

1. The power MOSFET device is a

- a. Current controlled unipolar device
- b. Voltage controlled unipolar device
- c. Current controlled bipolar device
- d. Voltage controlled bipolar device

ANSWER: Voltage controlled unipolar device

2. Unipolar modulation is generally used in

- a. AC - AC converters
- b. AC - DC converters
- c. DC - AC converters
- d. DC - DC converters

ANSWER: DC - DC converters

3. In a three phase converter, the number of notches per cycle is

- a. One
- b. Three
- c. Six
- d. Nine

ANSWER: Six

4. The switching function of semiconductor devices can be characterized with

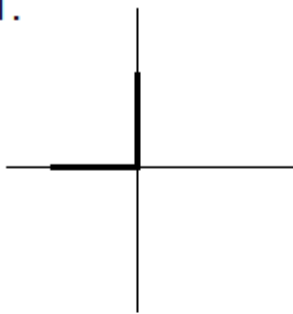
- a. Duty ratio only
- b. Frequency only

- c. Duty ratio and frequency
- d. Duty ratio, frequency and time delay

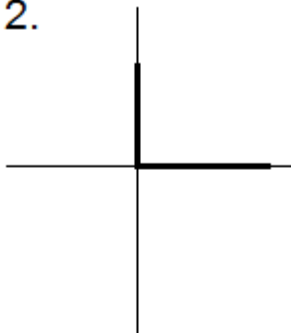
ANSWER: Duty ratio, frequency and time delay

5. The quadrant operation of BJT is represented by

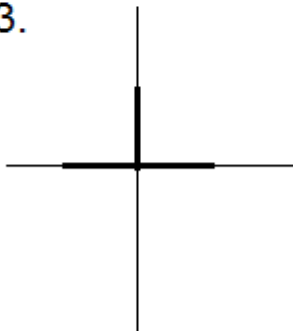
1.



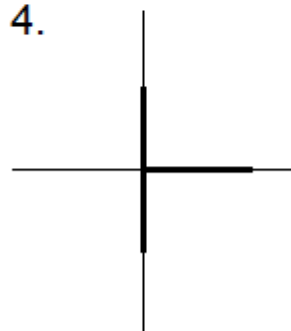
2.



3.



4.



- a. 1
- b. 2
- c. 3
- d. 4

ANSWER: 2

6. What is the general ratio of the cross sectional area of the two metals used in the A.C.S.R conductors?

- a. 1 : 8
- b. 1 : 4

- c. 4 : 3
- d. 2 : 1

ANSWER: 1 : 4

7. In India, which types of poles are commonly used for distribution?

- a. Wooden poles
- b. RCC poles
- c. Steel poles
- d. Both (b) and (c)
- e. None of these

ANSWER: Both (b) and (c)

8. To prevent rotting oil the wooden poles which oil is impregnated to it?

- a. Kerosene oil
- b. Mineral oil
- c. Creosote oil
- d. All of these

ANSWER: Creosote oil

10. What is the main purpose for guy wire?

- a. Supports the pole
- b. Protects against the surges
- c. Provides emergency earth route
- d. All of these

