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ISRO NRSC

**Previous Year Paper
Technician B (Electrical)
02 Mar, 2024 Shift 1**





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Participant ID	
Participant Name	
Test Center Name	
Test Date	02/03/2024
Test Time	9:00 AM - 10:30 AM
Subject	Technician B Electrical

Section : Technical Domain

Q.1 What should be the clearance of lowest conductor above ground across street for high voltage Lines as per I.E. rules?

- Ans
- ☒ A. 6.5 m
 - ☒ B. 6.1 m
 - ☒ C. 5.8 m
 - ☒ D. 5.5 m

Question ID : 630680642005
Option 1 ID : 6306802513438
Option 2 ID : 6306802513437
Option 3 ID : 6306802513436
Option 4 ID : 6306802513435
Status : Answered
Chosen Option : B

Q.2 What is the primary function of a Miniature Circuit Breaker (MCB) in an electrical circuit?

- Ans
- ☒ A. Resistance control
 - ☒ B. Current interruption
 - ☒ C. Voltage regulation
 - ☒ D. Signal transmission

Question ID : 630680641986
Option 1 ID : 6306802513360
Option 2 ID : 6306802513362
Option 3 ID : 6306802513361
Option 4 ID : 6306802513359
Status : Answered
Chosen Option : B

Q.3 Why is it essential for a synchronous motor to be initially started as an induction motor?

- Ans**
- ☐ A. To maintain constant initial inertia
 - ☐ B. To reduce power consumption
 - ☐ C. To minimize stator losses
 - ☒ D. To achieve synchronous speed

Question ID : 630680641988
Option 1 ID : 6306802513370
Option 2 ID : 6306802513368
Option 3 ID : 6306802513369
Option 4 ID : 6306802513367
Status : Answered
Chosen Option : D

Q.4 In an AC circuit, the RMS (Root Mean Square) value is related to the peak value by which of the following factors?

- Ans**
- ☐ A. 0.5
 - ☐ B. π
 - ☒ C. $\sqrt{2}$
 - ☐ D. 2

Question ID : 630680641941
Option 1 ID : 6306802513182
Option 2 ID : 6306802513179
Option 3 ID : 6306802513180
Option 4 ID : 6306802513181
Status : Answered
Chosen Option : C

Q.5 Which type of protection circuit is responsible for shutting down the inverter in case of excessive temperature?

- Ans**
- ☐ A. Overcurrent protection
 - ☐ B. Surge protection
 - ☒ C. Thermal protection
 - ☐ D. Voltage regulation

Question ID : 630680641944
Option 1 ID : 6306802513194
Option 2 ID : 6306802513191
Option 3 ID : 6306802513193
Option 4 ID : 6306802513192
Status : Answered
Chosen Option : A

Q.6 In a Star-Delta motor starter, which configuration is used during the starting period?

- Ans**
- ☒ A. Delta only
 - ☒ B. Both Star and Delta simultaneously
 - ☒ C. Star (Wye) only
 - ☒ D. Neither star nor delta

Question ID : 630680641996
Option 1 ID : 6306802513400
Option 2 ID : 6306802513401
Option 3 ID : 6306802513399
Option 4 ID : 6306802513402
Status : Answered
Chosen Option : C

Q.7 During the installation of a synchronous motor, why is it crucial to properly set the excitation voltage and frequency?

- Ans**
- ☒ A. To maintain synchronous speed
 - ☒ B. To enhance motor speed
 - ☒ C. To minimize electrical noise
 - ☒ D. To reduce motor size

Question ID : 630680641994
Option 1 ID : 6306802513394
Option 2 ID : 6306802513392
Option 3 ID : 6306802513391
Option 4 ID : 6306802513393
Status : Answered
Chosen Option : A

Q.8 Which of the following materials is commonly used for creating effective earthing connections in electrical installations?

- Ans**
- ☒ A. Glass
 - ☒ B. Rubber
 - ☒ C. Plastic
 - ☒ D. Copper

Question ID : 630680642007
Option 1 ID : 6306802513444
Option 2 ID : 6306802513443
Option 3 ID : 6306802513446
Option 4 ID : 6306802513445
Status : Answered
Chosen Option : D

Q.9 In audio systems and electronic devices, which type of transformer is often employed to match impedance between different components?

- Ans**
- ☒ A. Instrument Transformer
 - ☒ B. Audio Transformer
 - ☒ C. Power Transformer
 - ☒ D. Auto-Transformer

Question ID : 630680641964

Option 1 ID : 6306802513274

Option 2 ID : 6306802513273

Option 3 ID : 6306802513272

Option 4 ID : 6306802513271

Status : Answered

Chosen Option : D

Q.10 What does the term "kVA rating" indicate in a transformer specification?

- Ans**
- ☒ A. The efficiency of the transformer in converting electrical power.
 - ☒ B. The total weight of the transformer.
 - ☒ C. The maximum temperature at which the transformer can operate.
 - ☒ D. The apparent power capacity of the transformer.

