# WRITTEN TEST FOR MFCP OF JR. TECHNICAL ASSISTANT (ELECTRICAL) HELD ON 08/07/2015

1. Hermetically sealed motors are commonly used in
   A) Ceiling fans B) Blowers
   C) Refrigerators D) Mixies

2. The electric motor used in portable drill is
   A) Universal motor B) Capacitor run motor
   C) Repulsion motor D)Hysteresis motor

3. Which of the following motor will give relatively high starting torque
   A) Shaded pole motor B) Capacitor run motor
   C) Split phase motor D) Capacitor start motor

4. Which of the following loss in a D.C generator varies significantly with the load current
   A) Field copper loss B) Windage loss
   C) Armature copper loss D) None of the above

5. A resistance wire of 5 Ohms is further drawn so that the diameter reduces to one fifth of its original diameter. The resistance of the drawn wire will be
   A) 1Ohm B) 5 Ohm C) 25 Ohm D) 125 Ohm

6. When an electron is removed from an atom it becomes
   A) a neutron B) a proton
   C) a positive ion D) a negative ion

7. One micro volt is
   A) 0.001v B) 0.0001V
   C) 0.00001V D) 0.000001V

8. An essential condition for Ohm's law to be applicable to a circuit is that
   A) resistance must be at room temperature
   B) voltage should be only DC
   C) the current should flow in forward direction only
   D) the resistance must be uniform

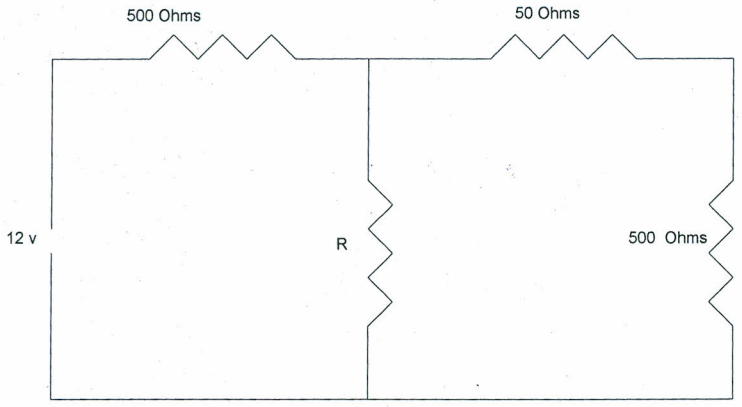
9. The power consumed in a circuit element will be least when the phase difference between the current and voltage is
   A) 0 degree B) 30 degrees
   C) 90 degrees D) 180 degrees

10. Three resistors of 15Ω each are connected to form the sides of a triangle. The equivalent resistance across any two points of the triangle will be
   A) 1 Ω B)10 Ω C)15 Ω D)20 Ω

8-7-2015

11. With 100 V applied across a 10 KΩ resistance, the power dissipation will be
    A) 1 Mw  B) 1W  C) 100W  D) 1KW

12. What is the value of unknown resistance R in the figure below if the voltage drop across the 500 Ohm resistor is 2.5 Volts




    A) 133Ω  B) 233 Ω  C)250Ω  D)533Ω

13. In case the resistance of a GLS lamp changes as the voltage across the bulb changes, it can be concluded that
    A) the change is caused by variation in internal inductance of the bulb
    B) the bulb contains some gas at significant pressure
    C) ionization of the gas within the bulb causes this change
    D) the filament resistance is non-linear

14. In a parallel bank with unequal branch resistances
    A) the current is highest in the lowest R
    B) the voltage is highest across the lowest R
    C) the current is highest in the highest R
    D) the current is equal in all branches

15. Distance between plate earth electrodes as per electrical inspectorate standards
    A) 80M  B) 0.8M  C) 2M  D) 8M

16. In a closed loop control system
    A) control action is independent of the output
    B) output is independent of input
    C) there is no feedback
    D) control action is dependent of the output

17. The force between two electric charges is directly proportional to the product of the magnitude of charges and inversely proportional to the square of the distance between them. This statement pertain to
    A) Joule's law B)Lenz's law C)Ampere's rule D)Coulomb's law

18. "The electromagnetically induced current always flows i such a direction to oppose the very cause which produces it ". This statement pertains to which law of electrical engineering?
    A) Joule's law B) Kirchhof's law
    C) Lenz'law D) Coulomb's law

19. When electric current is passed through a thermo-couple, then heating is produced at one junction and cooling at the other junction. This effect is
    A) Hall effect B) Seebeck effect
    C) Peltier effect D) Skin effect

