SAIL Electronics & Electrical Questions

1.Resistance is measured in

a.henries

b.ohms

c.hertz

d.watts

Ans:B

2. A sine wave voltage is applied across an inductor. When the frequency of the voltage is decreased, the current

a.is increased

b.is decreased

c.does not change

d.momentarily goes to zero

Ans:a

3. The winding resistance of a coil can be increased by

a.increasing the number of turns

b.a thinner wire

c.changing the core material

d.increasing the number of turns or using thinner wire

Ans:D

4. When the current through an inductor is cut in half, the amount of energy stored in the electromagnetic field

a.is halved

b.quadruples

c.doubles

d.does not change

Ans:A

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5. In the complex plane, the number 14 – j5 is located in the

a.first quadrant

b.second quadrant

c.third quadrant

d.fourth quadrant

Ans:D

6. When the frequency of the source voltage decreases, the impedance of a parallel RC circuit

a.Increases

b.decreases

c.does not change

d.does not change

Ans:A

7. In a three-phase system, the voltages are separated by

a.45°

b.90°

c.120°

d.180°

Ans:C

8. A constant load power means a uniform conversion of

a.mechanical to electrical energy

b.electrical to mechanical energy

c.current to voltage

d.voltage to current

Ans:B

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9. Polyphase generators produce simultaneous multiple sinusoidal voltages that are separated by

a.certain constant phase angles

b.certain constant frequencies

c.certain constant voltages

d.certain constant currents

Ans:a

10. Materials with lots of free electrons are called

a.Conductors

b.insulators

c.semiconductors

Ans:a

11. Electrons in the outer orbit are called

a.nuclei

b.valences

c.waves

d.shells

Ans:b

12. A multimeter measures

a.current

b.voltage

c.resistance

d.current, voltage, and resistance

Ans:d

13. A wiper is the sliding contact in a

a.Switch

b.photoconductive cell

c.thermistor

d.potentiometer

Ans:d

14. A circuit breaker is a

a Fuse

b.switch

c.resettable protective device

d.resistor

Ans:C

15. An ohmmeter is an instrument for measuring

a.current

b.voltage

c.resistance

d.wattage

Ans:c

16.The two windings of a transformer is

a.conductively linked.

b.inductively linked.

c.not linked at all.

d.electrically linked.

Ans:b

17. The d.c. series motor should always be started with load because

a.at no load, it will rotate at dangerously high speed.

b.it will fail to start.

c.it will not develop high starting torque

d.all are true.

Ans:a

18. In a stepper motor the angular displacement

a.can be precisely controlled.

b.it cannot be readily interfaced with micro computer based controller

c.the angular displacement cannot be precisely controlled.

d.it cannot be used for positioning of work tables and tools in NC machines

Ans:a

19. The power factor of a squirrel cage induction motor is

a.low at light load only.

b.low at heavy load only.

c.low at light and heavy load both.

d.low at rated load only.

Ans:a

20. The generation voltage is usually

a.between 11 KV and 33 KV.

b.between 132 KV and 400 KV.

c.between 400 KV and 700 KV.

d.None of the above.

Ans:a

21 When a synchronous motor is running at synchronous speed, the damper winding Produces

a.damping torque.

beddy current torque.

c.torque aiding the developed torque

dno torque.

Ans:d

22. In a d.c. machine, the armature mmf is

a.stationary w.r.t. armature.

b.rotating w.r.t. field.

c.stationary w.r.t. field.

d.rotating w.r.t. brushes.

A**ns:c**

23. In a transformer the voltage regulation will be zero when it operates at

a.unity p.f.

b leading p.f.

c.lagging p.f.

d.zero p.f. leading.

Ans:b

24 The emf induced in the primary of a transformer

a.is in phase with the flux

b.lags behind the flux by 90 degree.

c.leads the flux by 90 degree.

d.is in phase opposition to that of flux.

Ans:c

25. The current from the stator of an alternator is taken out to the external load circuit Through

a.slip rings.

b.commutator segments

c.solid connections

d.carbon brushes.

Ans:c

26 A hysteresis motor

a.is not a self-starting motor

b.is a constant speed motor

c.needs dc excitation

d.can not be run in reverse speed.

Ans:b

27. The most suitable servomotor for low power applications is

a.a dc series motor.

b.a dc shunt motor.

c.an ac two-phase induction motor.

d.an ac series motor

Ans:b

28 For a given wirewound core, an increase in current through the coil

a.reverses the flux lines

b.decreases the flux density

c.increases the flux density

d.causes no change in flux density

Ans:c

29 When the current through the coil of an electromagnet reverses, the

a.direction of the magnetic field reverses

b.direction of the magnetic field remains unchanged

c.magnetic field expands

d.magnetic field collapses

Ans:a

30. The unit for permeability is

a Wb/At × m

b At/m

c At/Wb

d Wb

Ans:a