Question ID : 630680641960

Option 1 ID : 6306802513256

Option 2 ID : 6306802513258

Option 3 ID : 6306802513255

Option 4 ID : 6306802513257

Status : Answered

Chosen Option : D

Q.11 What is the frequency of a waveform that completes 10 cycles in 2 seconds?

- Ans**
- ☒ A. 10 Hz
 - ☒ B. 5 Hz
 - ☒ C. 20 Hz
 - ☒ D. 2 Hz

Question ID : 630680641938

Option 1 ID : 6306802513168

Option 2 ID : 6306802513167

Option 3 ID : 6306802513169

Option 4 ID : 6306802513170

Status : Answered

Chosen Option : B

Q.12 In which scenario is it mandatory to use double insulation for electrical appliances in India?

- Ans
- ☒ A. Low-voltage appliances
 - ☒ B. Appliances used near water sources
 - ☒ C. Appliances used in dry conditions
 - ☒ D. Appliances with metal casing

Question ID : 630680642006
Option 1 ID : 6306802513440
Option 2 ID : 6306802513442
Option 3 ID : 6306802513439
Option 4 ID : 6306802513441
Status : Answered
Chosen Option : B

Q.13 How does a voltage stabilizer maintain a constant output voltage?

- Ans
- ☒ A. By regulating the output current
 - ☒ B. By generating electrical power
 - ☒ C. By adjusting the input voltage
 - ☒ D. By storing excess voltage

Question ID : 630680641948
Option 1 ID : 6306802513210
Option 2 ID : 6306802513208
Option 3 ID : 6306802513209
Option 4 ID : 6306802513207
Status : Answered
Chosen Option : C

Q.14 What is the recommended interval for regular maintenance of complete gaseous fire-extinguisher systems that do not incorporate means to determine container contents, as per Indian standard?

- Ans
- ☒ A. Six-monthly
 - ☒ B. Yearly
 - ☒ C. Monthly
 - ☒ D. Weekly

Question ID : 630680642014
Option 1 ID : 6306802513473
Option 2 ID : 6306802513474
Option 3 ID : 6306802513472
Option 4 ID : 6306802513471
Status : Answered
Chosen Option : B

Q.15 Which of the following is a type of DC motor commonly used for applications where a constant speed is required, such as in fans and blowers?

- Ans**
- ☐ A. Permanent Magnet motor
 - ☐ B. Series motor
 - ☒ C. Shunt motor
 - ☐ D. Compound motor

Question ID : 630680641954
Option 1 ID : 6306802513234
Option 2 ID : 6306802513232
Option 3 ID : 6306802513231
Option 4 ID : 6306802513233
Status : Answered
Chosen Option : C

Q.16 What is the primary purpose of connecting a UPS (Uninterruptible Power Supply) to a computer system?

- Ans**
- ☐ A. To increase the processing speed of the computer.
 - ☒ B. To provide temporary power during electrical outages.
 - ☐ C. To enhance the audio output of the computer.
 - ☐ D. To improve internet connectivity.

Question ID : 630680641949
Option 1 ID : 6306802513211
Option 2 ID : 6306802513212
Option 3 ID : 6306802513213
Option 4 ID : 6306802513214
Status : Answered
Chosen Option : B

Q.17 How does the speed of a DC generator change in response to an increase in load?

- Ans**
- ☐ A. The speed remains constant.
 - ☐ B. The speed fluctuates randomly.
 - ☒ C. The speed decreases.
 - ☐ D. The speed increases.

Question ID : 630680641953
Option 1 ID : 6306802513227
Option 2 ID : 6306802513230
Option 3 ID : 6306802513228
Option 4 ID : 6306802513229
Status : Answered
Chosen Option : C

Q.18 What happens to the rotor speed in a slip ring induction motor when the external resistance connected to the rotor circuit is increased?

- Ans
- ☐ A. Rotor speed remains constant.
 - ☐ B. Rotor speed increases.
 - ☐ C. Rotor speed becomes zero.
 - ☒ D. Rotor speed decreases.

Question ID : 630680641993
Option 1 ID : 6306802513389
Option 2 ID : 6306802513387
Option 3 ID : 6306802513390
Option 4 ID : 6306802513388
Status : Answered
Chosen Option : B

Q.19 What is the purpose of sectionalizing switches in a distribution network?

- Ans
- ☐ A. To protect against overcurrent
 - ☐ B. To regulate voltage levels
 - ☐ C. To control power factor
 - ☒ D. To isolate faulty sections for maintenance

Question ID : 630680642004
Option 1 ID : 6306802513432
Option 2 ID : 6306802513433
Option 3 ID : 6306802513434
Option 4 ID : 6306802513431
Status : Answered
Chosen Option : D

Q.20 In a radial distribution system, how is the feeder arrangement characterized?

- Ans
- ☐ A. Feeder lines are connected in series
 - ☐ B. Feeder lines are connected in parallel
 - ☐ C. Feeder lines form a closed loop
 - ☒ D. Feeder lines radiate from a central point

Question ID : 630680642003
Option 1 ID : 6306802513428
Option 2 ID : 6306802513427
Option 3 ID : 6306802513430
Option 4 ID : 6306802513429
Status : Answered
Chosen Option : A

Q.21 Which of the following is a characteristic feature of a semiconductor fuse?

