Chosen Option : **B**

Q.11 **A consumer consumes 800 watts load per hour daily for one month. Calculate the total energy bill of the consumer if per unit rate is Rs. 6. (Consider 1 month = 30 days.)**

Ans
- ✗ A. Rs. 5,423
- ✗ B. Rs. 12,345
- ✗ C. Rs. 6,345
- ✓ D. Rs. 3,456

Question ID : **663695277**
Status : **Answered**
Chosen Option : **D**

Q.12 **Power transformers are available in various ratings. Which of the following is an INCORRECT rating?**

Ans
- ✗ A. 110 kV
- ✗ B. 400 kV
- ✗ C. 200 kV
- ✓ D. 6.6 kV

Question ID : **663695290**
Status : **Answered**
Chosen Option : **D**

Q.13 **If the loop gain is positive for any system, the transfer function will be:**

Ans
- ✓ A. Av = G /(1 - GH)
- ✗ B. Av = G × (1 + GH)
- ✗ C. Av = (1 + GH)/G
- ✗ D. Av = (1 + GH)

Question ID : **663695294**
Status : **Answered**
Chosen Option : **A**

Q.14 **Which of the following is NOT one of the applications of hot line maintenance?**

Ans
- ✓ A. Providing series jumper
- ✗ B. Tightening of nut bolts of power connectors
- ✗ C. Testing of punctured insulator
- ✗ D. Replacement of disc insulators

Question ID : **663695297**
Status : **Answered**
Chosen Option : **A**

Q.15 **Which transmission line is used to reduce electrical losses and to increase efficiency?**

Ans
- ✗ A. Short transmission lines
- ✓ B. Extra high voltage (EHV) transmission lines
- ✗ C. Low voltage transmission lines
- ✗ D. Medium transmission lines

Question ID : **663695300**
Status : **Answered**
Chosen Option : **B**

Q.16 **Average voltage of an alternating current is given as:**

Ans
- ✔ A. Vav = 0.637 Vmax
- ✘ B. Vav = 0.363 Vmax
- ✘ C. Vav = 0.336 Vmax
- ✘ D. Vav = 0.636/Vmax

Question ID : **663695263**
Status : **Answered**
Chosen Option : **A**

Q.17 **A 60-Hz alternating current has a time period of:**

Ans
- ✘ A. 30 seconds
- ✘ B. 60 seconds
- ✘ C. 120 seconds
- ✔ D. 1/60 seconds

Question ID : **663695262**
Status : **Answered**
Chosen Option : **D**

Q.18 **Electric charge of neutron is _____ coulomb.**

Ans
- ✘ A. 1.67×10^{-27}
- ✘ B. $+1.602 \times 10^{-19}$
- ✔ C. 0
- ✘ D. -1.602×10^{-19}

Question ID : **663695275**
Status : **Answered**
Chosen Option : **C**

Q.19 **Which of the following is NOT the reason for adopting EHV/UHV range for transmission purposes?**

Ans
- ✘ A. Improvement of voltage regulation
- ✔ B. Decrease in transmission efficiency
- ✘ C. Reduction in conductor material requirement
- ✘ D. Reduction of electrical losses

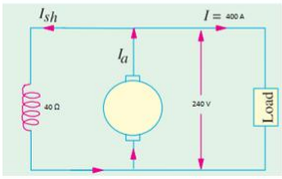
Question ID : **663695298**
Status : **Answered**
Chosen Option : **B**

Q.20 **MHCP stands for _____.**

Ans
- ✗ A. Magnetic Hemi-Spherical Candle Power
- ✗ B. Mean Hemi-Spherical Candle Power
- ✗ C. Metallic Horizontal Candle Power
- ✓ D. Mean Horizontal Candle Power

Question ID : **663695278**
Status : **Answered**
Chosen Option : **D**

Q.21 A given shunt generator delivers 400 A at 240 V and the resistance of the shunt field and armature are 40 Ω and 0.04 Ω, respectively. Calculate the generated EMF.



