



भारतीय अंतरिक्ष अनुसंधान संगठन, अंतरिक्ष विभाग  
Indian Space Research Organisation, Department of Space

भारत सरकार / Government of India



सत्यमेव जयते

Participant ID	
Participant Name	
Test Center Name	TCS Gito Bitan
Test Date	18/04/2024
Test Time	1:00 PM - 2:30 PM
Subject	Technician BElectricalElectrician

Section : Technician BElectricalElectrician

Q.1

Fire is a combination of

- a. fuel, light and oxygen                      b. fuel, heat and oxygen  
c. fuel, heat and carbon dioxide              d. fuel, light and nitrogen

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368310

Option 1 ID : 84963633201

Option 2 ID : 84963633202

Option 3 ID : 84963633203

Option 4 ID : 84963633204

Status : Answered

Chosen Option : B



Q.4

Which type of D.C motor is used for elevators?

- a. D.C shunt motor                                      b. D.C series motor  
c. D.C cumulative compound motor                  d. D.C differential compound motor

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368348  
Option 1 ID : 84963633353  
Option 2 ID : 84963633354  
Option 3 ID : 84963633355  
Option 4 ID : 84963633356  
Status : Answered  
Chosen Option : C

Q.5

Which energy is converted into electrical energy by generator?

- a. Heat    b. Mechanical  
c. Chemical    d. Kinetic

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368347  
Option 1 ID : 84963633349  
Option 2 ID : 84963633350  
Option 3 ID : 84963633351  
Option 4 ID : 84963633352  
Status : Answered  
Chosen Option : B

Q.6

What is the value of resistivity of copper conductor

- a. 1.72 micro ohm metre                      b. 1.72 micro ohm/cm<sup>3</sup>  
c. 1.72 micro ohm/m<sup>3</sup>                              d. 1.72 ohm/cm<sup>3</sup>

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368317  
Option 1 ID : 84963633229  
Option 2 ID : 84963633230  
Option 3 ID : 84963633231  
Option 4 ID : 84963633232  
Status : Answered  
Chosen Option : A

Q.7

A 3 phase full wave rectifier has an AC input of 415 V, 50 Hz. The ripple frequency of D.C output in pulses per second is

- a. 50    b. 100  
c. 150    d. 300

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368363  
Option 1 ID : 84963633413  
Option 2 ID : 84963633414  
Option 3 ID : 84963633415  
Option 4 ID : 84963633416  
Status : Answered  
Chosen Option : A



Q.10 The active material used in positive plates of lead acid cell is

- a. Pb
- b.  $\text{PbO}_3$
- c.  $\text{PbO}_2$
- d.  $\text{PbSO}_4$

Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368326  
Option 1 ID : 84963633265  
Option 2 ID : 84963633266  
Option 3 ID : 84963633267  
Option 4 ID : 84963633268  
Status : Answered  
Chosen Option : D

Q.11 In squirrel cage induction motor, the rotor slots are slightly skewed in order to

- a. reduce windage losses
- b. reduce eddy currents
- c. reduce accumulation of dirt and dust
- d. reduce magnetic hum

Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368350  
Option 1 ID : 84963633361  
Option 2 ID : 84963633362  
Option 3 ID : 84963633363  
Option 4 ID : 84963633364  
Status : Answered  
Chosen Option : D

Q.12

The diameter and axial length of rotors of a smooth cylindrical type rotors are

- a. small diameter and small axial length      b. large diameter and large axial length  
c. small diameter and large axial length      d. large diameter and small axial length

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368388  
Option 1 ID : 84963633513  
Option 2 ID : 84963633514  
Option 3 ID : 84963633515  
Option 4 ID : 84963633516  
Status : Answered  
Chosen Option : D

Q.13

What is the composition of steel and silicon in transformer core?

