CSPHCL JE

Previous Year Paper

Electrical 10 Jan 2022

CHHATTISGARH STATE POWER HOLDING COMPANY LIMITED
(A Government of Chhattisgarh Undertaking)
CIN No. : U65992CT2008SGC020995
O/o GM (HR), C.S. Power Holding Co.Ltd., Raipur

Participant ID	
Participant Name	
Test Center Name	
Test Date	
Test Time	
Subject	Junior Engineer Trainee - Electrical

Section : **General Awareness & Reasoning**

Q.1 Which Article of the Constitution of India has a provision of Uniform civil code under the directive Principle of State Policy?

Ans
✗ 1. Article 48
✗ 2. Article 42
✓ 3. Article 44
✗ 4. Article 46

Question ID : **7532297893**
Status : **Answered**
Chosen Option :

Q.2 When a glacial valley is encroached by sea, it is called:

Ans
✗ 1. tarn
✗ 2. cirque
✗ 3. drumlin
✓ 4. fjord

Question ID : **7532297891**
Status : **Not Answered**
Chosen Option : **--**

Q.3 Who among the following was the Orange Cap holder for scoring the most runs in IPL 2021? Ans
✗ 1. KL Rahul
✗ 2. Kagiso Rabada
✓ 3. Ruturaj Gaikwad
✗ 4. Harshal Patel

Question ID : **7532297886**
Status : **Answered**
Chosen Option :

Q.4 **is the first one from India protected through the TRIPS Agreement under the Geographic Indicator tag.**

Ans

✗ 1. Indian turmeric

✗ 2. Indian Neem

✓ 3. Darjeeling tea

✗ 4. Basmati Rice

Question ID : **7532297889**
Status : **Not Answered**
Chosen Option : **--**

Q.5 Who among the following Governor-General of India during the British rule Covenanted Civil Service of India, now called the Indian Civil Service?

Ans

✗ 1. John Shore

✓ 2. Charles Cornwallis

✗ 3. George Barlow

✗ 4. Marquess Cornwallis

Question ID : **7532297887**
Status : **Answered**
Chosen Option :

Q.6 Kishangarh Shaili Miniature which is famous for features like sharp noses, almond eyes and arched mouths is mainly linked to state.

Ans

✓ 1. Rajasthan

✗ 2. Madhya Pradesh

✗ 3. Himachal Pradesh

✗ 4. Punjab

Question ID : **7532297888**
Status : **Answered**
Chosen Option :

Q.7 What is the number of Y chromosomes in a normal female? Ans

✗ 1. 1

✓ 2. 0

✗ 3. 2

✗ 4. 21

Question ID : **7532297892**
Status : **Not Answered**
Chosen Option :

Q.8 Which of the following models was the basis of the Government of India's first Five-Year Plan?

Ans
✗ 1. Gadgil Model

✓ 2. Harrod-Domar model

✗ 3. PC Mahalanobis Model

✗ 4. Keynesian IS/LM model

Question ID : **7532297894**
Status : **Not Answered**
Chosen Option :

Q.9 In which year was the Swachh Bharat mission launched? Ans
✗ 1. 2000

✗ 2. 2010

✓ 3. 2014

✗ 4. 2020

Question ID : **7532297890**
Status : **Answered**
Chosen Option :

Q.10 Which of the following communities has lately been added to the original list of minority communities by the Government of India?

Ans
✓ 1. Jains

✗ 2. Buddhists

✗ 3. Parsis

✗ 4. Sikhs

Question ID : **7532297885**
Status : **Answered**
Chosen Option :

Q.11 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:
1) No ball is a racket.
2) All rackets are sticks.

Conclusions:
I. Some sticks are rackets.
II. No stic

Ans
1. Neither conclusion I nor II follows

2. Only conclusion II follows

3. Only conclusion I follows

4. Both conclusions I and II follow

Question ID : **7532297896**
Status : **Answered**
Chosen Option :

Q.12 What will be the approximate value of the following expression?

$6.06 \times 7.97 + 33.98 \div 17.03 = ?$

Ans

1. 48
2. 49.5
3. 51
4. ✔ 50

Question ID : **7532297904**
Status : **Answered**
Chosen Option :

Q.13 Six persons (U, V, W, X, Y and Z) are sitting along a hexagonal table each at one corner facing the centre. Z is sitting exactly to the left of W. W is exactly opposite to X. If Y is second to the right of Z and is exactly opposite to V, then what is the siting position of U?

Ans

1. To the immediate right of W
2. Exactly between X and V
3. ✔ To the immediate left of X
4. To the immediate right of V

Question ID : **7532297895**
Status : **Answered**
Chosen Option :

Q.14 Aman went 3 km straight from the shopping complex and turned left. From here he covered 2 km and turned 135 degrees to his right and travelled 1.5 km. If at the end he was going northward, then in which direction did he start from the shopping complex?

Ans

1. South-west
2. ✔ North-west
3. North-east
4. South-east

Question ID : **7532297899**
Status : **Answered**
Chosen Option :

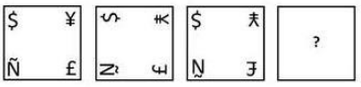
Q.15 'Flu' is related to 'Virus' in the same way as 'Malaria' is related to '_____'.

