Written Test for VOP: JTA (Electrical)

30th Dec, 2014 **Registration No: .....**

1) Which of the following is not the part of squirrel cage induction motor
   A) Winding
   B) Shaft
   C) Commutator
   D) Bearing

2) 1 Horse Power(H.P) is approximately equal to
   A) 600 Watts
   B) 60 Watts
   C) 750 Watts
   D) 700 Kilo Watts

3) 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

4) Two waves of the same frequency have opposite phases when the phase angle between them is
   A) Zero degree
   B) 90 degrees
   C) 180 degrees
   D) 360 degrees

5) Electric heater wires are generally made of
   A) carbon
   B) steel
   C) copper
   D) nichrome

6) The RMS value and mean value is same in case of
   A) sine wave
   B) square wave
   C) triangular wave
   D) half wave rectified sine wave

7) The unit of inductance is
   A) Henry
   B) Farad
   C) Ohms
   D) Ampere

30/12/14 30.12.14

8) In electrical works "XLPE' relates to
   A) Switch
   B) Lamp
   C) Earthing
   D) Cable

9) If alternating current of 50Hz flows in a circuit, the current becomes zero ----- times in 1 second
   A) 50 times
   B) 25 times
   C) 100 times
   D) 200 times

10) A synchronous motor working on leading power factor and not driving mechanical load is known as
   A) condenser
   B) synchronous condenser
   C) inverter
   D) converter

11) The armature of a D.C. machine is laminated to reduce
   A) Eddy current loss
   B) Hysteresis loss
   C) Copper loss
   D) Frictional loss

12) Which of the following instrument is used for measurement of earth resistance
   A) Multi meter
   B) Megger
   C) Voltmeter
   D) Wattmeter

13) Which of the following is Electrolytic conductor
   A) Copper
   B) Sulphuric acid
   C) Aluminium
   D) Air

14) Maximum earth resistance of HT premises shall be limited to
   A) 10 Ohm
   B) 100 Ohm
   C) 1 Ohm
   D) 50 Ohm

15) The armature of a D.C generator is laminated to
   A) Reduce the size
   B) Provide passage for cooling air
   c)Insulate the core
   D) Reduce eddy current loss

30/12/14 30.12.14

16) The unit for measurement of capacitance is
A) Ohm
B) Farad
C) Ampere
D) Volt

17) The r.m.s value of alternating current is
A) 0.637 of max:value
B) 0.707 of max: value
C) 0.5 of max: value
D) The maximum value itself

18) The 3 windings of 3-phase induction motor should be installed at a distance of
A) 90 electrical degrees
B) 120 electrical degrees
C) 360electrical degrees
D) 60 electrical degrees

19) Which of the following motors does not have commutator
A) Repulsion motor
B) Induction motor
C) D.C.shunt motor
D) A.C. series motor

20) The purpose of providing dummy coils in generator is to---
A) Reduce flux density
B) Enhance flux density
C) amplify voltage
D) provide mechanical balance for rotor

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

22) The ampere hour capacity of a lead acid battery depends on
A) Density of electrolite
B) Size of container
C) Number of plates
D) All the above

23) 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

30/12/14

30.12.14

24) Dielectric constant for air is taken as
   A) Zero
   B) 1
   C) 100
   D) Infinite

25) Electronic component which blocks direct current and allow alternating current to pass is
   A) Inductance
   B) Resistance
   C) Capacitance
   D) conductance

26)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

27) In a transformer which of the following does not change
   A) Voltage
   B) Current
   C) Frequency
   D) All the above

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

29) Contamination of transformer oil is due to
   A) Decomposition of oil
   B) Heating
   C) Moisture
   D) All of above

30) Which of the following is variable loss in a transformer
   A) Eddy current loss
   B) Copper loss
   C) Hysteresis loss
   A) Capacitive loss

31) 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

30/12/14

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

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

34).Power factor is given by
A).KWH/KW
B) Active power/Reative power
C) Reactive power/Active power
D) KW/KWh

35) Oil switches are used for
A) Circuits of low voltages
B) Circuits of low currents
C) Circuits of high voltages and large currents
D) All circuits

36) A fuse operates on what effect of electric current
A) Magnetic effect
B) Electrostatic effect
C) Heating effect
D) Photoelectric effect

37) A fuse wire is never inserted in
A) Phase line
B) Positive of DC circuit
C) Negative of DC circuit
D) Neutral wire

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

39) $\text{Line Amps} = \dfrac{\text{H.P x 746}}{\text{1.732 X ..... X Efficiency X Pf}}$
A) Line volts
B) 1000
C) Phase Volts
D) 100

30/12/14

30.12.14

40) KW = KVA X .....

A) 1.732
B) Line Volts
C) Power Factor
D) 1000

41) 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

42) The value of dielectric constant for vacuum is taken as

A) Zero
B) 1
C) 100
D) Infinite

43) A capacitor in a circuit became hot and ultimately exploded due to wrong connections. Which type of capacitor it could be

A) Electrolytic capacitor
B) Paper capacitor
C) Ceramic capacitor
D) Any of the above

44) Typical opening time of an ACB (Air Circuit Breaker) is approximately

A) 40 Seconds
B) 60 Seconds
C) 40 Milli seconds
D) 120 Minutes

45) For an Air Circuit Breaker (ACB) "In" stands for

A) Incoming voltage
B) Short circuit current
C) Internal resistance
D) Rated current

46) How can three resistances of values 2 Ohms, 3 Ohms and 6 Ohms be connected to produce an effective resistance of 4 Ohms

A) All the 3 resistances parallel
B) 6 Ohm, 3 Ohm parallel and 2 Ohm series to that
C) All the 3 resistances in series
D) 6 Ohm, 2 Ohm parallel and 3 Ohm series to that

47) The ampere hour capacity of lead acid battery depends on

A) density of electrolyte
B) size of container

30/12/14 30-12-14

C) number of plates
D) all the above

48) A capacitor opposes
A) change in current
B) change in voltage
C) both change in current and voltage
D) none of the above

49) The relative permeability of air is
A) 0
B) 1
C) infinite
D) 100

50) In a D.C machine , the number of commutator segments is equal to
A) number of conductors
B) twice the number of poles
C) number of coils
D) twice the number of coils

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(Candidate's signature)

30.12.14

30/12/14