- Ans
- ☐ A. High interrupting capacity
 - ☐ B. Replaceable element
 - ☐ C. Suitable for high-voltage applications
 - ☒ D. Rapid response time

Question ID : 630680641982
Option 1 ID : 6306802513344
Option 2 ID : 6306802513345
Option 3 ID : 6306802513343
Option 4 ID : 6306802513346
Status : Answered
Chosen Option : D

Q.22 In semiconductor technology, what is the purpose of the doping process?

- Ans
- ☐ A. To increase the mechanical strength of the semiconductor.
 - ☒ B. To introduce impurities and modify the electrical properties of the semiconductor.
 - ☐ C. To enhance the color of the semiconductor material.
 - ☐ D. To improve the thermal conductivity of the semiconductor.

Question ID : 630680641967
Option 1 ID : 6306802513284
Option 2 ID : 6306802513286
Option 3 ID : 6306802513285
Option 4 ID : 6306802513283
Status : Answered
Chosen Option : B

Q.23 In what application is an EX-OR gate commonly used in communication systems?

- Ans
- ☐ A. Demodulation
 - ☐ B. Frequency modulation
 - ☐ C. Multiplexing
 - ☒ D. Error detection and correction

Question ID : 630680641979
Option 1 ID : 6306802513334
Option 2 ID : 6306802513332
Option 3 ID : 6306802513333
Option 4 ID : 6306802513331
Status : Answered
Chosen Option : D

Q.24 What is the purpose of brushes in an electric motor or generator?

- Ans
- ☒ A. To maintain a continuous electrical contact with the commutator or slip rings.
 - ☐ B. To control the temperature of the motor.
 - ☐ C. To provide mechanical support to the rotating components.
 - ☐ D. To clean the commutator or slip rings.

Question ID : 630680641952
Option 1 ID : 6306802513225
Option 2 ID : 6306802513223
Option 3 ID : 6306802513226
Option 4 ID : 6306802513224
Status : Answered
Chosen Option : A

Q.25 Which type of fire extinguisher is suitable for combating electrical fires?

- Ans
- ☒ A. Class C
 - ☐ B. Class A
 - ☐ C. Class D
 - ☐ D. Class B

Question ID : 630680642015
Option 1 ID : 6306802513477
Option 2 ID : 6306802513475
Option 3 ID : 6306802513478
Option 4 ID : 6306802513476
Status : Answered
Chosen Option : C

Q.26 Which type of fire extinguisher is suitable for use on fires involving flammable liquids such as gasoline or oil?

- Ans
- ☐ A. Class A
 - ☐ B. Class C
 - ☒ C. Class B
 - ☐ D. Class D

Question ID : 630680642011
Option 1 ID : 6306802513459
Option 2 ID : 6306802513461
Option 3 ID : 6306802513460
Option 4 ID : 6306802513462
Status : Answered
Chosen Option : C

Q.27 What happens to the speed of a three-phase induction motor if the stator voltage is increased?

- Ans ☒ A. Speed Increases
- ☐ B. No Change in Speed
- ☐ C. Depends on the Load
- ☐ D. Speed Decreases

Question ID : 630680641991
Option 1 ID : 6306802513381
Option 2 ID : 6306802513380
Option 3 ID : 6306802513379
Option 4 ID : 6306802513382
Status : Answered
Chosen Option : A

Q.28 What does RMS stand for in the context of electrical signals?

- Ans ☐ A. Relative Magnitude and Size
- ☐ B. Real Mean Squared
- ☐ C. Random Measurement Standard
- ☒ D. Root Mean Square

Question ID : 630680641937
Option 1 ID : 6306802513165
Option 2 ID : 6306802513163
Option 3 ID : 6306802513166
Option 4 ID : 6306802513164
Status : Answered
Chosen Option : D

Q.29 Why is monitoring the battery level important in an inverter system?

- Ans ☐ A. To increase the efficiency of connected devices
- ☐ B. To reduce the voltage supplied by the inverter
- ☐ C. To enhance the inverter's cooling system
- ☒ D. To prevent overcharging of the battery

Question ID : 630680641945
Option 1 ID : 6306802513198
Option 2 ID : 6306802513195
Option 3 ID : 6306802513197
Option 4 ID : 6306802513196
Status : Answered
Chosen Option : A

Q.30 What is the primary function of an MCCB (Molded Case Circuit Breaker) in an electrical circuit?

- Ans
- ☐ A. Current Amplification
 - ☐ B. Signal Transmission
 - ☐ C. Voltage Regulation
 - ☒ D. Overcurrent Protection

Question ID : 630680641987
Option 1 ID : 6306802513363
Option 2 ID : 6306802513364
Option 3 ID : 6306802513366
Option 4 ID : 6306802513365
Status : Answered
Chosen Option : D

Q.31 Which of the following is NOT a method commonly used for speed control of a three-phase induction motor?

