ELECTRICIAN(WATER TRANSPORT)
EXAM DATE:25-02-2016
1. Which of the following frequencies has the longest time period?
A.1Hz*
B.1 kHz
C.10 Hz
D.10 kHz
Ans:A
2.In a generator maximum value of e.m.f.is generated within the coil axis is at:
A.45° with field axis
B.90°with field axis
C.180° with field axis
D.Zero degree with field axis*
Ans:D
3.A choke coil of an operating fluorescent lamp is short-circuited. What is the consequence?
A.The lamp becomes brighter
B.The lamp becomes less bright
C.The current becomes so large that it damages the tube*
D.The short circuit is noticed only after the lamp is switched 'ON'again
Ans:C
4.A contactor coil is designed for 220V DC.What happens if it is connected to 220 V AC?

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A.Too large a current is drawn by the coil and it is destroyed
B.Too small a current is drawn by the coil and the operation the contator is no longer certain*
C.It draws the same current
D.It works better
Ans:B
5.A capacitor is connected across a 200 V AC line. Its minimum voltage rating should be:
A.100 volt
B.200 volt
C.300 volt*
D.400 volt
Ans:C
6.The power factor of 3-phase load is less than 0.5.While measuring power by two watt meters:
A.One of the wattmeters gives zero reading
B.One of the wattmeters gives negative reading*
C.Both wattmeters give positive reading
D.One of the wattmeters kicks backward
Ans:B
7. Voltage required to operate the Neon sign tubes depends upon:
A.Diameter of the tube
B.Gases in the tube
C.Length of the tube*
D.Thickness of the tube

Ans:C

8. Soldering of a Britania Joint is a necessity to avoid loosening of the joint due to:

A. Vibration and change in atmospheric temperature

B.Corrosion due to galvanic action

C.Corrosion due to atmospheric changes

D.Overheating*

Ans:D

9. The testing of wiring installation for insulation resistance to ensure that:

A.All conductors have high ohmic values in the circuit

B.All outlet points are earthed properly to ground

C.Leakage current beyond the stipulated value does not flow to earth*

D.Live and neutral conductors in the installation are continuous

Ans:C

10. Braking torque in energy meter is produced to:

A.Brake the instrument

B.Bring energy meter to stand still*

C.Safeguard it against creep

D.Maintain steady speed and equal to driving torque

Ans:B

11. The scale of dynamometer type wattmeter is of:

A.Uniform scale*

B.Logarithmic scale

C.Non-linear scale
D.Square law scale
Ans:A
12. The standard secondary voltage for PT used in power system in:
A.1 V
B.5 V
C.50V
D.110 V*
Ans:D
13. Which instrument always indicates true r.m.s. value irrespective of the waveform?
A.Moving iron meter*
B. Digital voltmeter
C.Thermocouple meter
D.None of the above
Ans:A
14.A voltmeter gives inaccurate reading to measure the drop across a low resistance because:
A.The higher scale has been selected*
B.The current drawn by the meter is too low
C.The sensitivity of the meter is too low
D.None of the above
Ans:A

15. The phase difference between the currents in the two pressure coils in PF meter is:

A.Approximately 00

B.Approximately 90⁰

C.Exactly 0°

D.Exactly 90°*

Ans:D

16. When a rewound armature is rolled on the surface of a leveled surface plate the armature stops at the same position of its periphery for each rolling, the portion of armature touching the surface plate is regarded to have:

A. Higher weight than the diametrically opposite portion*

B.Lesser weight than the diametrically opposite portion

C.Equal weight to that of opposite portion

D.Higher weight than the portion 90° to it on any one side

Ans:A

17. Which one of the following characteristic is NOT applicable to synchronous motors?

A.Runs at constant speed at all loads

B.Suitable to supply only mechanical load*

C.Can also be used for PF improvement

D.Not self starting

Ans:B

18. Which method is generally adopted to measure the power in a three phase imbalanced load system?

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A.One wattmeter method
B.Two wattmeter method*
C.Three voltmeter method
D.Three wattmeter method
Ans:B
19.The colour of light depends upon:
A.Wave length
B.Frequency
C.Speed of light
D.Frequency and wave length*
Ans:D
20. Which of the following lamp is cold cathode lamp?
A.Neon lamp*
B.Sodium vapour lamp
C.Mercury vapour lamp
D.Fluorescent lamp
Ans:A
21. You have to repair storage type water heater which has steam in the hot water. The possible remedy for this trouble can be found by checking:
A.All points for possible leakages
B.The thermostat setting*
C.All wiring for loose connections
D.Element for its condition