- a. Steel 97% and silicon 3%      b. Steel 95% and silicon 5%  
c. Steel 93% and silicon 7%      d. Steel 90% and silicon 10%

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368343  
Option 1 ID : 84963633333  
Option 2 ID : 84963633334  
Option 3 ID : 84963633335  
Option 4 ID : 84963633336  
Status : Answered  
Chosen Option : D

Q.14

The following is a Bi-polar device

- a. IGBT
- b. GTO
- c. both a and b
- d. none of the above

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368359  
Option 1 ID : 84963633397  
Option 2 ID : 84963633398  
Option 3 ID : 84963633399  
Option 4 ID : 84963633400  
Status : Answered  
Chosen Option : A

Q.15

What maintenance is carried out on machines and controls at regular intervals before machines develop trouble?

- a. Routine maintenance
- b. Periodical maintenance
- c. Preventive maintenance
- d. Break down maintenance

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368378  
Option 1 ID : 84963633473  
Option 2 ID : 84963633474  
Option 3 ID : 84963633475  
Option 4 ID : 84963633476  
Status : Answered  
Chosen Option : B



Q.16

Heavy current in the D.C circuit can be measured with the help of

- a. current transformer
- b. clip on ammeter
- c. parallel shunt resistance with ampere meter
- d. series resistance with ampere meter

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368368  
Option 1 ID : 84963633433  
Option 2 ID : 84963633434  
Option 3 ID : 84963633435  
Option 4 ID : 84963633436  
Status : Answered  
Chosen Option : C

Q.17

In protective scheme, relay functions as

- a. switching device
- b. sensing device
- c. breaking device
- d. isolating device

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368364  
Option 1 ID : 84963633417  
Option 2 ID : 84963633418  
Option 3 ID : 84963633419  
Option 4 ID : 84963633420  
Status : Answered  
Chosen Option : C



Q.20

Single phase motor whose direction of rotation cannot be changed by changing the connection is a

- a. Capacitor start and run motor                      b. Double capacitor motor  
c. Repulsion induction motor                      d. Universal motor

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368351  
Option 1 ID : 84963633365  
Option 2 ID : 84963633366  
Option 3 ID : 84963633367  
Option 4 ID : 84963633368  
Status : Answered  
Chosen Option : D

Q.21

What is the unit of capacity of secondary cell?

- a. volt ampere    b. kilo watt  
c. watt hour    d. ampere hour

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368327  
Option 1 ID : 84963633269  
Option 2 ID : 84963633270  
Option 3 ID : 84963633271  
Option 4 ID : 84963633272  
Status : Answered  
Chosen Option : D

Q.22

The reason for the stator core of an alternator is made up of laminated sheets is to \_\_\_\_

- a. increase the eddy current losses      b. reduce the eddy current losses  
c. increase the magnetic flux              d. decrease the speed of the rotor

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368387  
Option 1 ID : 84963633509  
Option 2 ID : 84963633510  
Option 3 ID : 84963633511  
Option 4 ID : 84963633512  
Status : Answered  
Chosen Option : B

Q.23

In a four point earth tester (P1 C1, P2, C2) the points shorted and connected to fixed earth point are

- a. P1 - C1                                      b. P2 - C2  
c. P1 - C2                                      d. C1 - P2

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368332  
Option 1 ID : 84963633289  
Option 2 ID : 84963633290  
Option 3 ID : 84963633291  
Option 4 ID : 84963633292  
Status : Answered  
Chosen Option : D

Q.24

What is the cause for hunting effect in Alternators?

- a. due to overload                      b. due to continuous fluctuation in load  
c. running with fluctuation of speed      d. running without load

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368355  
Option 1 ID : 84963633381  
Option 2 ID : 84963633382  
Option 3 ID : 84963633383  
Option 4 ID : 84963633384  
Status : Answered  
Chosen Option : B

Q.25

A three phase synchronous motor will have \_\_\_\_\_ slip rings

- a. no    b. 1  
c. 2    d. 3

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368356  
Option 1 ID : 84963633385  
Option 2 ID : 84963633386  
Option 3 ID : 84963633387  
Option 4 ID : 84963633388  
Status : Answered  
Chosen Option : D

Q.26

Peak factor is the ratio of

- a. RMS value to Average value
- b. Peak value to RMS value
- c. Average value to Peak value
- d. Peak value to Average value

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368315  
Option 1 ID : 84963633221  
Option 2 ID : 84963633222  
Option 3 ID : 84963633223  
Option 4 ID : 84963633224  
Status : Answered  
Chosen Option : B

Q.27

Which type of fire extinguisher must not be used for electrical base fire?