- Ans
- ☐ A. Frequency Control
 - ☐ B. Rotor Resistance Control
 - ☐ C. Stator Voltage Control
 - ☒ D. Flux control

Question ID : 630680641992
Option 1 ID : 6306802513386
Option 2 ID : 6306802513385
Option 3 ID : 6306802513384
Option 4 ID : 6306802513383
Status : Answered
Chosen Option : D

Q.32 In a DC motor starter, what is the function of the "plugging" operation?

- Ans
- ☐ A. To regulate the speed of the motor.
 - ☐ B. To protect the motor from voltage fluctuations.
 - ☐ C. To initiate the motor startup sequence.
 - ☒ D. To reverse the direction of motor rotation.

Question ID : 630680641956
Option 1 ID : 6306802513240
Option 2 ID : 6306802513242
Option 3 ID : 6306802513239
Option 4 ID : 6306802513241
Status : Answered
Chosen Option : D

Q.33 What is the primary characteristic of the positive half cycle of an alternating current (AC) waveform?

- Ans ☒ A. Current flows in one direction
☐ B. Resistance is at its maximum
☐ C. Voltage is zero
☐ D. Electrons move in a random fashion

Question ID : 630680641936
Option 1 ID : 6306802513161
Option 2 ID : 6306802513160
Option 3 ID : 6306802513159
Option 4 ID : 6306802513162
Status : Answered
Chosen Option : A

Q.34 For an AND gate with inputs A and B and a single output Q, we will have a 1 output, when and only when :

- Ans ☐ A. A=0, B=0
☐ B. A=1, B=0
☐ C. A=0, B=1
☒ D. A=1, B=1

Question ID : 630680641977
Option 1 ID : 6306802513323
Option 2 ID : 6306802513325
Option 3 ID : 6306802513326
Option 4 ID : 6306802513324
Status : Answered
Chosen Option : D

Q.35 यदि आप अपने घरेलू उपकरण पर टूटा हुआ या क्षतिग्रस्त बिजली का तार देखते हैं तो आपको क्या करना चाहिए?

- Ans ☐ A.
आगे की क्षति को रोकने के लिए कॉर्ड पर पानी का छिड़काव करना चाहिए
☐ B.
इस पर ध्यान नहीं देना चाहिए और उपकरण का उपयोग जारी रखना चाहिए
☒ C.
बिजली के खतरों से बचने के लिए तार को तुरंत बदलना चाहिए
☐ D. अस्थायी सुधार के लिए इसे टेप से ढक देना चाहिए

Question ID : 630680642009
Option 1 ID : 6306802513451
Option 2 ID : 6306802513454
Option 3 ID : 6306802513452
Option 4 ID : 6306802513453
Status : Answered
Chosen Option : C

Q.36 What type of impurities are added to a semiconductor to create an N-type extrinsic semiconductor?

- Ans
- ☐ A. Gallium
 - ☐ B. Silicon
 - ☐ C. Boron
 - ☒ D. Phosphorus

Question ID : 630680641966
Option 1 ID : 6306802513282
Option 2 ID : 6306802513280
Option 3 ID : 6306802513281
Option 4 ID : 6306802513279

Status : Answered
Chosen Option : D

Q.37 In a half-wave rectifier circuit, what is the purpose of the diode?

- Ans
- ☐ A. To regulate the voltage.
 - ☒ B. To convert AC to DC.
 - ☐ C. To amplify the signal.
 - ☐ D. To control the current flow.

Question ID : 630680641969
Option 1 ID : 6306802513294
Option 2 ID : 6306802513292
Option 3 ID : 6306802513293
Option 4 ID : 6306802513291

Status : Answered
Chosen Option : B

Q.38 What is the primary function of a fuse in an electrical circuit?

- Ans
- ☐ A. To amplify the power factor.
 - ☒ B. To interrupt the circuit in case of excessive current.
 - ☐ C. To increase the flow of current.
 - ☐ D. To regulate voltage.

Question ID : 630680641981
Option 1 ID : 6306802513341
Option 2 ID : 6306802513340
Option 3 ID : 6306802513339
Option 4 ID : 6306802513342

Status : Answered
Chosen Option : B

Q.39 In a three-phase transformer, what is the significance of the delta (Δ) and wye (Y) configurations?

Ans ☐ A. They indicate the type of cooling system used.

☐ B. They represent the transformer's efficiency.

☒ C.

They define the connection of the primary and secondary windings.

☐ D. They determine the transformer's physical orientation.

Question ID : 630680641959

Option 1 ID : 6306802513252

Option 2 ID : 6306802513251

Option 3 ID : 6306802513254

Option 4 ID : 6306802513253

Status : Answered

Chosen Option : C

Q.40 अग्निशामक यंत्र का उपयोग करने की सही तकनीक क्या है?

Ans ☐ A. नोजल को सीधे आग की लपटों पर लक्षित करना

☐ B. अग्निशामक यंत्र को गोलाकार गति में स्प्रे करना

☒ C.