Ans

1. ✔ Parasite
2. Virus
3. Sizzling
4. Bacteria

Question ID : **7532297901**
Status : **Answered**
Chosen Option :

Q.16 Select the figure from among the given options that can replace the question mark (?) in the following series.



Ans

✗ 1. 

✓ 2. 

✗ 3. 

✗ 4. 

Question ID : **7532297902**
Status : **Answered**
Chosen Option :

Q.17 Select the letter from among the given options that can replace the question mark (?) in the following series.

W, D, S, H, ?, L

Ans

✓ 1. O

2. K

3. P

4. R

Question ID : **7532297897**
Status : **Answered**
Chosen Option :

Q.18 In a certain code language, BLOCKADE is written as YOLXPZWV. How will DISABLED be written in that language?

Ans

1. VRGZXOUW

✓ 2. WRHZYOVW

3. WSHAYPVX

4. VSGAXPUX

Question ID : **7532297898**
Status : **Answered**
Chosen Option :

Q.19 If 'A @ B' means 'A is the husband of B', 'A % B' means 'A is the wife of B', and 'A & B' means 'A is the son of B', then how is T related to P when 'P & Q % R & S @ T'?

Ans

1. Grandfather
2. Mother
3. Granddaughter
4. ✔ Grandmother

Question ID : **7532297900**
Status : **Answered**
Chosen Option :

Q.20 Select the number from among the given options that can replace the question mark (?) in the following series.

107, 113, 131, 139, ?, 163

Ans

1. 147
2. ✔ 151
3. 153
4. 149

Question ID : **7532297903**
Status : **Not Answered**
Chosen Option : **--**

Section : **Subject Content**

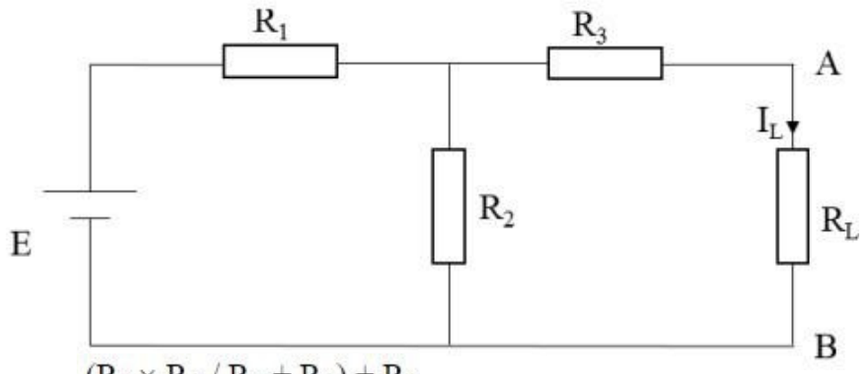
Q.1 A 10-mA meter with an internal resistance of 50 Ω is to be converted into a (0 – 400) mA ammeter. Calculate shunt resistance required.

Ans

1. ✘ 1.25 Ω
2. ✔ 1.28 Ω
3. ✘ 2 kΩ
4. 1.95 kΩ

Question ID : **7532297914**
Status : **Not Answered**
Chosen Option :

Q.2 Find the Thevenin resistance (R_{th}) for the given circuit.



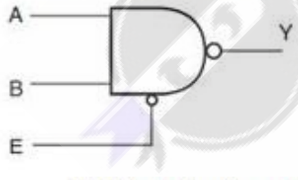
Ans
1. $(R_1 \times R_2 / R_1 + R_2) + R_3$
2. $(R_3 + R_2 / R_3 \times R_2) + R_1$
3. $(R_1 + R_2 / R_1 \times R_2) + R_3$
4. $(R_3 \times R_2 / R_3 + R_2) + R_1$

Question ID : **7532297925**
Status : **Answered**
Chosen Option :

Q.3 What is the unit of MMF (Magnetomotive Force)? Ans
1. Henries/metre
2. Ampere turns/Weber
3. Ampere turns
4. Tesla

Question ID : **7532297908**
Status : **Answered**
Chosen Option :

Q.4 Identify the given logic gate.



Ans
1. Tristate logic gate
2. AND-OR-INVERT gate
3. Fan-out logic gate
4. Schmitt gate

Question ID : **7532297945**
Status : **Answered**
Chosen Option :

Q.5 A 6-pole wave-connected armature has 200 conductors and runs at 1000 rpm. The EMF generated is 600 V. Find the useful flux per pole.

Ans

✗ 1. 0.04 Wb

✗ 2. 0.02 Wb

✗ 3. 0.01 Wb

✓ 4. 0.06 Wb

Question ID : **7532297915**
Status : **Answered**
Chosen Option :

Q.6 Which of the following transductions is done by the Hall effect device as a transducer? Ans

✗ 1. Humidity to resistance

✓ 2. Magnetism to voltage

✗ 3. Temperature to voltage

✗ 4. Light to resistance

Question ID : **7532297950**
Status : **Answered**
Chosen Option :

Q.7 What should be the actual breaking strength of the guard wire, where guarding is required under the rules as per IE rule 88?