ANSWER: Supports the pole

11. Conductor sag should be kept

- a. Minimum
- b. Maximum

- c. Zero
- d. None of these

ANSWER: Minimum

12. Which line represents the tension in the given graph?

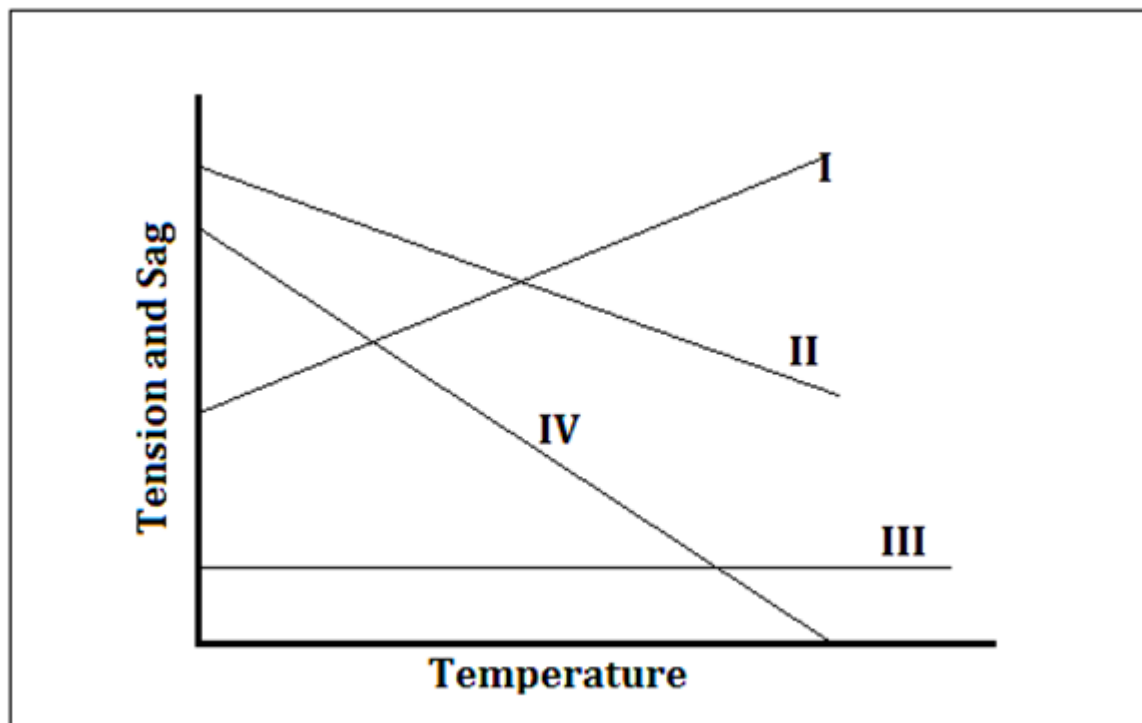


Fig 2.2: Temperature Vs Tension and Sag

- a. I
- b. II
- c. III
- d. IV

ANSWER: II

13. The number of discs in a string of insulators for 400 kV ac over head transmission line lies in the range of

- a. 32 – 33
- b. 22 – 23
- c. 15 – 16
- d. 9 – 10

ANSWER: 22 – 23

14. What is switchgear?

- a. An apparatus used for switching, controlling and protecting the electrical circuits and equipments.
- b. It detects the faults only.
- c. It corrects the faults only.
- d. All of the above.

ANSWER: All of the above.

15. Which material is used for the manufacture of bus bars?

- a. Aluminium rods.
- b. Copper rods.
- c. Any conducting material.
- d. Made of silver.

ANSWER: Copper rods.

16. Which among these are the main characteristics of a fuse element?

- a. Low melting point
- b. High conductivity
- c. Least deterioration due to oxidation
- d. All of the above

ANSWER: All of the above

17. What is fusing factor?

- a. The ratio of current rating of the fuse to the minimum fusing current
- b. The ratio of minimum fusing current to the current rating of the fuse
- c. The ratio of maximum fusing current to the current rating of the fuse
- d. The ratio of minimum fusing current to the voltage rating of the fuse

ANSWER: The ratio of minimum fusing current to the current rating of the fuse

18. Field in case of rod gaps and sphere gaps are

- a. Uniform, uniform
- b. Uniform, non-uniform
- c. Non-uniform, uniform
- d. Non-uniform, non-uniform

ANSWER: Non-uniform, uniform

19. In Breakdown tests, the tests voltages required for these tests are usually of the order of

- a. 0 – 10 kV
- b. 20 – 50 kV
- c. 50 – 100 kV
- d. 100 – 200 kV

ANSWER: 50 – 100 kV

20. Which among the following is not an example of impregnants?

- a. Mineral oil
- b. Chlorinated diphenyl
- c. Vegetable oils
- d. None of these

ANSWER: None of these

21. In a three phase induction motor, the mechanical load should be such that the equivalent load resistance referred to stator is equal to the

- a. Total leakage reactance of the motor referred to stator
- b. Total leakage reactance of the motor referred to rotor
- c. Total leakage impedance of the motor referred to stator
- d. Total leakage impedance of the motor referred to rotor

ANSWER: Total leakage impedance of the motor referred to stator

22. When an induction motor is working under loaded condition, its induced voltage will

- a. Leads the magnetic flux by 90 degree
- b. Lags the magnetic flux by 90 degree
- c. Lags the magnetic flux by 30 degree
- d. In phase with the magnetic flux

ANSWER: Lags the magnetic flux by 90 degree

23. The performance of induction motor is effected by the harmonics in the

- a. Space variation of impressed voltage
- b. Time variation of impressed voltage
- c. Space variation of impressed current
- d. Time variation of impressed current

ANSWER: Time variation of impressed voltage

24. The tooth or slot harmonics in an induction motor is caused due to

- a. Variation of air gap reluctance
- b. Leakage flux
- c. Non sinusoidal nature of input voltage
- d. None of these

ANSWER: Variation of air gap reluctance

25. The air gap flux of induction motor does not contain

- a. 2nd harmonics
- b. 3rd harmonics
- c. 5th harmonics
- d. 7th harmonics

ANSWER: 3rd harmonics

26. At start, the slip of the induction motor is

- a. 1
- b. 0
- c. 0.5
- d. None of these

ANSWER: 1

27. The starting torque developed in the d.c. series motor and in d.c. shunt motor is

- a. High, low
- b. High, moderate
- c. Moderate, low
- d. Moderate, high

ANSWER: High, moderate

28. The speed armature current characteristics of a d.c. series motor is

- a. Rectangular hyperbola
- b. Linear
- c. Parabolic
- d. Parabolic till saturation and then linear

ANSWER: Rectangular hyperbola

29. D.C. series motors are used in electric traction. What happens to the speed and current of d.c motor if there is sudden slight drop in the mains voltage?

