Post Name : 01D-Winder (Armature) **Exam Code** : MASSXAIN

Exam Date : 21-06-2024 **Exam Time** : 11:15AM

Question No. 1

A Buchholz relay is placed in between the-

A) Conservator and breather
B) Tank of the transformer and conservator
C) High-voltage winding and bushing
D) Low-voltage winding and bushing

Answer Key: B

Question No. 2

A transformer core is laminated to reduce-

A) Eddy current loss
B) Hysteresis loss
C) Copper loss
D) Iron loss

Answer Key: A

Question No. 3

Which of the following is/are the types of earthing system?

A) Wire earthing
B) Plate earthing
C) Pipe earthing
D) All of the options

Answer Key: D

Question No. 4

For a potential transformer, the turns ratio (N) is defined as-
(N_s - secondary winding turns and N_p - primary winding turns)

A) $N = N_s / N_p$
B) $N = N_s$
C) $N = 1 / N_p$
D) $N = N_p / N_s$

Answer Key: D

Question No. 5

Which of the following tools is used for measuring the size of a conductor wire?

A) Try-square
B) SWG
C) Wooden scale
D) Plier

Answer Key: B

Question No. 6

What is the full form of ELCB, used in Electrical Installations?

A) Electrical Leakage Control Breaker
B) Earth Leakage Circuit Breaker
C) Electrical Leakage Circuit Breaker
D) Earth Leakage Control Breaker

Answer Key: B

Question No. 7

With Ohm's law, if voltage increases and resistance stays the same, then-

A) Current remains the same

B) Current decreases

C) Current increases

D) Resistance decreases

Answer Key: C

Question No. 8

Identify the formula to determine the synchronous speed of an AC three-phase induction motor.
(Where f is frequency and P is number of poles)

A) Synchronous speed = 120f/P

B) Synchronous speed = 120P/f

C) Synchronous speed = Pf/120

D) Synchronous speed = P/120f

Answer Key: A

Question No. 9

Given an alternator with 6 poles and a speed of 1000 RPM. Calculate its supply frequency.

A) 25 Hz

B) 40 Hz

C) 50 Hz

D) 60 Hz

Answer Key: C

Question No. 10

An alternator is connected to a supply frequency of 50 Hz and a rated voltage having four poles. Calculate its speed.

A) 1000 RPM

B) 1500 RPM

C) 3000 RPM

D) 4500 RPM

Answer Key: B

Question No. 11

An alternator is said to be normally excited when it is operating at the-

A) Unit power factor

B) Lagging power factor

C) Leading power factor

D) Lagging to leading power factor

Answer Key: A

Question No. 12

An auto transformer has _____ winding(s).

A) One

B) Two

C) Three

D) Four

Answer Key: A

Question No. 13

_____ is the unit of electric charge.

A) Coulomb

B) Volt/second

C) Ohm

D) EMF

Answer Key: A

Question No. 14

Which type of joint is used when the connection must be strong enough to support long lengths of heavy wire?

A) Scarfed joint

B) Twist joint

C) Britannia joint

D) Western Union joint

Answer Key: D

Question No. 15

Which type of instrument is/are used with eddy current damping?

A) Permanent moving coil instrument

B) Attraction type moving iron instrument

C) Repulsion type moving iron instrument

D) Electrodynamo meter type instrument

Answer Key: A

Question No. 16

A chisel is generally made of-

A) High-carbon steel

B) High-silicon steel

C) Cobalt

D) Chromium

Answer Key: A

Question No. 17

Strip is also known as-

A) Wire earthing

B) Rod earthing

C) Pipe earthing

D) Plate earthing

Answer Key: A

Question No. 18

What is the full form of PASS in a fire extinguisher?

A) Pull, Aim, Squeeze, Sweep

B) Push, Aim, Squeeze, Sweep

C) Push, Allow, Squeeze, Sweep

D) Pull, Allow, Squeeze, Sweep

Answer Key: A

Question No. 19

Residual current circuit breakers are now generally called-

A) Moulded circuit breakers

B) Oil-circuit breakers

C) Earth leakage circuit breakers

D) Miniature case circuit breakers

Answer Key: C

Question No. 20

A series transformer is also known as a-

A) Capacitor transformer
B) Voltage transformer
C) Current transformer
D) Both capacitor and voltage transformers

Answer Key: C

Question No. 21

The _____ fire extinguisher is used for Class D fire.

A) Dry Powder
B) Water
C) Foam
D) Carbon dioxide

Answer Key: A

Question No. 22

Blind rivets are also known as-

A) Solid-head rivets
B) Flush rivets
C) Semi-tubular rivets
D) Pop rivets

Answer Key: D

Question No. 23

Which of the following is NOT a type of PPE, interms of safety?

A) Hard hat
B) Smartphone
C) Safety glasses
D) Respiratory mask

Answer Key: B

Question No. 24

The function of a breather in a transformer is to-

A) Provide oxygen to the cooling oil
B) Provide cooling air to the winding
C) Extract moisture from the air
D) Filter the transformer oil

Answer Key: C

Question No. 25

Which of the following is NOT present in a transformer installation?