Ans

✗ 1. Not less than 235.06 kg

✗ 2. Not less than 563.03 kg

✓ 3. Not less than 635.02 kg

✗ 4. Not less than 326.05 kg

Question ID : **7532297954**
Status : **Not Answered**
Chosen Option : --

Q.8 न न ल खत म से कस उपकरण का उपयोग अ फ नश के साथ सही छेद बनाने के लए कया जाता ह?ै

Ans

✗ 1. लैट ल

✗ 2. म ेल

✗ 3. ट् व ट ल

✓ 4. रीमर

Question ID : **7532297918**
Status : **Answered**
Chosen Option :

Q.9 **The operation of a bistable multivibrator is identical to that of a _.**

Ans

✗ 1. oscillator

✓ 2. flip-flop

✗ 3. converter

✗ 4. counter

Question ID : **7532297949**
Status : **Answered**
Chosen Option :

Q.10 **Which types of motors are ideal for use in electric trains, where the self-weight of the train acts as load?**

Ans

✓ 1. DC series motors

✗ 2. DC compound motors

✗ 3. 3-phase slip ring induction motors

✗ 4. 3-phase synchronous motors

Question ID : **7532297972**
Status : **Answered**
Chosen Option :

Q.11 What should be the smallest cross-sectional area of an aluminium conductor for domestic wiring?

Ans

✗ 1. $1.25\ mm^2$

2. $1.5\ mm^2$

3. $2.25\ mm^2$

4. $1\ mm^2$

Question ID : **7532297913**
Status : **Answered**
Chosen Option :

Q.12 **Which of the following statements is NOT true about proprietorship enterprises?** **Ans**

✗ 1. Easy formation and closure as no legal formalities are required.

✗ 2. A business owned by one person is called a single ownership proprietorship enterprise.

✗ 3. Here an individual exercises and enjoys ownership rights in his own interest.

✓ 4. Proprietorship enterprises are run by individual businessmen and the capital is collected from private partners.

Question ID : **7532297983**
Status : **Not Answered**
Chosen Option : **--**

Q.13 In an AC traction system, the return current which flows from the locomotive to the track soon leaks to the ground within a short distance and returns to the substation through the earth. This ground current causes heavy interference with the communication lines. How is it minimised?

Ans

✗ 1. By DC traction motor

✓ 2. By booster transformer

✗ 3. By smoothing choke

✗ 4. By circuit breaker

Question ID : **7532297974**
Status : **Answered**
Chosen Option :

Q.14 Which of the following is used in a relaxation oscillator to generate a sawtooth waveform? Ans

✗ 1. CMOS

✗ 2. SCR

✓ 3. UJT

✗ 4. Schottky diode

Question ID : **7532297921**
Status : **Answered**
Chosen Option :

Q.15 Find 2's complement of −9. Ans

✓ 1. 11110111

✗ 2. 11111001

✗ 3. 00001001

✗ 4. 00001010

Question ID : **7532297944**
Status : **Answered**
Chosen Option :

Q.16 A 100-watt incandescent light bulb in a 120-V circuit is dimmed to half its power output using an old-fashioned rheostat, or variable resistor, as a dimmer. How much power is being dissipated by the rheostat itself?

Ans

✗ 1. 4.58 watts

✗ 2. 441 watts

✓ 3. 21 watts

✗ 4. 9.17 watts

Question ID : **7532297967**
Status : **Not Answered**
Chosen Option : **--**

Q.17 Which of the following statements is NOT true for an earth leakage circuit breaker (ELCB)? Ans

✔ 1. ELCB operates very quickly when extremely high leakage current flows.

✘ 2. The protection provided by ELCB against electric shock is higher than a fuse or MCB.

✘ 3. ELCB is also called residual current circuit breaker (RCCB). It is used for the protection of earth leakage. This is arranged to. So

✘ 4. ELCB can be placed near the main board to protect the whole installation.

Question ID : **7532297956**
Status : **Answered**
Chosen Option :

Q.18 Arrange the sources of lights according to the brightness in candles per square inch in ascending order.

Ans

✘ 1. Fluorescent lamp surface (40 W daylight), Clear gas-filled lamp filament 500 W, Vacuum lamp filament, Arc lamp

✔ 2. Fluorescent lamp surface (40 W daylight), Vacuum lamp filament, Clear gas-filled lamp filament 500 W, Arc lamp

✘ 3. Arc lamp, Clear gas-filled lamp filament 500 W, Vacuum lamp filament, fluorescent lamp surface (40 W daylight).

✘ 4. Arc lamp, Vacuum lamp filament, Clear gas-filled lamp filament 500 W, Fluorescent lamp surface (40 W daylight)

Question ID : **7532297981**
Status : **Answered**
Chosen Option :

Q.19 Find the precision of an instrument that measures a known voltage of 100 V, and five readings are taken as 104, 103, 105, 103 and 105.

Ans

✘ 1. 2%

✘ 2. 5%

✘ 3. 4%

✔ 4. 1%

Question ID : **7532297928**
Status : **Answered**
Chosen Option :

Q.20 Which of the following statements related to star delta connection is NOT true? Ans

✘ 1. Delta connection is most suitable for rotary converters.