- a. Speed decreases and current also decreases
- b. Speed decreases and current increases

- c. Speed increases and current decreases
- d. Speed decreases and current remains same

ANSWER: Speed decreases and current remains same

30. If a resistance is added in series with the field winding of d.c. shunt motor, then its

- a. Both speed and torque decreases
- b. Both speed and torque increases
- c. Speed decreases, torque increases
- d. Speed increases, torque decreases

ANSWER: Speed increases, torque decreases

31. Electric pressure is also called

- a. resistance b. power c. voltage d. energy

Ans-c

32 The substances which have a large number of free electrons and offer a low resistance are called

- a. insulators
- b. inductors
- c. semi-conductors
- d. conductors

Ans-d

33. Out of the following which is not a poor conductor ?

- a. Cast iron
- b. Copper
- c. Carbon
- d. Tungsten

Ans-b

34. Out of the following which is an insulating material ?

- a. Copper
- b. Gold
- c. Silver

d. Paper

Ans-d

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35. The property of a conductor due to which it passes current is called

- a. resistance
- b. reluctance
- c. conductance
- d. inductance

Ans-cc

36 . Conductance is reciprocal of

- (a) resistance
- (b) inductance
- (c) reluctance
- (d) capacitance

Ans-a

37. The resistance of a conductor varies inversely as

- (a) length
- (b) area of cross-section
- (c) temperature
- (d) resistivity

Ans-b

38. With rise in temperature the resistance of pure metals

- (a) Increases
- (b) decreases
- (c) first increases and then decreases
- (d) remains constant

Ans-a

39. With rise in temperature the resistance of semi-conductors

- (a) decreases
- (b) increases
- (c) first increases and then decreases
- (d) remains constant

Ans-a

40. The resistance of a copper wire 200 m long is 21 Q. If its thickness (diameter) is 0.44 mm, its specific resistance is around

- (a) $1.2 \times 10^{-8} \text{ Q-m}$
- (b) $1.4 \times 10^{-8} \text{ Q-m}$
- (c) $1.6 \times 10^{-8} \text{ Q-m}$
- (d) $1.8 \times 10^{-8} \text{ Q-m}$

Ans-c

41. Three resistances of 10 ohms, 15 ohms and 30 ohms are connected in parallel. The total resistance of the combination is

- (a) 5 ohms
- (b) 10 ohms
- (c) 15 ohms
- (d) 55 ohms

Ans-a

42. An instrument which detects electric current is known as

- (a) voltmeter
- (b) rheostat
- (c) wattmeter
- (d) galvanometer

Ans-d

43. In a circuit a 33 Q resistor carries a current of 2 A. The voltage across the resistor is

- (a) 33 V
- (b) 66 v
- (c) 80 V
- (d) 132 V

Ans-b

44. A light bulb draws 300 mA when the voltage across it is 240 V. The resistance of the light bulb is

- (a) 400 ohm
- (b) 600 ohm
- (c) 800 ohm
- (d) 1000 ohm

Ans-c

45. The resistance of a parallel circuit consisting of two branches is 12 ohms. If the resistance of one branch is 18 ohms, what is the resistance of the other ?

- (a) 18 ohm
- (b) 36 ohm
- (c) 48 ohm
- (d) 64 ohm

Ans-b

46. Four wires of same material, the same cross-sectional area and the same length when connected in parallel give a resistance of 0.25 ohm. If the same four wires are connected in series the effective resistance will be

- (a) 1 ohm
- (b) 2 ohm
- (c) 3 ohm
- (d) 4 ohm

Ans-d

47. A current of 16 amperes divides between two branches in parallel of resistances 8 ohms and 12 ohms respectively. The current in each branch is

- (a) 6.4 A, 6.9 A
- (b) 6.4 A, 9.6 A
- (c) 4.6 A, 6.9 A
- (d) 4.6 A, 9.6 A

Ans-b

48. Current velocity through a copper conductor is

- (a) the same as propagation velocity of electric energy
- (b) independent of current strength
- (c) of the order of a few micro second
- (d) nearly 3×10^8 m/s

Ans-c

49. Which of the following material has nearly zero temperature co-efficient of resistance?

- (a) Manganin
- (b) Porcelain
- (c) Carbon
- (d) Copper

Ans-a

50. You have to replace 1500 ohm resistor in radio. You have no 1500 ohm resistor but have several 1000 ohm ones which you would connect

- (a) two in parallel
- (b) two in parallel and one in series
- (c) three in parallel

(d) three in series

Ans-b

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