नोजल को आग के आधार की ओर इंगित करना और अगल-बगल से घुमाना

☐ D. डिस्चार्ज करते समय अग्निशामक यंत्र को उल्टा पकड़ना

Question ID : 630680642012

Option 1 ID : 6306802513463

Option 2 ID : 6306802513464

Option 3 ID : 6306802513466

Option 4 ID : 6306802513465

Status : Answered

Chosen Option : A

Q.41 When connecting three-phase transformers in parallel, why is it crucial to ensure that the phase angles between the primary and secondary windings are identical?

Ans ☐ A. To maximize efficiency.

☐ B. To simplify the connection process.

☐ C. To increase the overall power rating.

☒ D. To avoid circulating currents.

Question ID : 630680641963

Option 1 ID : 6306802513269

Option 2 ID : 6306802513268

Option 3 ID : 6306802513267

Option 4 ID : 6306802513270

Status : Answered

Chosen Option : D

Q.42 What is the term used to describe the process where a small input signal controls a larger output signal in a transistor amplifier?

- Ans
- ☐ A. Reduction
 - ☐ B. Multiplication
 - ☐ C. Attenuation
 - ☒ D. Amplification

Question ID : 630680641970
Option 1 ID : 6306802513297
Option 2 ID : 6306802513296
Option 3 ID : 6306802513298
Option 4 ID : 6306802513295
Status : Answered
Chosen Option : D

Q.43 When two objects with different electric charges are brought close to each other, what is the most likely outcome?

- Ans
- ☐ A. Repulsion
 - ☐ B. Attraction
 - ☒ C. Both attraction and repulsion
 - ☐ D. No effect

Question ID : 630680641940
Option 1 ID : 6306802513175
Option 2 ID : 6306802513176
Option 3 ID : 6306802513177
Option 4 ID : 6306802513178
Status : Answered
Chosen Option : B

Q.44 What is the correct way to determine if a fuse is blown or faulty?

- Ans
- ☒ A. Visually inspect the fuse for discoloration or a broken filament.
 - ☐ B. Measure the resistance of the fuse with a multimeter.
 - ☐ C. Smell the fuse for any burnt odor.
 - ☐ D. Shake the fuse to listen for loose components.

Question ID : 630680641984
Option 1 ID : 6306802513351
Option 2 ID : 6306802513352
Option 3 ID : 6306802513354
Option 4 ID : 6306802513353
Status : Answered
Chosen Option : A

Q.45 When performing insulation resistance testing, what is the typical unit of measurement used for expressing insulation resistance?

- Ans
- ☐ A. Volts (V)
 - ☐ B. Amperes (A)
 - ☒ C. Ohms (Ω)
 - ☐ D. Farads (F)

Question ID : 630680641957
Option 1 ID : 6306802513246
Option 2 ID : 6306802513243
Option 3 ID : 6306802513244
Option 4 ID : 6306802513245
Status : Answered
Chosen Option : C

Q.46 किसी व्यक्ति के कपड़ों में लगी आग को बुझाने के लिए फायर ब्लैंकेट का उपयोग करने की अनुशंसित तकनीक क्या है?

- Ans
- ☐ A. व्यक्ति और आग की लपटों के बीच अवरोध पैदा करने के लिए आग के कम्बल को हवा में लहराना
 - ☐ B. व्यक्ति को अग्नि कंबल में कसकर लपेटना
 - ☒ C. व्यक्ति के ऊपर आग का कम्बल धीरे से रखकर आग की लपटों को बुझाना
 - ☐ D. आग के कम्बल को फर्श पर छोड़ देना और व्यक्ति को उस पर लोटने के लिए निर्देशित करना

Question ID : 630680642010
Option 1 ID : 6306802513455
Option 2 ID : 6306802513456
Option 3 ID : 6306802513458
Option 4 ID : 6306802513457
Status : Answered
Chosen Option : C

Q.47 In which operating regions does a transistor act as a switch in electronic circuits?

- Ans
- ☒ A. Saturation and cutoff
 - ☐ B. Active and cutoff
 - ☐ C. Saturation and active
 - ☐ D. Linear and saturation

Question ID : 630680641971
Option 1 ID : 6306802513302
Option 2 ID : 6306802513299
Option 3 ID : 6306802513300
Option 4 ID : 6306802513301
Status : Answered
Chosen Option : A

Q.48 What does the "breaking capacity" of a fuse indicate?

Ans ☒ A.

The maximum current the fuse can safely carry continuously.

☒ B. The time it takes for the fuse to blow in the event of a fault.

☒ C. The time it takes for the fuse to blow in the event of a fault.

☒ D.

The ability of the fuse to interrupt a fault current without being damaged.

Question ID : 630680641983
Option 1 ID : 6306802513348
Option 2 ID : 6306802513347
Option 3 ID : 6306802513350
Option 4 ID : 6306802513349

Status : Answered

Chosen Option : D

Q.49 In a basic contactor circuit, what is the role of the coil?

Ans ☒ A. It opens and closes the contacts

☒ B. It regulates the current flow

☒ C. It controls the voltage

☒ D. It generates heat

Question ID : 630680641990
Option 1 ID : 6306802513378
Option 2 ID : 6306802513377
Option 3 ID : 6306802513375
Option 4 ID : 6306802513376

Status : Answered

Chosen Option : A

Q.50 Which part of a relay is responsible for physically opening and closing the electrical contacts?