✘ 2. Most of the 3-phase induction motors are delta connected.

✔ 3. Star connected alternator will require a greater number of turns than a delta connected alternator for the same line voltage.

✘ 4. For the same line voltage, a star connected alternator requires less insulation than a delta connected alternator.

Question ID : **7532297927**
Status : **Answered**
Chosen Option :

Q.21 What should be the insulation resistance if there are 20 wiring points? Ans

✗ 1. It should not be less than 1 megaohms.

✓ 2. It should not be less than 2.5 megaohms.

✗ 3. It should not be less than 5 megaohms.

✗ 4. It should not be less than 10 megaohms.

Question ID : **7532297978**
Status : **Answered**
Chosen Option :

Q.22 What is the purpose of the delay circuit in the cathode ray oscilloscope? Ans

✗ 1. Delay for some time in the horizontal plate

✗ 2. Delay in the trigger circuit

✓ 3. Delay for some time in the vertical sections

✗ 4. Delay in time base generator

Question ID : **7532297934**
Status : **Answered**
Chosen Option :

Q.23 What will be performed by the logic instruction 'ORA R/M' by the 8085 microprocessors? Ans

✗ 1. Logically EXCLUSIVE-OR the 8-bit data with the contents of the accumulator

✗ 2. Logically EXCLUSIVE-OR the contents of the register memory with the contents of the accumulator

✓ 3. Logically OR the contents of the register/memory with the contents of the accumulator

✗ 4. Logically OR the 8-bit data with the contents of the accumulator

Question ID : **7532297962**
Status : **Not Answered**
Chosen Option : **--**

Q.24 What is the range of voltage transmission for which a screened cable is used? Ans

✗ 1. From 11 kV to 22 kV

✗ 2. From 66 kV to 132 kV

✗ 3. Above 132 kV

✓ 4. From 22 kV to 66 kV

Question ID : **7532297942**
Status : **Answered**
Chosen Option :

Q.25 Which of the following does NOT belong to the ideal characteristics of an operational amplifier?

Ans

✗ 1. Output impedance is zero

✗ 2. Offset voltage is zero

✗ 3. Power supply rejection ratio is zero

✓ 4. Slew rate is zero

Question ID : **7532297952**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.26 If δ is the loss angle of a cable, then its power factor will be _____.

Ans

1. $cos^2\ \delta$
2. independent of δ
3. $\cos\ \delta$
4. ✓ $\sin\ \delta$

Question ID : **7532297955**
Status : **Answered**
Chosen Option :

Q.27 Find the voltage drop during the 'ON' mode of the switch in SMPS (Switched Mode Power Supply).

Ans

✗ 1. More than 5 V

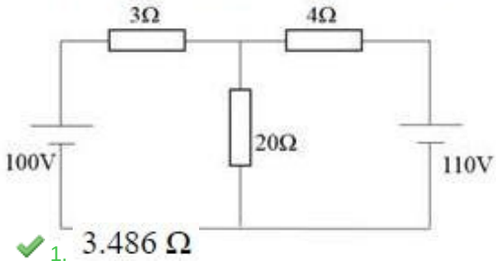
✗ 2. 2 to 3 V

✗ 3. 0.7 to 1.1 V

✓ 4. Negligible

Question ID : **7532297959**
Status : **Answered**
Chosen Option :

Q.28 Find the current in 4 Ω resistance.



Ans
✔ 1. 3.486 Ω
2. 1.315 Ω
3. 2.813 Ω
4. 4.278 Ω

Question ID : **7532297923**
Status : **Answered**
Chosen Option :

Q.29 Which mode of electrical power generation has the highest maintenance cost? Ans

✔ 1. Nuclear power
✘ 2. Steam power
✘ 3. Diesel power
✘ 4. Hydro-electric power

Question ID : **7532297939**
Status : **Answered**
Chosen Option :

Q.30 Which of the following is a passive element? Ans

✔ 1. Inductor
✘ 2. Current source
✘ 3. LED
✘ 4. MOSFET

Question ID : **7532297907**
Status : **Answered**
Chosen Option :

Q.31 Which of the following statements is NOT completely true for power flow analysis?

Ans
✘ 1. The currents flowing through every transmission link can be easily calculated by power flow analysis.
✘ 2. Power flow analysis allows one to determine the voltages at locations throughout the transmission system.
✔ 3. It is the analysis of the distribution of loads.
✘ 4. Power flow analysis allows one to determine the time element or phase angle.

Question ID : **7532297966**
Status : **Answered**
Chosen Option :

Q.32 **Which of the following connections is used to supply power to a two-phase apparatus from a three-phase source and to supply power to a three-phase apparatus from a three-phase source?**

Ans

✗ 1. Delta-delta connection

✗ 2. Open delta connection

✓ 3. Scott-T connection

✗ 4. Star-delta connection

Question ID : **7532297938**
Status : **Answered**
Chosen Option :

Q.33 **Find the Gray code equivalent of binary number 1111.**

Ans

✗ 1. 1010

✗ 2. 1100

✗ 3. 0111

✓ 4. 1000

Question ID : **7532297947**
Status : **Not Answered**
Chosen Option : **--**

Q.34 An inductor having an inductance of 0.4 H and a resistance of 5 Ω is connected in series with a capacitor across 50 Hz sinusoidal supply. Calculate the capacitance required to give the circuit a power factor of 0.5 lagging.