Ans:B

22. The reading on a 3 digit millivoltmeter started flashing continuously when connected across a resistor to measure the m V across it. The reason for flashing of display on millivoltmeter is that:

A.The battery in the instrument is weak*

B.There is no battery in the instrument

C.The measured value is over range

D.The display is damaged

Ans:A

23. Which one of the following measurement CANNOT be done with multimeter?

A.Current drawn by an electronic circuit

B.Supply voltage to DC motor

C.Continuity test of motor winding

D.Insulation resistance of motor*

Ans:D

24. Why a higher capacity squirrel cage induction motor is not recommended for operating under low load condition?

A. Voltage drop in line will be too much

B.Power factor will be less*

C. Higher capacity motors does not run at constant speed

D.Torque is too much hence it may cause damage

Ans:B

25. Shunts and multipliers used in MC instruments are made up of Mangnin.

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The reason for using the above metal is that, it has: A. Positive temperature Co-efficient of resistance B. Negative temperature Co-efficient of resistance C.Perfectly constant temperature co-efficient of resistance D.Very low(Practically const-ant)temperature co-efficient of resistance* Ans:D 26. In order to operate a fluorescent tubeset on DC supply, which of the following additional auxillary device is to be connected? A.Inductance **B.Capacitance** C.Resistance* D.No extra device is needed Ans:C 27. The power input increases by three times when the connection of three phase loads changes from star to delta at the same line voltage. What is the reason for this? A.The voltage across one phase of the load is three times higher in delta connection than in star connection B.The power factor increases by three times in delta connection when compared to star connection C.The line current is three times higher in delta connection than in star connection* D.The voltage in each phase increases by two times and the current by 1.732 times Ans:C 28.In a parallel resonant circuit the capacitor current is: A.More than line current*

B.Less than line current

C.Equal to line current
D.None of the above
Ans:A
29. According to National electric code what is the specified minimum distance between the washing unit and the switch board:
A.0.6 metre
B.2.5 metre
C.1.3 metre*
D.3.4 metre
Ans:C
30.A series RLC circuit takes leading power factor current at:
A.Resonant frequency
B.More than resonant frequency
C.Less than resonant frequency*
D.None of the above
Ans:C
31.In the output voltage of a DC generator the ripple effects can be reduced by increasing the:
A.Field current
B.Number of armature coil*
C.Number of turns in the field winding
D.Size of the conductor of the armature coil
Ans:B

32. While installing power sub-circuits in domestic installations it should be restricted to:

be restricted to:
A.800 watts with in 10 light and fan points
B.800 watts within 2 outlets
C.3000 watts within 10 light and fan points
D.3000 watts within 2 outlets*
Ans:D
33. What type of compounding would be desirable in the DC generator feeding a long transmission line?
A.Over compounding*
B.Under compounding
C.Flat compounding
D.Any one of the above
Ans:A
34. The most economic method of electrical braking is:
A.Plugging
B.Dynamic braking with self excitation
C.Regenerative braking*
D.Dynamic braking with separate excitation
Ans:C
35. When a DQ series motor is connected to an AC supply, then:
A.It will stop
B.It may burnt out
C.It will run without any trouble

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D.It will run with less efficiency and high spark at commutator*

Ans:D

36. Dummy coils in a DC generator is provided:

A.To ampily voltage

B.To reduce eddy current losses

C.To enhance flux density

D.To provide mechanical balance to the rotor*

Ans:D

37. When the number of poles and the number of armature conductors are fixed, then which winding of a DC generator will give the higher e.m.f?

A.Wave winding*

B.Lap winding

C.Same e.m.f.in lap wave winding

D.Depends on other features of design

Ans:A

38.Earth tester is used for measuring earth resistance in which generated DC is converted into AC by current reverser. The reason for using AC supply for resistance measurement is:

A.AC resistance is more than DC resistance

B.To reduce error due to electrolytic e.m.f*

C.AC wave form is pulsating in nature

D.AC contains sine wave form

Ans:B

39. The basic function of voltage stabilizer is to provide:

A.Constant current supply to load

B.Constant power supply to load

C.Constant voltage supply to load*

D.Uniterrupted supply to load

Ans:C

40.A food mixture rated for 240V AC fails to start when it is switched on. Which one of the following is NOT a cause for the above?