Ans ☒ A. Housing

☒ B. Armature

☒ C. Coil

☒ D. Core

Question ID : 630680641985
Option 1 ID : 6306802513355
Option 2 ID : 6306802513356
Option 3 ID : 6306802513358
Option 4 ID : 6306802513357

Status : Answered

Chosen Option : C

Q.51 What is the binary equivalent of the decimal number 25?

- Ans
- ☐ A. 10011
 - ☐ B. 10101
 - ☐ C. 11101
 - ☒ D. 11001

Question ID : 630680641976
Option 1 ID : 6306802513322
Option 2 ID : 6306802513319
Option 3 ID : 6306802513320
Option 4 ID : 6306802513321

Status : Answered
Chosen Option : D

Q.52 Which type of battery charger is best suited for charging lead-acid batteries used in automobiles?

- Ans
- ☐ A. Pulse Charger
 - ☐ B. Trickle Charger
 - ☐ C. Fast Charger
 - ☒ D. Constant Voltage Charger

Question ID : 630680641946
Option 1 ID : 6306802513201
Option 2 ID : 6306802513200
Option 3 ID : 6306802513202
Option 4 ID : 6306802513199

Status : Answered
Chosen Option : B

Q.53 In the context of digital electronics, what is the base of the octal number system?

- Ans
- ☐ A. 10
 - ☐ B. 16
 - ☒ C. 8
 - ☐ D. 2

Question ID : 630680641975
Option 1 ID : 6306802513317
Option 2 ID : 6306802513318
Option 3 ID : 6306802513316
Option 4 ID : 6306802513315

Status : Answered
Chosen Option : C

Q.54 What safety precaution should be taken when using a battery charger?

Ans ☒ A. Charge the battery in a well-ventilated area.

☒ B.

Use a charger with a higher voltage than recommended for the battery.

☒ C.

Touch the battery terminals with bare hands while charging.

☒ D.

Keep the charger plugged in continuously even when the battery is fully charged.

Question ID : 630680641947
Option 1 ID : 6306802513206
Option 2 ID : 6306802513203
Option 3 ID : 6306802513205
Option 4 ID : 6306802513204
Status : Answered
Chosen Option : A

Q.55 What happens to the conductivity of an intrinsic semiconductor with an increase in temperature?

Ans ☒ A. Conductivity increases.

☒ B. Conductivity becomes zero.

☒ C. Conductivity decreases.

☒ D. Conductivity remains constant.

Question ID : 630680641965
Option 1 ID : 6306802513276
Option 2 ID : 6306802513277
Option 3 ID : 6306802513275
Option 4 ID : 6306802513278
Status : Answered
Chosen Option : A

Q.56 Which type of motor starter is best suited for applications where a gradual increase in speed is required to avoid mechanical shocks?

Ans ☒ A. Auto Transformer Starter

☒ B. Soft Starter

☒ C. Magnetic Motor Starter

☒ D. Star-Delta Starter

Question ID : 630680641995
Option 1 ID : 6306802513398
Option 2 ID : 6306802513397
Option 3 ID : 6306802513395
Option 4 ID : 6306802513396
Status : Answered
Chosen Option : B

Q.57 What is back electromotive force (back EMF) in the context of electric motors?

- Ans
- ☐ A. The force driving the motion of a motor.
 - ☐ B. The voltage drop across the motor's power supply.
 - ☒ C.

The voltage generated in the opposite direction to the applied voltage.

- ☐ D. The force resisting the motion of a motor.

Question ID : 630680641955
Option 1 ID : 6306802513235
Option 2 ID : 6306802513237
Option 3 ID : 6306802513238
Option 4 ID : 6306802513236
Status : Answered
Chosen Option : C

Q.58 In a balanced three-phase AC system, what is the relationship between line current (I_l) and phase current (I_p)?

- Ans
- ☐ A. $I_l = \sqrt{3} I_p$
 - ☐ B. $I_l = 3 I_p$
 - ☐ C. $I_l = 2 I_p$
 - ☒ D. $I_l = I_p$

Question ID : 630680641942
Option 1 ID : 6306802513184
Option 2 ID : 6306802513185
Option 3 ID : 6306802513186
Option 4 ID : 6306802513183
Status : Answered
Chosen Option : D

Q.59 What is the purpose of a distribution transformer in an electrical system?

- Ans
- ☐ A. To step up voltage for transmission
 - ☐ B. To generate electrical power
 - ☒ C. To step down voltage for distribution
 - ☐ D. To control current flow in feeder lines

Question ID : 630680642002
Option 1 ID : 6306802513424
Option 2 ID : 6306802513423
Option 3 ID : 6306802513426
Option 4 ID : 6306802513425
Status : Answered
Chosen Option : C

Q.60 Which type of filter is commonly used in conjunction with a rectifier circuit to reduce voltage ripples in the output?