Ans

1. 27.2 µfd
2. 7.2 mfd
3. 0.72 mfd
4. 1.36 µfd

Question ID : **7532297926**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.35 **A 3-phase, 20 HP, 208 V, 60 Hz, 6-pole star connected induction motor delivers 15 kW at a slip of 5%. Find the frequency of the rotor current.**

Ans

✗ 1. 12 Hz

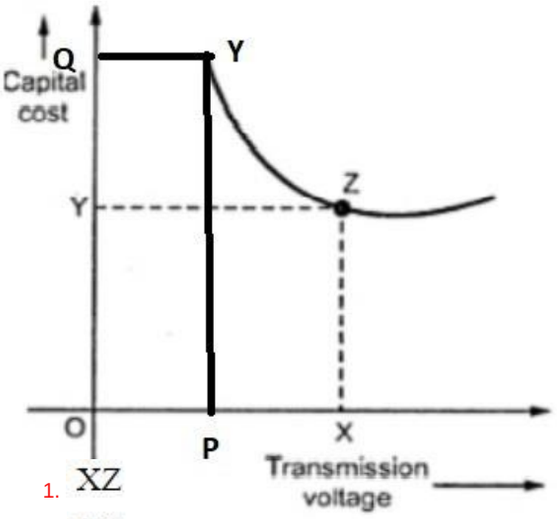
✗ 2. 5 Hz

✓ 3. 3 Hz

✗ 4. 9 Hz

Question ID : **7532297970**
Status : **Answered**
Chosen Option :

Q.36 Which line in the given figure represents the optimum transmission voltage?



Ans
1. XZ
2. PY
✔ 3. OX
4. OP

Question ID : **7532297940**
Status : **Answered**
Chosen Option :

Q.37 Which of the following statements is NOT true for diode saturation current (I_0)?

Ans
✗ 1.
I_0 can vary by orders of magnitude depending on the dopant concentrations.

✔ 2.
I_0 can be viewed as the drift current due to majority carriers generated within a diffusion length of the depletion region.

✗ 3.
I_0 is the rate at which carriers are thermally generated within one diffusion length of the depletion region.

✗ 4.
I_0 can vary by orders of magnitude depending on the semiconductor material.

Question ID : **7532297919**
Status : **Answered**
Chosen Option :

Q.38 Which of the following statements is NOT true for the relay used as protection in electrical circuits?

Ans ✗ 1. Reliability is the ability of the relay system to operate under pre-determined conditions. Without reliability, the protection would be rendered largely ineffective and could even become a liability.

✓ 2. The economy of using a relay is important. As a rule, the protective gear should not cost more than 15% of the total cost.

✗ 3. A 1 VA relay is more sensitive than a 3 VA relay. It is desirable that the relay system be sensitive so that it operates with low values of volt-ampere input.

✗ 4. The relaying system should be so simple that it can be easily maintained. Reliability is closely related to simplicity.

Question ID : **7532297976**
Status : **Answered**
Chosen Option :

Q.39 does NOT affect the stability of the power system.

Ans ✗ 1. Excitation of generating system

✗ 2. Reactance of transmission line

✗ 3. Reactance of generating system

✓ 4. Losses

Question ID : **7532297965**
Status : **Answered**
Chosen Option :

Q.40 What is the coefficient of adhesion for a straight DC locomotive? Ans ✗ 1. 17%

✗ 2. 45%

✓ 3. 27%

✗ 4. 65%

Question ID : **7532297973**
Status : **Not Answered**
Chosen Option : --

Q.41 Which of the following is NOT true pertaining to inductor and capacitor filters?

Ans ✗ 1. In a capacitor filter, the ripple factor varies inversely with a load resistance RL.

✓ 2. A simple shunt capacitor filter reduces the diode current.

✗ 3. A simple series inductor reduces both, the peak and effective values of the output current and output voltage.

✗ 4. In an inductor filter, the ripple factor increases with the increase in load resistance.

Question ID : **7532297922**
Status : **Answered**
Chosen Option :

Q.42 Identify the principle of operation of a DC generator. Ans

✔ 1. Faraday's laws of electromagnetic induction

✗ 2. Laws of mutual induction

✗ 3. Lenz's law

✗ 4. Right-hand thumb rule

Question ID : **7532297909**
Status : **Answered**
Chosen Option :

Q.43 Which of the following is against the essential features of a switchgear? Ans

✗ 1. Provision for manual operation

✗ 2. Absolute certain discrimination

✗ 3. Complete reliability

✔ 4. Delay operation

Question ID : **7532297975**
Status : **Answered**
Chosen Option :

Q.44 A copper wire has a resistance of 50 Ω at 30°C. "What is the resistance at 60°C if the temp coefficient of copper is 0.005 at 30°C?

Ans

✔ 1. $57.5\ \Omega$

2. $65\ \Omega$

3. $42.85\ \Omega$

4. $35\ \Omega$

Question ID : **7532297910**
Status : **Answered**
Chosen Option :

Q.45 Which of the following is the most widely used AC bridge for the measurements of unknown capacitors, dielectric loss and power factor?