- a. Halon extinguisher
- b. Carbon tetra chloride (CTC) extinguisher
- c. Foam extinguisher
- d. Dry powder extinguisher

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368370  
Option 1 ID : 84963633441  
Option 2 ID : 84963633442  
Option 3 ID : 84963633443  
Option 4 ID : 84963633444  
Status : Answered  
Chosen Option : C

Q.28

For motor circuit, fuses are rated as

- a. twice the full load current of the motor      b. thrice the full load current of the motor  
c. starting current of motor      d. no load current of motor

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368335  
Option 1 ID : 84963633301  
Option 2 ID : 84963633302  
Option 3 ID : 84963633303  
Option 4 ID : 84963633304  
Status : Answered  
Chosen Option : B

Q.29

The algebraic sum of the currents meeting at any junction of network is zero.

What is the name of law?

- a. Kirchhoff's voltage law      b. Ohm's law  
c. Coulomb's law      d. Kirchhoff's current law

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368316  
Option 1 ID : 84963633225  
Option 2 ID : 84963633226  
Option 3 ID : 84963633227  
Option 4 ID : 84963633228  
Status : Answered  
Chosen Option : D

Q.30

ELCBs are specially used to disconnect to supply under \_\_\_\_\_

- a. short circuit condition                      b. ground fault condition  
c. open circuit condition                      d. over load condition

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368379  
Option 1 ID : 84963633477  
Option 2 ID : 84963633478  
Option 3 ID : 84963633479  
Option 4 ID : 84963633480  
Status : Answered  
Chosen Option : B

Q.31

Intrinsic semiconductor material is characterized by a valence shell of \_\_\_\_\_ electrons?

- a. 1    b. 2  
c. 4    d. 6

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368372  
Option 1 ID : 84963633449  
Option 2 ID : 84963633450  
Option 3 ID : 84963633451  
Option 4 ID : 84963633452  
Status : Answered  
Chosen Option : C









Q.38

Which artificial resuscitation method is suitable to the victim in the case of burns/ injury in the back?

- a. Mouth to mouth method                      b. Schafer's method  
c. Nelson's method                                d. Holgen-Nelson method

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368313  
Option 1 ID : 84963633213  
Option 2 ID : 84963633214  
Option 3 ID : 84963633215  
Option 4 ID : 84963633216  
Status : Answered  
Chosen Option : B

Q.39

Which type of looping method uses less cable in wiring?

- a. looping out from switch and ceiling    b. looping out from switch  
    rose  
c. looping out from 3 plate ceiling rose    d. looping out with junction box

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368336  
Option 1 ID : 84963633305  
Option 2 ID : 84963633306  
Option 3 ID : 84963633307  
Option 4 ID : 84963633308  
Status : Answered  
Chosen Option : C

Q.40

One or more of the following conditions are essential for parallel operation of transformers

- a. Polarity of the transformers should be same      b. Equal voltage ratio should be provided
- c. Percentage impedance should be same      d. All of these

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368344  
Option 1 ID : 84963633337  
Option 2 ID : 84963633338  
Option 3 ID : 84963633339  
Option 4 ID : 84963633340

Status : Answered  
Chosen Option : D

Q.41

The function of diode can be compared with that of a \_\_\_\_\_

- a. fuse      b. relay
- c. coil      d. switch

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368376  
Option 1 ID : 84963633465  
Option 2 ID : 84963633466  
Option 3 ID : 84963633467  
Option 4 ID : 84963633468

Status : Answered  
Chosen Option : D





Q.46

The capacitor start capacitor run motors have lesser efficiency and cannot take overloads. To avoid these problems capacitors of

- a. one large value used
- b. one low value used
- c. one medium value used
- d. one larger and one low value used