A) Conservator
B) Breather
C) Buchholz relay
D) Axle

Answer Key: D

Question No. 26

_____ is defined as the peripheral distance between the center of two adjacent poles in a DC machine.

A) Pole pitch
B) Coil span
C) Commutator pitch
D) Coil throw

Answer Key: A

Question No. 27

The potential transformer can be regarded as _____ transformer.

A) Auto

B) Iron core

C) Distribution

D) Voltage

Answer Key: D

Question No. 28

Which of the following CANNOT be measured by a multimeter?

A) Current

B) Voltage

C) Power

D) Resistance

Answer Key: C

Question No. 29

Ohm's Law states that:

A) I = VR

B) I = V/R

C) V = R/I

D) R = IV

Answer Key: B

Question No. 30

An ohmmeter indicates a resistance of 8 ohms for a 120-volt electric heater. What is the current drawn by the heater?

A) 5 A

B) 10 A

C) 12 A

D) 15 A

Answer Key: D

Question No. 31

Convert 18 SWG into mm.

A) 1.219

B) 1.429

C) 0.919

D) 0.619

Answer Key: A

Question No. 32

An alternator is said to be over-excited when it is operating at the _____ power factor.

A) Zero

B) Unity

C) Lagging

D) Leading

Answer Key: C

Question No. 33

The armature core of a DC generator is laminated to-

A) Insulate the core

B) Reduce eddy current loss

C) Reduce mass

D) Provide a passage for cooling air

Answer Key: B

Question No. 34

The material used for the earth wire is-

A) Galvanized steel
B) Copper
C) Aluminium
D) Iron

Answer Key: A

Question No. 35

Which principle is applied in the working of a AC generators?

A) Frequency shift
B) Geo-magnetic induction
C) Electromagnetic induction
D) Joule heating

Answer Key: C

Question No. 36

What is the brush in a generator made of?

A) Steel or Aluminium
B) Carbon or graphite
C) Cast iron or Steel
D) Aluminium and graphite

Answer Key: B

Question No. 37

What is the percentage slip in a three-phase induction motor with 6 poles, a frequency of 50 Hertz and actual speed of rotation of 960 RPM?

A) 2%
B) 3%
C) 4%
D) 5%

Answer Key: C

Question No. 38

What is the function of the stator frame in an alternator?

A) To restart the whole machine
B) To hold the armature windings
C) To protect the whole machine
D) To function as a return path for flux

Answer Key: B

Question No. 39

The _____ is used to protect the circuit from electrical leakage.

A) OCB
B) MCB
C) ELCB
D) MCCB

Answer Key: C

Question No. 40

The domestic wiring circuit employs the _____ circuit breaker as a switch and protective device.

A) Air

B) Miniature

C) Vacuum

D) Low oil

Answer Key: B

Question No. 41

The armature core of a DC generator is made of _____ lamination.

A) Silicon steel

B) Copper

C) Silver

D) Zinc

Answer Key: A

Question No. 42

The rotating part(s) of a DC generator is/are the-

A) Armature

B) Yoke

C) Pole

D) Both the yoke and pole

Answer Key: A

Question No. 43

The efficiency of a DC generator is equal to the ratio of the-

A) Output power to load

B) Load to input power

C) Input power to output power

D) Output power to input power

Answer Key: D

Question No. 44

The EMF induced by a DC generator is sent to an external circuit by using-

A) Commutators

B) Bearings

C) End housings

D) Yokes

Answer Key: A

Question No. 45

The output voltage of a DC generator depends on-

A) Frequency

B) Speed

C) Commutation

D) Resistance

Answer Key: B

Question No. 46

In DC long-shunt generators, armature current is equal to the _____ load and shunt current.

A) Sum of

B) Difference between

C) Multiplication of

D) Division between

Answer Key: A

Question No. 47

If the field resistance is very high, then the DC shunt generator will-

A) Fail to excite itself
B) Decrease in speed
C) Remain unaffected
D) Fluctuate heavily

Answer Key: A

Question No. 48

Silver soldering is a _____ method.

A) Hard soldering
B) Soft soldering
C) Laser
D) Both soft soldering and brazing

Answer Key: A

Question No. 49

The dip soldering method is preferred for-

A) Soft soldering
B) Piping and cable soldering work
C) Soldering electronic components on PCB
D) Soldering sheets

Answer Key: C

Question No. 50

Which speed is called synchronous speed in a three-phase induction motor?

A) No-load speed
B) Full-load speed
C) Rotating magnetic field speed
D) Difference between no-load and full-load speed

Answer Key: C

Question No. 51

The frame of an induction motor is usually made of-

A) Cast iron
B) Zinc
C) Bronze
D) Copper

Answer Key: A

Question No. 52

Which type of test is conducted using an internal growler in an AC motor winding?