A.Jammed rotor

B.Supply voltage is only 210V*

C.OL relay is not re-set

D.Open in armature winding

Ans:B

41.In a transformer the leakage flux may be minimized by:

A.Minimizing the number of turns of both the winding

B.Sectionalizing and inter-leaving the primary and secondary winding*

C.Keeping the magnetizing current to the minimum

D.Reducing the reluctance of the iron core to the minimum

Ans:B

42. Which one of the following connections is preferred for three-to-two phase conversion?

A.Scott*

B.Double scott

C.Star/star

D.Star/Double-delta

Ans:A

43. The phase relationship between primary and secondary terminal voltage of a transformer is:

A.Primary voltage is leading the secondary voltage by 90°

B.Secondary voltage is leading the primary voltage by 90°

C.180° out of phase*

D.In the same phase

Ans:C

44. The no load primary current Io in an ideal transformer is:

A.In phase with VI

B.Leads VI by 90°

C.Lags behind VI by 90°

D.Lags VI by an angle lying between 0° and 90°*

Ans:D

45. An optocoupler is a single package of:

A.LED and a signal diode

B.LED and a photodiode*

C.Two photodiodes

D.Two LEDs

Ans:B

46.One of the diode of a bridge rectifier connected to 100 V 50Hz AC input is found to be damaged. The DC output of the circuit is 90V. The minimum value of PIV of the diode required for replacement is:

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B.Double insulated

C.Controlled by ELCB*

D.Controlled by MCB

Ans:C

50. As load on induction motor increases its power factor:

A.Remain constant

B.Goes on decreasing

C.Goes on increasing over after full load

D.Goes on increasing up to full load and then it falls again*

Ans:D

51. During no load test of a 3 phase induction motor, the motor draws power:

A.For core loss and copper loss

B.For copper loss and windage-friction loss

C.For core loss and windage-friction loss*

D.Only for every small copper loss

Ans:C

52. The recent method of smooth speed control of a three-phase induction motor over a wide range is:

A.Frequency control method*

B.Rotor resistance control method

C.Voltage control method

D. None of the above methods

Ans:A

53. Rotor bars of squirrel cage rotor are sometimes skewed:

A.To prevent rotor from aligning and locking up with stator*

B.To give more uniform torque

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C.To reduce humming noise
D.Due to all above reasons
Ans:A
54. For 66 kV lines the number of insulator discs used is:
A.3
B.6*
C.10
D.12
Ans:B
55.AC resistance of a line conductor is more than its DC resitance because of:
A.Skin effect
B.Proximity effect
C.Skin effect and proximity effect*
D.None of these
Ans:C
56. What type of insulator will be used if the direction of the transmission line is changed?
A.Strain type
B.Shackle type*
C.Pin type
D.Suspension type
Ans:B

57. The back emf set up in the armature of a synchronous motor depends on:

A.Rotor speed only
B.Rotor excitation only*
C.Rotor excitation and rotor speed
D.Coupling angle,rotor speed and excitation
Ans:B
58. The current drawn by an over excited synchronous motor will be:
A.Depending on the nature of load
B.At lagging power factor
C.At leading power factor*
D.At unity power factor
Ans:C
59.Two alternators are sharing an inductive load equally. What will be happened if the excitation of one alternator is increased?
A.Another alternator will deliver more current
B.Another alternator will deliver less current*
C.Both will continue to share load equally
D.Both will deliver more current
Ans:B
60.A ceiling fan rotates slowly in either direction. The probable fault is
A.An open in centrifugal switch
B.An open in capacitor*

C.Short in the capacitor

D.Blown fuse Ans:B 61.In repulsion motor, maximum torque is developed when: A.Brush axis is at 180° electrical to the field axis B.Brush axis is at 90° electrical to the field axis C.Brush axis is at 45°electrical to the field axis* D.Brush axis coincides with the field axis Ans:C 62. Starting winding of a single phase motor of a refrigerator is disconnected from the circuit by means of a: A.Centrifugal switch B.Magnetic relay* C.Thermal relay D.None of the above Ans:B 63. How the speed control of universal motor used for sewing machine is done? A.Introducing friction mecca-nism B.Tapping the field at various point* C.Centrifugal mechanism D.Introducing a variable resistance in series with the motor Ans:B 64. Buchholz relay is operated by: A.Gas pressure*