Ans
- ✗ A. 243.24 V
- ✓ B. 256.24 V
- ✗ C. 200 V
- ✗ D. 2223.76 V

Question ID : **663695267**
Status : **Answered**
Chosen Option : **B**

Q.22 **A 10-pole, 660 V, 50 Hz 3-phase delta connected synchronous motor is operating at no load with normal excitation. The rotor is retarded by 0.4° mechanical from its synchronous position. Compute the rotor displacement in electrical degrees.**

Ans
- ✓ A. 2°
- ✗ B. 1°
- ✗ C. 4°
- ✗ D. 3°

Question ID : **663695271**
Status : **Answered**
Chosen Option : **A**

Q.23 **Frequency of RC oscillator is given as:**

Ans

✗ A. $\frac{1}{2\pi RC}$

✗ B. $\frac{1}{2\pi\sqrt{RC}}$

✓ C. $\frac{1}{2\pi RC\sqrt{6}}$

✗ D. $\frac{1}{2\pi\sqrt{LC}}$

Question ID : **663695287**
Status : **Answered**
Chosen Option : **C**

Q.24 **Which of the following statements does NOT satisfy the advantage of a photodiode?**

Ans

✗ A. The speed of operation is very high.

✓ B. The dark current is temperature dependent.

✗ C. It can be used as a variable resistance device.

✗ D. It is highly sensitive to lights.

Question ID : **663695284**
Status : **Answered**
Chosen Option : **A**

Q.25 **A flux of 0.4 mWb is produced by a coil of 800 turns wound on a ring with a current of 2 A in it. Calculate the inductance of the coil.**

Ans

✗ A. 0.18 H

✗ B. 0.14 H

✓ C. 0.16 H

✗ D. 0.22 H

Question ID : **663695257**
Status : **Answered**
Chosen Option : **C**

Q.26 **Two coils A and B each having 1000 turns are placed near each other. When coil B is open-circuited and coil A carries a current of 4 A, the flux produced by coil A is 0.4 Wb and 25% of this flux links with all the turns of coil B. Determine the voltage induced in coil B on open circuit, when the current in the coil A is changing at the rate of 3 A/s.**

Ans

✓ A. 75 V

✗ B. 25 V

✗ C. 80 V

✗ D. 50 V

Question ID : **663695258**
Status : **Answered**
Chosen Option : **D**

Q.27 **Which of the following is NOT an advantage of a PMMC instrument?**

Ans
- ✔ A. Used only for DC
- ✘ B. Scale is uniform
- ✘ C. Power consumption is less
- ✘ D. Torque/weight is high

Question ID : **663695266**
Status : **Answered**
Chosen Option : **A**

Q.28 The charge (q) on a body is always given by _____.

Ans
- ✔ A. Ne
- ✘ B. $\frac{N}{e}$
- ✘ C. $\frac{e}{n}$
- ✘ D. $\frac{1}{n}$

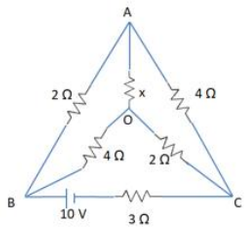
Question ID : **663695251**
Status : **Answered**
Chosen Option : **A**

Q.29 **There are 2 lights, 3 fans and 3 sockets of 5 amp. All the given equipment has 60 watt power and is connected in one sub circuit. Calculate the total connected load.**

Ans
- ✔ A. 480 watts
- ✘ B. 380 watts
- ✘ C. 200 watts
- ✘ D. 280 watts

Question ID : **663695276**
Status : **Answered**
Chosen Option : **A**

Q.30 Determine the value of total circuit resistance in the given figure, if current through branch AO is zero.