20. Non-sinusoidal waveforms are made up of
    A) Different sinusoidal wave forms B) fundamental and even harmonics
    C) fundamental and odd harmonics D) even and odd harmonics only

21. The KWh meter can be classified as a/an --- instrument
    A) deflecting B) digital C) recording D) indicating

22. The damping force acts on the moving system of an indicating instrument only
    A) when it is moving B) stationary
    C) near its full deflection D) just starting to move

23.. The capacity of a lead-acid cell does NOT depend on its:
    A) rate of charge B) rate of discharge
    C) temperature D) quantity of active material

24. Trickle charging of a storage battery helps to
    A) prevent sulphation B) keep it fresh and fully charged
    C) maintain proper electrolyte level D) increase its reserve capacity

25. A capacitor consists of two
    A) insulation separated by a dielectric B) conductors separated by an insulator
    C) ceramic plates and one mica disc D) silver-coated insulators

26. A capacitor that stores a 0.5 C at 10 volts has a capacitance of -------farad
    A) 5 B)20 C) 10 D)0.05

27. Suitable clearance from line to ground of Low & Medium voltage power transmission lines across street shall be

    A) 3.79M B) 5.79M C)10.79M D) 1.79M

8.7.2015

28. Horizontal minimum clearance of 11KV power transmission line from nearest building shall be
A) 0.8M B) 1.2M C) 2.1M D) 5M

29. "Low voltage" is voltage not exceeding---------
A) 230 V B) 440V C) 250V D) 650V

30. Fault MVA = Base MVA x 100 / ---------
A) System percentage impedance B)Line reactance
C) 1000 D) Rated MVA

31. Earth resistance (Maximum) of small substations shall be
A) 2 Ohms B) 10 Ohms C) 1 Ohm D) 0.5 Ohm

32.For a sine wave with peak value "I" the r.m.s value is
A) 0.818 I B) 0.707 I C) 0.5 I D) 1.414 I

33. In a capacitor the electric charge is stored in
A) Dielectric B) Metal plates
C) Both dielectric as well as metal plates D) None of above

34. When electric current is passed through a thermo-couple, then heating is produced at one junction and cooling at the other junction. This effect is
A) Hall effect B) Seebeck effect
C) Peltier effect D) Skin effect

35.The hum in transformer is developed in
A) Core B) Winding C)Cooling oil D)Tank

36.Which of the following is variable loss in a transformer
A) Eddy current loss B) Copper loss
A) Hysteresis loss D) None of above

37.Connected load is
A) The rating in kW of installed electrical load
B) Maximum load put on at any time
C) Part of load always remain ON
D) Average load during a period

38.Which of the following equipment offers nearly unity power factor
A) Arc lamp B) Induction motor
C) Tube light D)GLS Lamp

39.Induction motor has relatively high power factor at
A) No load B) 25% load C) rated r.p.m D) Near full load

40.Highest transmission voltage used in India is
A) 440V B)11KV C) 132KV D) 400KV

41.Transmission voltage of 11KV is normally used for distances up to
A) 1-2 KM B) 20-25 KM
C) 50-60 KM D) 100-150 KM

42.In cables the thickness of the layer of insulation depends upon
A) Current carrying capacity B) Voltage
C) Power factor D) Reactive power

43.Suspension type insulators are used for voltages above
A) 11KV B) 33 KV C) 66 KV D) 132 KV

44.A fuse operates on which effect of electric current
A)Magnetic effect B) Electrostatic effect
C) Heating effect D)Photoelectric effect

45.The filament of an electric bulb is made of
A) Steel B) Copper C) Tungsten D) Carbon

46. Compared to standby U.P.S, line interactive U.P.S
A) has no battery B) require only less number of batteries
C) has a variable voltage auto transformer D) is more durable

47. $$\text{Line Amps} = \frac{\text{H.P} \times 746}{1.732 \times \text{-----} \times \text{Efficiency} \times \text{P.f}}$$

A) Line volts B) 1000 C) Phase Volts D) 100

48. KW = KVA x --------
A) 1.732 B) Line Volts C) Power factor D) 1.11

49. If two waves have the frequency of 1000 Hz and one is at the maximum value when the other is at zero, the phase angle between them is

A) 0 degrees B) 90 degrees C) 120 degrees D) 180 degrees

50. The value of dielectric constant for vacuum is taken as
A) Zero B) 1 C) 100 D) Infinite

8.7.2015