B.Eddy current
C.Electrostatic induction
D.Electromagnetic induction
Ans:A
65.The size of earth wire is determined by:
A.The atmospheric condition
B.The voltage of the service wires
C.The current capacity of the service wires
D.None of these*
Ans:D
66.Earthing in consumer premises is necessary to give protection against:
A.Overloading
B.Danger of electric shock*
C.Voltage fluctuation
D.High temperature of the conductors
Ans:B
67.A single phase protection switch is used to protect:
A.The distribution transformer
B.The motor in case of fuse failure
C.The motor from the damage due to single phasing*
D.From the maximum starting current of motor
Ans:C

68. The best location of the power factor improving device to be installed the transmission line is at:

A.The receiving end*
B.The sending end
C.Middle of the line
D.Any place
Ans:A
69motor has series characteristics
A.Capacitor start motor
B.Shaded pole motor
C.Repulsion motor*
D.None of the above
Ans:C
70. How the light output is produced in electric discharge lamp?
A.By heating effect of current
B.By magnetic effect of current
C.By ionization in a gas or vapour*
D.By cathode ray emission
Ans:C
71.Arc heating occurs when the air between electrodes of opposite polarity becomes:
A.Moistened
B.Dry
C.Ionized*

D.None of the above
Ans:C
72. The meter used to measure the temperature of a furnace is:
A.Hydrometer
B.Pyrometer*
C.Hygrometer
D.Tachometer
Ans:B
73. Which part is provided in a battery charger to prevent the flow of excessive curret into the battery?
A.Coarse selector
B.Tune selector switch
C.Limiting resistance*
D.Transformer
Ans:C
74. What will happen to the filter circuit in battery charger if the output filter capacitor is opened?
A.Will not function*
B.Will make humming noise
C.More current will flow
D.No output voltage
Ans:A
75. What are the two relative quantities to be plotted for external characteristics curve for DC shunt generator?

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Ans:B

79. Which of the following circuit elements will oppose the change in the circuit current?

A.Inductance*
B.Resistance
C.Capacitance
D.All of the above
Ans:A
80.The colour of light of mercury vapour lamp is:
A.Greenish blue
B.Yellow
C.Pink
D.White*
Ans:D
81.South Africa was captured by Britain after thewar.
A.Opium war
B.Boer war*
C.Boxer Rebellion
D.Carnatic war
Ans:B
82.The King of England during the American war of independence:
A.George IIIrd*
B.George 1 st
C.Henry VIII

86.Language in which maximum number of Newspapers are published?

A.Marathi

B.English

A.Indians*

B.Egyptians

B.Megasthanese

C.Ptolemy

D.Pliny*

Ans:D

94. The Newspaper "Sujananadini" was started by:

A.C.V.Kunhiraman

B.C.Krishnan
C.Kesavan Asan*
D.Sahodaran Ayyapan
Ans:C
95.Under 42 nd amendment to our constitution the fundamental duties were enumerated. This concept of fundamental duties was borrowed from the constitution of:
A.USSR*
B.Ireland
C.China
D.UK
Ans:A
96.The Rajya Sabha is abody.
A.A part of the Lok Sabha
B.A temporary body
C.A permanent body*
D.None of these
Ans:C
97.Article 368 deals with:
A.Special Provision for Jammu and Kashmir
B.President rule in a state
C.Pertains to the abolition of untouch ability
D.Amendment of the Constitution*
Ans:D

98."Neel Darpan"is a play which portrays the oppression meted out by the indigo planters over the peasants. This famous Play was written by whom?

A.Raja Ram Mohan Roy
B.Dinbandhu Mitra*
C.Jyothirao Phule
D.R.N.Tagore
Ans:B
99. Which of the following is one of the Harappan sites related to the maritime activities of the Harappan people?
A.Lothal*
B.Kalibangan
C.Rangpur
D.Mohanjodaro
Ans:A
100. The cold current which meets with the warm gulf stream near Newfoundland?
A.Humboldt
B.Canaries
C.Benguala
D.Labrador*
Ans:D