Ans

✗ A. 3 Ω

✓ B. 6 Ω

✗ C. 4 Ω

✗ D. 2 Ω

Question ID : **663695254**
Status : **Answered**
Chosen Option : **A**

Q.31 **In a Hopkinson's test on two 240 V, 80 kW generators, the circulating current is equal to the full load current and, in addition, 100 A are taken from supply. Obtain the efficiency (assume equal efficiency for both).**

Ans

✗ A. 98%

✓ B. 87%

✗ C. 90%

✗ D. 95%

Question ID : **663695281**
Status : **Answered**
Chosen Option : **D**

Q.32 **Which of the following is NOT the parameter of the transmission line?**

Ans

✗ A. Shunt conductance

✗ B. Resistance

✗ C. Inductance

✓ D. Series capacitance

Question ID : **663695295**
Status : **Answered**
Chosen Option : **D**

Q.33 **A 3 KVA, 2200/110 V, 50 Hz transformer has a high voltage winding resistance 0.2 Ω. The low voltage winding resistance is 0.04 Ω. Find the equivalent winding resistance.**

Ans

✓ A. 16.2 Ω

✗ B. 14.2 Ω

✗ C. 14.5 Ω

✗ D. 12.5 Ω

Question ID : **663695269**
Status : **Answered**
Chosen Option : **B**

Q.34 **A slip ring induction motor runs at 190 rpm at full load when connected to 50 Hz supply. Determine the number of poles and slip. (Assume synchronous speed is 200 rpm.)**

Ans
- ✗ A. 20 Poles and 3% Slip
- ✓ B. 30 Poles and 5% Slip
- ✗ C. 16 Poles and 6% Slip
- ✗ D. 400 Poles and 4% Slip

Question ID : **663695270**
Status : **Answered**
Chosen Option : **B**

Q.35 **Which of the following is NOT a type of resistor?**

Ans
- ✗ A. Deposited carbon
- ✓ B. Low-voltage ink glaze
- ✗ C. Carbon composition
- ✗ D. Metal film

Question ID : **663695256**
Status : **Answered**
Chosen Option : **B**

Q.36 **Which of the following is NOT a property of electric field lines?**

Ans
- ✓ A. Field lines are not continuous curves without any breaks.
- ✗ B. Electrostatic field lines start at positive charges and end at negative charges —they cannot form closed loops.
- ✗ C. Field lines are continuous curves without any breaks.
- ✗ D. Two field lines cannot cross each other.

Question ID : **663695252**
Status : **Answered**
Chosen Option : **A**

Q.37 **Power developed by a salient pole synchronous motor is given as:**

Ans
- ✗ A. $9.55/N_s$
- ✓ B. $9.55\ P_m/N_s$
- ✗ C. $9.55 \times P_m \times N_s$
- ✗ D. P_m/N_s

Question ID : **663695272**
Status : **Answered**
Chosen Option : **B**

Q.38 **Which of the following statements is CORRECT regarding ahydro-electric power station?**

Ans
✗ A. It is a generating station which converts the energy possessed by the sun into electrical energy.

✗ B. It is a generating station which converts the heat energy of coal combustion into electrical energy.

✓ C. It is a generating station which converts the energy possessed by water into electrical energy.

✗ D. It is based on fossil fuels.

Question ID : **663695274**
Status : **Answered**
Chosen Option : **C**

Q.39 **Which of the following methods is NOT used to reduce corona discharge?**

Ans
✗ A. By using bundled conductors

✗ B. By increasing the conductor size

✗ C. By using corona rings

✓ D. By decreasing the distance between conductors

Question ID : **663695289**
Status : **Answered**
Chosen Option : **D**

Q.40 **A 4-pole generator having wave wound armature winding has 60 slots, each slot containing 24 conductors. What will be the voltage generated by the machine, when driven at 1200 rpm assuming the flux per pole to be 8.0 mWb?**

Ans
✗ A. 360.8 V

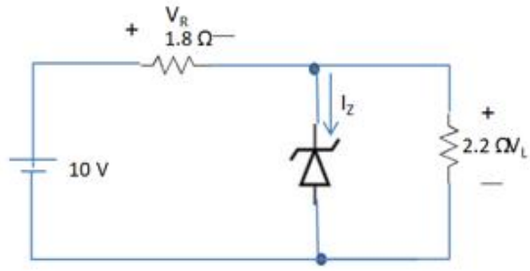
✗ B. 440 V

✓ C. 460.8 V

✗ D. 260.8 V

Question ID : **663695268**
Status : **Answered**
Chosen Option : **C**

Q.41 For the given zener diode network, determine the V_L.