- Ans
- ☐ A. Bandstop filter
 - ☐ B. Bandpass filter
 - ☐ C. High-pass filter
 - ☒ D. Low-pass filter

Question ID : 630680641974
Option 1 ID : 6306802513314
Option 2 ID : 6306802513313
Option 3 ID : 6306802513312
Option 4 ID : 6306802513311
Status : Answered
Chosen Option : D

Q.61 What is the primary purpose of conducting a No-Load test on an induction motor?

- Ans
- ☐ A. To determine the maximum power the motor can deliver.
 - ☐ B. To measure the stator and rotor resistances.
 - ☒ C. To evaluate the core losses and no-load current.
 - ☐ D. To assess the efficiency of the motor under loaded conditions.

Question ID : 630680641989
Option 1 ID : 6306802513373
Option 2 ID : 6306802513371
Option 3 ID : 6306802513372
Option 4 ID : 6306802513374
Status : Answered
Chosen Option : C

Q.62 What is the primary function of the stator in an induction motor?

- Ans
- ☐ A. To provide mechanical support
 - ☐ B. To regulate the speed of the motor
 - ☐ C. To convert electrical energy into mechanical energy
 - ☒ D. To generate a rotating magnetic field

Question ID : 630680641997
Option 1 ID : 6306802513405
Option 2 ID : 6306802513403
Option 3 ID : 6306802513406
Option 4 ID : 6306802513404
Status : Answered
Chosen Option : A

Q.63 What is the advantage of using a bridge rectifier over a half-wave rectifier?

- Ans
- ☐ A. Simplicity of design
 - ☐ B. Equivalent size
 - ☒ C. Higher efficiency
 - ☐ D. Lower cost

Question ID : 630680641972
Option 1 ID : 6306802513306
Option 2 ID : 6306802513304
Option 3 ID : 6306802513305
Option 4 ID : 6306802513303
Status : Answered
Chosen Option : C

Q.64 What is the primary insulating material used in the construction of high-voltage transmission cables for electrical power distribution?

- Ans
- ☒ A. XLPE
 - ☐ B. PVC
 - ☐ C. Polyethylene
 - ☐ D. Glass

Question ID : 630680641958
Option 1 ID : 6306802513247
Option 2 ID : 6306802513248
Option 3 ID : 6306802513250
Option 4 ID : 6306802513249
Status : Answered
Chosen Option : B

Q.65 When connecting single-phase transformers in parallel, what is a critical consideration to ensure proper operation?

- Ans
- ☐ A. Transformers should be connected with reversed polarity.
 - ☐ B. Transformers should have different primary and secondary voltages.
 - ☒ C. Transformers should have the same voltage ratio.
 - ☐ D. Transformers must have different kVA ratings.

Question ID : 630680641962
Option 1 ID : 6306802513264
Option 2 ID : 6306802513266
Option 3 ID : 6306802513263
Option 4 ID : 6306802513265
Status : Answered
Chosen Option : C

Q.66 In a 4-to-1 multiplexer, how many control inputs (select lines) are needed to select one of the four input channels?

- Ans
- ☐ A. 3
 - ☐ B. 1
 - ☐ C. 4
 - ☒ D. 2

Question ID : 630680641980
Option 1 ID : 6306802513337
Option 2 ID : 6306802513335
Option 3 ID : 6306802513338
Option 4 ID : 6306802513336

Status : Answered
Chosen Option : D

Q.67 Which component in a hydroelectric power plant is responsible for converting the kinetic energy of flowing water into mechanical energy?

- Ans
- ☐ A. Transformer
 - ☐ B. Dam
 - ☐ C. Generator
 - ☒ D. Turbine

Question ID : 630680641999
Option 1 ID : 6306802513414
Option 2 ID : 6306802513412
Option 3 ID : 6306802513411
Option 4 ID : 6306802513413

Status : Answered
Chosen Option : D

Q.68 In a bridge rectifier circuit, how many diodes are used to convert AC (Alternating Current) to DC (Direct Current)?

- Ans
- ☒ A. 4
 - ☐ B. 2
 - ☐ C. 6
 - ☐ D. 1

Question ID : 630680641973
Option 1 ID : 6306802513308
Option 2 ID : 6306802513307
Option 3 ID : 6306802513309
Option 4 ID : 6306802513310

Status : Answered
Chosen Option : A

Q.69 If you measure the voltage across a resistor in an AC circuit and find it to be 10V at a certain moment, what does this value represent?

- Ans**
- ☐ A. The average voltage across the resistor.
 - ☐ B. The root mean square (RMS) voltage across the resistor.
 - ☐ C. The peak voltage across the resistor.
 - ☒ D. The instantaneous voltage across the resistor.

Question ID : 630680641939
Option 1 ID : 6306802513171
Option 2 ID : 6306802513173
Option 3 ID : 6306802513172
Option 4 ID : 6306802513174
Status : Answered
Chosen Option : B

Q.70 What is the purpose of insulators in a 230V distribution system?