Ans  A. a

B. b

C. c

D. d

Question ID : 8496368353

Option 1 ID : 84963633373

Option 2 ID : 84963633374

Option 3 ID : 84963633375

Option 4 ID : 84963633376

Status : Answered

Chosen Option : D

Q.47

Direct online (DOL) Starters are not suitable for starting large DC motors, because

- a. the motor may run away
- b. the starting torque becomes low
- c. the motor may not start
- d. the starting current will be enormously high

Ans  A. a

B. b

C. c

D. d

Question ID : 8496368389

Option 1 ID : 84963633517

Option 2 ID : 84963633518

Option 3 ID : 84963633519

Option 4 ID : 84963633520

Status : Answered

Chosen Option : D





Q.50

The earth resistance tester works on the principle of

- a. potential dividing method                      b. fall of potential method  
c. fall of resistance method                      d. current dividing method

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368334  
Option 1 ID : 84963633297  
Option 2 ID : 84963633298  
Option 3 ID : 84963633299  
Option 4 ID : 84963633300  
Status : Answered  
Chosen Option : B

Q.51

Which one of the following is the semiconductor

- a. Manganin    b. Silver  
c. Germanium    d. Ceramic

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368357  
Option 1 ID : 84963633389  
Option 2 ID : 84963633390  
Option 3 ID : 84963633391  
Option 4 ID : 84963633392  
Status : Answered  
Chosen Option : C

Q.52

The capacitance to the capacitor is directly proportional to the \_\_\_\_\_

- a. material of the plate                      b. area of the plate  
c. voltage across the plate                d. polarity of the plates

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368373  
Option 1 ID : 84963633453  
Option 2 ID : 84963633454  
Option 3 ID : 84963633455  
Option 4 ID : 84963633456  
Status : Answered  
Chosen Option : B

Q.53

When two transformers are operating in parallel, they will share the load depending upon their \_\_\_\_\_

- a. leakage reactance                      b. magnetising current  
c. per unit impedance                    d. kVA rating

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368381  
Option 1 ID : 84963633485  
Option 2 ID : 84963633486  
Option 3 ID : 84963633487  
Option 4 ID : 84963633488  
Status : Answered  
Chosen Option : D

Q.54

What is the benefit of 5S system

- a. Increase in manpower                      b. Increase in economy  
c. Increase in productivity                    d. Reduction in pollution

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368311  
Option 1 ID : 84963633205  
Option 2 ID : 84963633206  
Option 3 ID : 84963633207  
Option 4 ID : 84963633208  
Status : Answered  
Chosen Option : D

Q.55

If the pointer moves quickly to its final deflected position without any sort of oscillation, that damping is called as

- a. under damping                              b. over damping  
c. critical damping                            d. air friction damping

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368366  
Option 1 ID : 84963633425  
Option 2 ID : 84963633426  
Option 3 ID : 84963633427  
Option 4 ID : 84963633428  
Status : Answered  
Chosen Option : D

Q.56

Regulation of transformer means

- a. change in terminal voltage                      b. change of power factor  
c. change in secondary voltage from            d. change of current due to load  
the load to full load                                  variations

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368340  
Option 1 ID : 84963633321  
Option 2 ID : 84963633322  
Option 3 ID : 84963633323  
Option 4 ID : 84963633324  
Status : Answered  
Chosen Option : C

Q.57

The current capabilities of the cables are specified for certain ambient temperature in BIS regulations. The specified ambient temperature is

- a. 20° C    b. 30° C  
c. 40° C    d. 50° C

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368337  
Option 1 ID : 84963633309  
Option 2 ID : 84963633310  
Option 3 ID : 84963633311  
Option 4 ID : 84963633312  
Status : Answered  
Chosen Option : C



Q.60

If a person faints due to suffocation, the first aid to be given is

- a. Give him a warm drink                      b. Sprinkle cold water on his face  
c. Place him on well ventilated              d. Give him artificial respiration  
location

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368312  
Option 1 ID : 84963633209  
Option 2 ID : 84963633210  
Option 3 ID : 84963633211  
Option 4 ID : 84963633212  
Status : Answered  
Chosen Option : C

Q.61

The number of balance electrons of the germanium element is?