A) Ground test
B) Polarity test
C) Continuity test
D) Short-circuit test

Answer Key: D

Question No. 53

A three-phase induction motor connected from a three-phase, 50 Hz AC supply runs at 720 RPM and has 4% slip. The number of poles in the motor are-

A) 4
B) 6
C) 8
D) 16

Answer Key: C

Question No. 54

Which instrument is used to measure the insulation resistance of a three-phase induction motor?

A) Megger

B) Multimeter

C) Shunt-type ohmmeter

D) Series-type ohmmeter

Answer Key: A

Question No. 55

Which method of speed control is applicable for a three-phase slip-ring induction motor?

A) Brush control method

B) Rotor rheostat speed control method

C) Armature resistance control method

D) Changing the number of stator poles

Answer Key: B

Question No. 56

What happens to a three-phase induction motor if one phase fails during running?

A) Motor runs normally

B) Motor stops instantaneously

C) Motor runs slowly

D) Motor runs with irregular speed

Answer Key: C

Question No. 57

A three-phase induction motor basically consists of a stator and a rotor separated by-

A) Uniform air gap

B) No air gap

C) Solid bars

D) Steel bars

Answer Key: A

Question No. 58

The frequency of rotor current in an induction motor is the _____ of slip and stator frequency.

A) Sum

B) Difference

C) Product

D) Factor

Answer Key: C

Question No. 59

What is the function of the centrifugal switch in a single-phase motor?

A) Maintain constant speed

B) Break the starting winding

C) Break the running winding

D) Protect the motor against overloading

Answer Key: B

Question No. 60

Three-phase wound rotor motors are commonly called as _____.

A) Slip-ring motor

B) Shaded-pole motor

C) Permanent split capacitor motor

D) Capacitor start capacitor run motor

Answer Key: A

Question No. 61

What is the function of the centrifugal switch used in a capacitor-start, capacitor-run induction motor?

A) Disconnect the running winding after reaching 75% to 80% speed

B) Disconnect the starting winding after reaching 75% to 80% speed

C) Disconnect the starting capacitor after reaching 75% to 80% speed

D) Disconnect the starting and running winding after reaching 75% to 80% speed

Answer Key: C

Question No. 62

Which motor is used in a table fan?

A) Universal motor

B) Shaded-pole motor

C) Synchronous motor

D) Permanent-magnet motor

Answer Key: B

Question No. 63

What is the effect, if coil group connection is wrongly connected in a single-phase motor rewinding?

A) Motor runs slowly

B) Motor will not run

C) Motor runs at very high speed

D) Motor runs and takes more current at no load

Answer Key: B

Question No. 64

What is the effect if the centrifugal switch is NOT disconnected after the single-phase induction motor starts?

A) Motor will run normally

B) Motor will stop immediately

C) Starting winding will burn out

D) Motor will run at very slow speed

Answer Key: C

Question No. 65

How can the direction of rotation of repulsion motors be reversed?

A) By shifting the brush axis

B) By interchanging the supply terminals

C) By changing the main winding terminals

D) By changing the compensating winding terminals

Answer Key: A

Question No. 66

Calculate the speed in RPS of a 2-pole, 50-Hz alternator.

A) 50 RPS

B) 100 RPS

C) 1500 RPS

D) 3000 RPS

Answer Key: A

Question No. 67

Which is proportional to the torque in DC shunt motor?

A) Back EMF
B) Field current
C) Terminal voltage
D) Armature current

Answer Key: D

Question No. 68

How much power is taken by a 110-volt DC circuit when the current flowing is 8 amps direct-current?

A) 880 watts
B) 88 watts
C) 960 watts
D) 13.5 watts

Answer Key: A

Question No. 69

The crackle test on transformer oil is conducted to find the presence of-

A) Air
B) Water
C) Gas
D) Oxide

Answer Key: B

Question No. 70

What is the full form of the DOL starter?

A) Direct Off Load Starter
B) Direct On Line Starter
C) Direct Off Line Starter
D) Direct On Load Starter

Answer Key: B

Question No. 71

In a DC motor, the wrong number of turns in the winding of the armature will result in-

A) A balanced armature
B) Constant speed
C) Partial balancing of the armature
D) An unbalanced armature

Answer Key: D

Question No. 72

When the speed of the induction motor increases, the rotor frequency will-

A) Decrease
B) Increase
C) Remain constant
D) Become zero

Answer Key: B

Question No. 73

Calculate the electrical energy consumed by a 500 W lamp for 4 hours.

A) 2.5 units
B) 1.5 units
C) 2 units
D) 20 units

Answer Key: C

Question No. 74

The following voltage drops are measured across each of three resistors in series: 5V, 8V, 12V. What is the value of source voltage to which these resistors are connected?

A) 15 V

B) 25 V

C) 12 V

D) 5 V

Answer Key: B

Question No. 75

The brushes in a DC machine can be replaced, if the-

A) Length of the brush is reduced to 1/3rd of the original length

B) Width of the brush is reduced to half of the original width

C) Brush is used for a year

D) Length of the brush is reduced to half of the original length

Answer Key: A