- Ans**
- ☐ A. To increase voltage
 - ☒ B. To prevent electrical shock
 - ☐ C. To decrease current
 - ☐ D. To enhance energy efficiency

Question ID : 630680642001
Option 1 ID : 6306802513421
Option 2 ID : 6306802513420
Option 3 ID : 6306802513422
Option 4 ID : 6306802513419
Status : Answered
Chosen Option : B

Q.71 What role does the commutator play in conjunction with the armature in a DC generator?

- Ans**
- ☒ A. It reverses the direction of current in the armature coil.
 - ☐ B. It provides mechanical support to the armature.
 - ☐ C. It generates the magnetic field within the generator.
 - ☐ D. It regulates the speed of the generator.

Question ID : 630680641950
Option 1 ID : 6306802513215
Option 2 ID : 6306802513217
Option 3 ID : 6306802513216
Option 4 ID : 6306802513218
Status : Answered
Chosen Option : A

Q.72 What is the primary purpose of a transmission network in a power system?

- Ans
- ☐ A. To distribute electrical power to end-users
 - ☐ B. To generate electrical power
 - ☐ C. To store electrical power
 - ☒ D. To transmit electrical power over long distances

Question ID : 630680642000
Option 1 ID : 6306802513416
Option 2 ID : 6306802513417
Option 3 ID : 6306802513418
Option 4 ID : 6306802513415
Status : Answered
Chosen Option : D

Q.73 What does Dissolved Gas Analysis (DGA) primarily assess in a transformer?

- Ans
- ☒ A. Oil quality
 - ☐ B. Winding resistance
 - ☐ C. Power loss
 - ☐ D. Insulation resistance

Question ID : 630680641961
Option 1 ID : 6306802513260
Option 2 ID : 6306802513259
Option 3 ID : 6306802513262
Option 4 ID : 6306802513261
Status : Not Answered
Chosen Option : --

Q.74 What happens to the output voltage of a DC generator if the field current is increased?

- Ans
- ☒ A. The output voltage increases.
 - ☐ B. The output voltage decreases.
 - ☐ C. The generator stops working.
 - ☐ D. The output voltage remains unchanged.

Question ID : 630680641951
Option 1 ID : 6306802513222
Option 2 ID : 6306802513221
Option 3 ID : 6306802513219
Option 4 ID : 6306802513220
Status : Answered
Chosen Option : A

Q.75 What happens to the width of the depletion region in a PN junction diode under reverse bias?

Ans ☒ **A.** It increases.

☒ **B.** It remains constant.

☒ **C.** It becomes zero.

☒ **D.** It decreases.

Question ID : 630680641968

Option 1 ID : 6306802513289

Option 2 ID : 6306802513287

Option 3 ID : 6306802513288

Option 4 ID : 6306802513290

Status : Answered

Chosen Option : A

Q.76 Which type of fire extinguisher is suitable for class B type of fires in context of Indian standard?

Ans ☒ **A.** Water type (stored pressure)

☒ **B.** Water type (gas cartridge)

☒ **C.** Halon type

☒ **D.** Greased powder type, IS 11833

Question ID : 630680642013

Option 1 ID : 6306802513467

Option 2 ID : 6306802513468

Option 3 ID : 6306802513469

Option 4 ID : 6306802513470

Status : Answered

Chosen Option : B

Q.77 What is the purpose of using a Ground Fault Circuit Interrupter (GFCI) in electrical illumination systems?

Ans ☒ **A.** To prevent overloading of circuits

☒ **B.** To regulate voltage levels

☒ **C.** To protect against electric shock

☒ **D.** To enhance energy efficiency

Question ID : 630680642008

Option 1 ID : 6306802513450

Option 2 ID : 6306802513448

Option 3 ID : 6306802513447

Option 4 ID : 6306802513449

Status : Answered

Chosen Option : C

Q.78 Which semiconductor material is commonly used in the fabrication of photovoltaic cells for solar power generation?

- Ans
- ☒ A. Copper
 - ☒ B. Silicon
 - ☒ C. Zinc
 - ☒ D. Aluminum

Question ID : 630680641998
Option 1 ID : 6306802513409
Option 2 ID : 6306802513410
Option 3 ID : 6306802513408
Option 4 ID : 6306802513407
Status : Answered
Chosen Option : B

Q.79 What is the primary function of an EX-OR (exclusive OR) gate in digital logic circuits?

- Ans
- ☒ A. It produces a high output when all inputs are high.
 - ☒ B. It performs subtraction of binary numbers.
 - ☒ C. It produces a high output when the number of high inputs is odd.
 - ☒ D. It performs addition of binary numbers.

Question ID : 630680641978
Option 1 ID : 6306802513330
Option 2 ID : 6306802513327
Option 3 ID : 6306802513329
Option 4 ID : 6306802513328
Status : Answered
Chosen Option : C

Q.80 What is the primary function of an inverter in an electrical system?

- Ans
- ☒ A. DC to AC conversion
 - ☒ B. Power distribution
 - ☒ C. Voltage regulation
 - ☒ D. Current amplification

Question ID : 630680641943
Option 1 ID : 6306802513190
Option 2 ID : 6306802513187
Option 3 ID : 6306802513189
Option 4 ID : 6306802513188
Status : Answered
Chosen Option : A