Ans
- ✗ A. 3.5 V
- ✗ B. 4.5 V
- ✓ C. 5.5 V
- ✗ D. 2.5 V

Question ID : **663695282**
Status : **Answered**
Chosen Option : **D**

Q.42 **An alternating (assumed sinusoidal) current of frequency 50 Hz has a maximum value of 100 A. Calculate how many seconds after the instant the current is zero (increasing thereafter wards) will the current attain the value of 90 A. (Value of Sin-1(0.9) is 64.160.)**

Ans
- ✗ A. 0.02 second
- ✗ B. 0.4 second
- ✗ C. 0.002 second
- ✓ D. 0.004 second

Question ID : **663695260**
Status : **Answered**
Chosen Option : **D**

Q.43 **Which conductor is commonly used for 11 KV lines?**

Ans
- ✗ A. AAC: All Aluminium Conductors
- ✓ B. ACSR: Aluminium Conductor, Steel-Reinforced
- ✗ C. ACAR: Aluminium Conductor, Alloy-Reinforced
- ✗ D. AAAC: All Aluminium Alloy Conductors

Question ID : **663695296**
Status : **Answered**
Chosen Option : **B**

Q.44 _____ is the unit of insulation resistance.

Ans
- ✗ A. Ampere
- ✗ B. Watts
- ✓ C. Mega ohms
- ✗ D. Joule

Question ID : **663695265**
Status : **Answered**
Chosen Option : **C**

Q.45 Which of the following is NOT the advantage or use of Kalman filter which is also known as linear quadratic estimation (LQE)?

Ans
- ✗ A. Removes statistical noises
- ✓ B. Provides robustness
- ✗ C. Produces estimates of unknown variables that tend to be more accurate
- ✗ D. Removes inaccuracies

Question ID : **663695292**
Status : **Marked For Review**
Chosen Option : **B**

Q.46 Which of the following is an INCORRECT statement regarding the limitation of solar cell?

Ans
- ✓ A. It can be used on cloudy days or at night.
- ✗ B. It cannot be used on cloudy days or at night.
- ✗ C. It is an uneconomical method compared to the conventional method.
- ✗ D. It requires a large area for the generation of even a small amount of electric power.

Question ID : **663695273**
Status : **Answered**
Chosen Option : **A**

Q.47 A coil has a time constant of 1 second and an inductance of 6 H. If the coil is connected to a 120 V DC source, determine the rate of rise of current at the instant of switching.

Ans
- ✗ A. 25 A/s
- ✓ B. 20 A/s
- ✗ C. 5 A/s
- ✗ D. 10 A/s

Question ID : **663695259**
Status : **Answered**
Chosen Option : **B**

Q.48 **Which of the following is NOT the main characteristic of an 'open-loop system'?**

Ans
✗ A. Each input setting determines a fixed operating position for the controller.

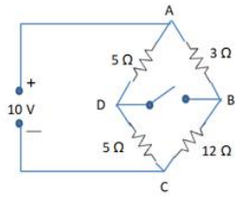
✗ B. An open-loop system has no self-regulation or control action over the output value.

✗ C. Changes or disturbances in external conditions do not result in a direct output change.

✓ D. There is some comparison between actual and desired values.

Question ID : **663695293**
Status : **Marked For Review**
Chosen Option : **D**

Q.49 In the given unbalanced bridge circuit, find the potential difference that exists across the open switch.



Ans
✗ A. 5 V

✗ B. 6 V

✗ C. 12 V

✓ D. 3 V

Question ID : **663695255**
Status : **Answered**
Chosen Option : **C**

Q.50 **The insulation resistance of a cable of length 5 km is 1 M ohm. For a length of 50 km of the same cable, the insulation resistance will be:**

Ans
✗ A. 1 ohm

✓ B. 0.1 M ohm

✗ C. 1 k ohm

✗ D. 1 M ohm

Question ID : **663695299**
Status : **Answered**
Chosen Option : **B**