Ans

✗ 1. Maxwell's bridge

✔ 2. Schering bridge

✗ 3. Kelvin's bridge

✗ 4. Anderson bridge

Question ID : **7532297933**
Status : **Answered**
Chosen Option :

Q.46 Locate the capacitor used in the power system for VAR compensation. Ans

✗ 1. In the transmission line

✗ 2. Near the source of supply

✓ 3. Near the load

✗ 4. In the substation transformer

Question ID : **7532297964**
Status : **Answered**
Chosen Option :

Q.47 Which of the following statements about the linear variable differential transformer (LVDT) is NOT true?

Ans

✗ 1. The LVDT can be used in all applications where displacements ranging from a fraction of an mm to a few cm have to be measured. Acting as a transducer, it can be used as a device to measure force, weight and pressure.

✗ 2. LVDT transducer can be used as a device to measure force, weight and pressure.

✓ 3. Power consumption in LVDT is high, it is around 100 watts.

✗ 4. LVDT is sensitive to stray (outside) magnetic fields.

Question ID : **7532297953**
Status : **Not Answered**
Chosen Option : **--**

Q.48 What should be the dimensions of the copper plate for plate earthing? Ans

✓ 1. 60 mm × 60 mm × 3.18 mm

✗ 2. 40 mm × 40 mm × 4.38 mm

✗ 3. 60 mm × 60 mm × 4.38 mm

✗ 4. 40 mm × 40 mm × 3.18 mm

Question ID : **7532297912**
Status : **Answered**
Chosen Option :

Q.49 Three capacitors 10 µfd, 20 µfd and 30 µfd are connected in parallel across a 250 V supply. Find the energy stored.

Ans

1. 0.171 Joules
2. 0.341 Joules
3. 0.9375 Joules

✓ 4. 1.875 Joules

Question ID : **7532297906**
Status : **Not Answered**
Chosen Option : **--**

Q.50 Some special features are incorporated in an electrodynamometer wattmeter to make it a low power factor type wattmeter. Identify which of the following is NOT one of the features.

Ans
✔ 1. Compensation for current coil voltage
✘ 2. Compensation for pressure coil inductance
✘ 3. Compensation for pressure coil current
✘ 4. Small control torque

Question ID : **7532297931**
Status : **Answered**
Chosen Option :

Q.51 The DC amplifier must have some specific characteristics. Which of the following is NOT one of these characteristics?

Ans
✘ 1. Good thermal and long-term stability
✘ 2. High common-mode rejection ratio (CMRR)
✔ 3. Low input impedance
✘ 4. Balanced differential inputs

Question ID : **7532297951**
Status : **Answered**
Chosen Option :

Q.52 Which of the following CMOS logic family ICs is a 4-bit arithmetic logic unit? Ans
✘ 1. 4527
✘ 2. 4585
✘ 3. 40182
✔ 4. 40181

Question ID : **7532297948**
Status : **Answered**
Chosen Option :

Q.53 Which of the following statements about the shell type transformer is NOT true? Ans
✘ 1. HV coils are placed between LV coils.
✔ 2. It has a single magnetic circuit.
✘ 3. Both, HV and LV windings are placed on the central limb.
✘ 4. Coils used are multilayer disc type or sandwich-type.

Question ID : **7532297937**
Status : **Answered**
Chosen Option :

Q.54 A 132 kV transmission line has the following data: Wt. of the conductor is 680 kg/km, length of the span is 260 m and ultimate strength is 3100 kg. What is the height above ground at which the conductor should be supported considering safety factor as 2 and ground clearance as 10 m?

Ans

✗ 1. 12.3 m

✗ 2. 17.4 m

✓ 3. 13.7 m

✗ 4. 27.4 m

Question ID : **7532297941**
Status : **Not Answered**
Chosen Option : **--**

Q.55 Determine the value of torque in kg metre developed by the armature of a 6-pole wave wound motor having 492 conductors, 30 mweb per pole when the total armature current is 40 A.

Ans

✗ 1. 16.721 kg m

✓ 2. 28.162 kg m

✗ 3. 22.535 kg m

✗ 4. 32.235 kg m

Question ID : **7532297936**
Status : **Not Answered**
Chosen Option : **--**

Q.56 Which of the following statements is true for a cylindrical pole alternator? Ans

✓ 1. Prime movers used are steam turbines and electric motors

✗ 2. Damper winding is provided

✗ 3. Rotor causes speed fluctuation

✗ 4. Air gap is non-uniform

Question ID : **7532297968**
Status : **Answered**
Chosen Option :

Q.57 Which of the following is NOT a data transfer operation of the 8085 microprocessors? Ans

✗ 1. MOV

✓ 2. CMA

✗ 3. STA

✗ 4. LDA

Question ID : **7532297961**
Status : **Answered**
Chosen Option :

Q.58 According to which theory, any given activity delineated in a network is unlikely to be completed on time?

