

Keys for written test for the Post of Electrical Specialist (SDC) in SOVTECH held on 29.12.2021

1. What is the minimum permissible single phase working voltage, if the declared voltage is 240V as per ISI?
 - A. 233V
 - B. 228V**
 - C. 216V
 - D. 211V

2. The size of the feeder is determined primarily by
 - A. The current it is required to carry**
 - B. The percentage variation of voltage in the feeder
 - C. The voltage across the feeder
 - D. The distance over which the transmission is made

3. What will be the backup time of a UPS if it is backed by 150 Ah, 12 V battery driving a load of 150 W ?
 - A. 14 h
 - B. 10 h
 - C. 16 h
 - D. 12 h**

4. The length of wire having resistance of 1 ohm/m in a heater rated at 1000 W and 250 V will be
 - A. 250 m
 - B. 125 m
 - C. 62.5 m**
 - D. 500 m

5. What device has to be added for running three phase 5 HP motor from the available single phase source?
 - A. STAR/DELTA starter
 - B. Inverter/UPS**
 - C. DOL starter
 - D. Not possible

6. Non- conductors whose polarization is caused by an electric field are known as
 - A. Dielectric**
 - B. Super- conductors
 - C. Semi- conductors
 - D. Insulators

7. If the diameter of a conductor is double, then its resistance will be reduced to
- A. Half
 - B. One-fourth**
 - C. One- eight
 - D. One- sixteenth
8. The inductance of a coil can be increased by
- A. Decreasing number of turns
 - B. Increasing core length
 - C. Using core material of high relative permeability**
 - D. All of the above
9. The internal resistance of the voltmeter must be very high in order to have
- A. High voltage range
 - B. Minimum current through the meter
 - C. Maximum loading effect
 - D. More current supplied by the voltage source**
10. Which component makes as online UPS different from offline UPS?
- A. Charge controller
 - B. Battery
 - C. Static switch**
 - D. AC/DC rectifier
11. Phase information of UPS is of no use during
- A. Voltage dip
 - B. Long sags
 - C. Interruptions
 - D. All of the above**
12. Which term refers that the mass of a substance liberated from an electrolyte by one coulomb of electricity?
- A. Electrolysis
 - B. Electro plating
 - C. Electro copying
 - D. Electro chemical equivalent**
13. What is the full form of PWM?
- A. Pulse Wide Modulation
 - B. Pulse Width Modulation**
 - C. Phase Wide Modulation
 - D. Phase Width Modulation

14. Which electrical device is actuating the voltages in a stepped voltage stabilizer?
- A. Autostat**
 - B. Output transformer
 - C. Over voltage relay
 - D. Under voltage relay
15. What is the effect in internal resistance of a discharged cell?
- A. Increase**
 - B. Decrease
 - C. Becomes zero
 - D. Remain same
16. What is the purpose of output transformer in inverters?
- A. Step up input AC
 - B. Step down input AC
 - C. Step up AC from amplifier**
 - D. Step down AC from amplifier
17. Which principle the constant voltage transformer works?
- A. Self- induction principle
 - B. Fall in potential principle
 - C. Ferro- resonant principle**
 - D. Mutual induction principle
18. The coefficient of performance of a window AC is.....domestic refrigerator.
- A. Lower than
 - B. Equal to
 - C. More than**
 - D. 3 times of
19. A.D.C. voltmeter can be directly used to measure
- A. Power factor**
 - B. Insulation resistance
 - C. Frequency
 - D. Polarity
20. Large current in D.C circuits can be measured with
- A. Current transformer and voltmeter
 - B. Potential transformer and millivoltmeter
 - C. Shunt and millivoltmeter**
 - D. R-C network and voltmeter

21. The copper losses in a transformer at half load compared to those at full load will be
- A. Same
 - B. Half
 - C. One-fourth**
 - D. 2 times
22. Which of the following electrical machines has the highest efficiency?
- A. D.C shunt motor
 - B. Transformer**
 - C. Induction motor
 - D. Synchronous motor
23. Full load current of a 10 HP, 3 phase, 440 V induction motor is of the order of
- A. 7 A
 - B. 14 A**
 - C. 21 A
 - D. 28 A
24. The class C insulation can withstand
- A. 180 deg c**
 - B. 150 deg c
 - C. 200 deg c
 - D. 105 deg c
25. The untreated paper falls in the following class of insulation
- A. A
 - B. B
 - C. E
 - D. O**
26. If A.C is fed by mistake to a D.C motor, then the D.C motor will
- A. Burn as the eddy currents in the field produces heat**
 - B. Run at its normal speed
 - C. Run at a lower speed
 - D. Run continuously, but the sparking takes place at the brushes
27. Which colored band denotes the 'Carbon dioxide' content in the fire extinguisher?
- A. Red
 - B. Blue
 - C. White
 - D. Black**

28. The maximum temperature permitted for class A insulation is
- A. 180 deg c
 - B. 105 deg c**
 - C. 120 deg c
 - D. 155 deg c
29. Which of the following plants is suitable for peak load?
- A. Diesel engine plant**
 - B. Steam power plant
 - C. Nuclear power plant
 - D. Hydro-electric plant
30. Which type of fire extinguisher must NOT be used in case of electrical base fire
- A. Halon extinguisher
 - B. Carbon Chloride extinguisher
 - C. Foam extinguisher**
 - D. Dry power extinguisher