- a. 5    b. 4  
c. 3    d. 2

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368371  
Option 1 ID : 84963633445  
Option 2 ID : 84963633446  
Option 3 ID : 84963633447  
Option 4 ID : 84963633448  
Status : Answered  
Chosen Option : B







Q.66

Opening the switch of an inductive circuit sets an arc across the switch contacts due to large voltage induced and stored energy in magnetic field. The arc is surpressed in such circuits by connecting

- a. a capacitor across the supply                      b. a capacitor across the switch contacts
- c. arcing horns across the switch contacts                      d. another small inductor across the switch contacts in reverse direction

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368320

Option 1 ID : 84963633241

Option 2 ID : 84963633242

Option 3 ID : 84963633243

Option 4 ID : 84963633244

Status : Answered

Chosen Option : A

Q.67

A stepper motor is

- a. a D.C motor    b. a single phase A.C motor
- c. a multiphase motor    d. a two phase motor

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368352

Option 1 ID : 84963633369

Option 2 ID : 84963633370

Option 3 ID : 84963633371

Option 4 ID : 84963633372

Status : Answered

Chosen Option : C

Q.68

Which loss is determined by conducting short circuit test in transformer?

- a. Stray loss
- b. Eddy current loss
- c. Hysteresis loss
- d. Copper loss

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368342  
Option 1 ID : 84963633329  
Option 2 ID : 84963633330  
Option 3 ID : 84963633331  
Option 4 ID : 84963633332  
Status : Answered  
Chosen Option : D

Q.69

The curve representing Ohm's law is

- a. Sine function
- b. Linear
- c. Parabola
- d. Hyperbola

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368319  
Option 1 ID : 84963633237  
Option 2 ID : 84963633238  
Option 3 ID : 84963633239  
Option 4 ID : 84963633240  
Status : Answered  
Chosen Option : B



Q.72

In Permanent magnet moving coil instrument, damping torque is provided by

- a. air friction
- b. eddy current
- c. fluid friction
- d. either a , b or c.

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368369  
Option 1 ID : 84963633437  
Option 2 ID : 84963633438  
Option 3 ID : 84963633439  
Option 4 ID : 84963633440  
Status : Answered  
Chosen Option : A

Q.73

You have to find true power, apparent power, reactive power and power factor of a 3 phase circuit. From which one of the following values can be determined?

- a. By 2 element type 3 phase wattmeter
- b. By 2 wattmeter method
- c. By 3 element 3 wire 3 phase wattmeter
- d. By 3 element 4 wire 3 phase wattmeter

- Ans
- A. a
  - B. b
  - C. c
  - D. d

Question ID : 8496368323  
Option 1 ID : 84963633253  
Option 2 ID : 84963633254  
Option 3 ID : 84963633255  
Option 4 ID : 84963633256  
Status : Answered  
Chosen Option : D





Q.78

The delta connected secondary of a transformer is connected to a delta connected load. Any unbalanced current will \_\_\_\_\_

- a. return back through neutral link      b. disconnect the load automatically  
c. automatically vanish after some time      d. circulate around delta connected load

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368382  
Option 1 ID : 84963633489  
Option 2 ID : 84963633490  
Option 3 ID : 84963633491  
Option 4 ID : 84963633492  
Status : Answered  
Chosen Option : D

Q.79

Which one of the following starters is used for starting D.C series motor

- a. Drum controlled starter      b. 3 point starter  
c. Rotor resistance starter      d. 4 point starter

- Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368333  
Option 1 ID : 84963633293  
Option 2 ID : 84963633294  
Option 3 ID : 84963633295  
Option 4 ID : 84963633296  
Status : Answered  
Chosen Option : B



Q.80

The cross section of chisel is usually

- a. Hexagonal
- b. Rectangular
- c. Octagonal
- d. Square

Ans  A. a  
 B. b  
 C. c  
 D. d

Question ID : 8496368314

Option 1 ID : 84963633217

Option 2 ID : 84963633218

Option 3 ID : 84963633219

Option 4 ID : 84963633220

Status : Answered

Chosen Option : A

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