Ans
✗ 1. Gantt chart

✗ 2. CPM

✓ 3. PERT

✗ 4. Bar chart

Question ID : **7532297943**
Status : **Answered**
Chosen Option :

Q.59 Which of the following statements pertaining to network theorems is NOT true? Ans
✗ 1. Ohm's law may not be applied to non-linear circuits.

✗ 2. Unilateral circuit is a circuit whose properties or characteristics change with the direction of its operation.

✗ 3. The usual transmission line is bilateral because it can be made to perform its function equally well in either direction.

✓ 4. Non-linear circuits do follow the law of superposition.

Question ID : **7532297924**
Status : **Answered**
Chosen Option :

Q.60 Which of the following materials is used to make the core of the transformer to reduce hysteresis loss?

Ans
✓ 1. Silicon steel

✗ 2. Mild steel

✗ 3. Amalgam

✗ 4. Adamantium

Question ID : **7532297905**
Status : **Answered**
Chosen Option :

Q.61 How is the current drawn by fluorescent lamps affected since the power factor of a fluorescent lamp circuit may be as low as 0.5 without capacitors?

Ans
✗ 1. Current drawn from the mains may actually be half to the actual as appear possible from its wattage.

✓ 2. Current drawn from the mains may actually be twice as great as may appear possible from its wattage.

✗ 3. Current drawn from the mains may actually be a quarter to the actual as appear possible from its wattage.

✗ 4. Current drawn from the mains may not be affected at all.

Question ID : **7532297982**
Status : **Answered**
Chosen Option :

Q.62 How can variable frequency converters be classified? Ans

✗ 1. Based on the type of clipper and clamper used

✗ 2. Based on the type of rectifier and clipper used

✓ 3. Based on the type of rectifier and inverter used

✗ 4. Based on the type of clamper and inverter used

Question ID : **7532297960**
Status : **Answered**
Chosen Option :

Q.63 Which of the following statements is NOT true for CMOS inverters?

Ans

✗ 1. These clock generators offer a wide frequency range (1 Hz to in excess of 15 MHz).

✓ 2. CMOS inverters are commonly used to build sinusoidal-wave oscillators for generating clock signals.

✗ 3. These clock generators offer good stability, operation over a wide supply voltage range (3 – 15 V).

✗ 4. These clock generators offer low power consumption and an easy interface to other logic families.

Question ID : **7532297963**
Status : **Answered**
Chosen Option :

Q.64 In the case of engine-driven alternators, the turning moment of the engine is uneven and, therefore, the speed of the alternator varies slightly from instant to instant. This is called cyclic speed irregularity. How is it measured?

Ans

✓ 1. Cyclic irregularity = (Maximum speed − Minimum speed)/Mean speed

✗ 2. Cyclic irregularity = (Mean speed − Minimum speed)/Maximum speed

✗ 3. Cyclic irregularity = (Maximum speed − Mean speed)/Minimum speed

✗ 4. Cyclic irregularity = (Minimum speed − Mean speed)/Maximum speed

Question ID : **7532297979**
Status : **Answered**
Chosen Option :

Q.65 Which of the following is NOT one of the features of synchronous motors? Ans

✗ 1. Synchronous motors are used in electrical power factor improvement.

✗ 2. For constant supply frequency, they behave as constant speed motors, irrespective of load condition.

✗ 3. Synchronous motors have the unique characteristics of operating under any electrical power factor.

✓ 4. Synchronous motors are inherently self-starting.

Question ID : **7532297971**
Status : **Answered**
Chosen Option :

Q.66 Which of the following statements about PMMC instruments is true?

Ans ✗ 1. If AC supply is given to a PMMC instrument, it will read the RMS value of AC.

✗ 2. PMMC consumes very high power.

✗ 3. PMMC instruments have a non-uniform scale.

✓ 4. There are no hysteresis losses in PMMC instruments.

Question ID : **7532297929**
Status : **Answered**
Chosen Option :

Q.67 What is the use of a special type of megger with some additional constructional features such as rotating current reverser and rectifier?

Ans ✗ 1. To measure the frequency of AC supply

✓ 2. To measure earth resistance

✗ 3. To measure AC and DC currents

✗ 4. To measure unknown inductance value

Question ID : **7532297930**
Status : **Answered**
Chosen Option :

Q.68 Define critical field resistance for a DC generator.

Ans ✗ 1. It is the highest value of resistance of the series field circuit with which a DC generator can build up its voltage.

✓ 2. It is the highest value of resistance of the shunt field circuit with which a DC generator can build up its voltage.

✗ 3. It is the lowest value of resistance of the shunt field circuit with which a DC generator can build up its voltage.

✗ 4. It is the lowest value of resistance of the series field circuit with which a DC generator can build up its voltage.

Question ID : **7532297935**
Status : **Answered**
Chosen Option :

Q.69 Which of the following statements is NOT true about the SF6 circuit breaker? Ans ✗ 1. SF6 gas has excellent insulating property.

✗ 2. The negative ion is formed when a free electron collides with the SF6 gas molecule; it is absorbed by that gas molecule.

✗ 3. In the SF6 circuit breaker, the current carrying contacts operate in the medium sulphur hexafluoride gas.

✓ 4. SF6 gas has low electro-negativity.

Question ID : **7532297977**
Status : **Answered**
Chosen Option :

Q.70 What is the normal open circuit welding voltage for the transformer used in welding by AC power?

Ans

✔ 1. 50 – 90 V

✘ 2. 400 – 440 V

✘ 3. 100 – 140 V

✘ 4. 220 – 260 V

Question ID : **7532297917**
Status : **Answered**
Chosen Option :

Q.71 What is the special property of 'Mutemp' when used as a shunt on the brake magnate in the energy meter?

Ans

✘ 1. Increase in current with the increase in temperature

✘ 2. Decrease in stray magnetic with the increase in temperature

✔ 3. Decrease in permeability with the increase in temperature

✘ 4. Increase in permeability with the increase in temperature

Question ID : **7532297932**
Status : **Not Answered**
Chosen Option : --

Q.72 What is the drying out period for a large 220 kV transformer when it is done by blowing in hot air through the transformer tank?

Ans

✘ 1. 7 days

✘ 2. 25 days

✘ 3. 4 days

✔ 4. 15 days

Question ID : **7532297980**
Status : **Not Answered**
Chosen Option : --

Q.73 Identify the given symbol used in electrical wiring.

Ans

1. Signal lamp

✔ 2. Rewireable fuse

3. Neutral link

4. Cartridge fuse

Question ID : **7532297911**
Status : **Answered**
Chosen Option :

Q.74 Determine the pitch (or coil span) factor for the winding having 36 stator slots,4 poles and coil span 1 to 8.

Ans

✔ 1. Cos 20°

✗ 2. Cos 40°

✗ 3. Sin 20°

✗ 4. Sin 40°

Question ID : **7532297969**
Status : **Answered**
Chosen Option :

Q.75 Which of the following is NOT a true property of wrought iron?

Ans

✔ 1. Its ultimate compressive strength is 6,000 kg/cm^2.

2. It can be easily bent when cold.

3. It possesses 99.5% of iron.

✗ 4. Its ultimate tensile strength is 2,500 kg/cm^2 to 5,000 kg/cm^2.

Question ID : **7532297916**
Status : **Answered**
Chosen Option :

Q.76 Which of the following transistors can have near-zero power dissipation and very low voltage and current requirements?

Ans

✔ 1. CMOSFET

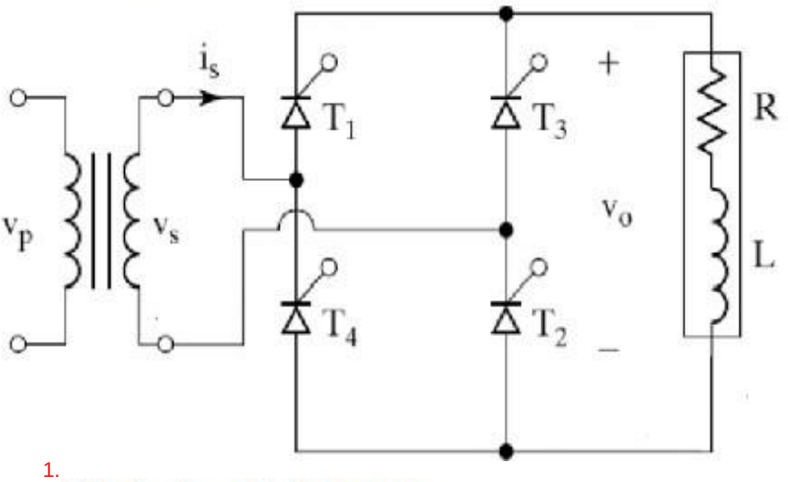
✗ 2. BJT

✗ 3. UJT

✗ 4. JFET

Question ID : **7532297920**
Status : **Answered**
Chosen Option :

Q.77 Identify the converter in the given figure.



Ans

1. Single-phase dual converter
2. Three-phase dual converter
3. Single-phase full converter
4. Three-phase full converter

Question ID : **7532297958**
Status : **Answered**
Chosen Option :

Q.78 **It is the maximum instantaneous voltage that the SCR can block in the forward direction. If it is exceeded, the SCR will conduct without a gate voltage. What is it?**

Ans

1. Peak Repetitive Reverse Voltage (VRRM)
2. Peak Repetitive Forward Blocking Voltage (VDRM)
3. Non-repetitive Peak Reverse Voltage (VRSM)
4. Minimum Gate Trigger Voltage (VGT)

Question ID : **7532297957**
Status : **Answered**
Chosen Option :

Q.79 If 2^n is the number of input lines in the available multiplexer and 2^N is the number of input lines in the desired multiplexer, then how many individual multiplexers are required to construct the desired multiplexer circuit?

Ans

1. 2^{n-N}
2. 2^{n+N}
3. 2^{nN}
4. 2^{N-n}

Question ID : **7532297946**
Status : **Not Answered**
Chosen Option : **--**

Q.80 Which of the following statements is NOT true about critical path method (CPM)? Ans

✗ 1. CPM is concerned with activities.

✓ 2. CPM is suitable for non-repetitive projects.

✗ 3. CPM cannot be analysed statistically.

✗ 4. CPM establishes a relationship between time and cost.

Question ID : **7532297984**
Status : **Answered**
Chosen Option :