

## PROVISIONAL ANSWER KEY

Question Paper Code: 20/2015/OL  
 Category Code: 726/2014  
 Exam: Junior Instructor - Electrician  
 Medium of Question: English  
 Date of Test: 28-09-2015  
 Alphacode: A

- Question1:-Who is known as 'Alathoor Swamikal'?
- A:-Brahmananda Sivayogi
  - B:-Chattampi Swamikal
  - C:-Ayya Vaikundar
  - D:-Kumara Guru
- Correct Answer:- Option-A
- Question2:-The author of the work 'Kerala Marx'?
- A:-Vakkom Maulavi
  - B:-VT Bhattathirippad
  - C:-Vagbhatananda
  - D:-Swadeshbhimani Ramakrishna Pillai
- Correct Answer:- Option-D
- Question3:-Who has been appointed as Kerala's brand Ambassador for Ayurveda in 2015?
- A:-Serena Williams
  - B:-Sachin Tendulkar
  - C:-Steffi Graf
  - D:-Saurav Ganguly
- Correct Answer:- Option-C
- Question4:-What is the theme raised by UNO in connection with the 2015 World Population Day?
- A:-Investing in young people
  - B:-Vulnerable population in Emergencies
  - C:-Focus is on Adolescent pregnancy
  - D:-Fight poverty; Educate Girls
- Correct Answer:- Option-B
- Question5:-How many Malayalees got Njanapeedam Award till 2014?
- A:-3
  - B:-5
  - C:-4
  - D:-6
- Correct Answer:- Option-B
- Question6:-Excise duty is a tax levied on the .....
- A:-Import of goods
  - B:-Export of goods
  - C:-Sale of goods
  - D:-Production of goods
- Correct Answer:- Option-D
- Question7:-The first vice chairman of NITI Aayog?
- A:-Arvind Panagaria
  - B:-Narendra Modi
  - C:-Arun Jaitley
  - D:-Arun Shourie
- Correct Answer:- Option-A
- Question8:-The pass at the southern part of the Nilgiri Hills in South India is.....?
- A:-Thamarasseri Pass
  - B:-The Palaghat Gap
  - C:-The Bolan Pass
  - D:-Shenkottai Pass
- Correct Answer:- Option-B
- Question9:-Who presided the first meeting of INC at Bombay?
- A:-Badaruddin Tyabji
  - B:-Dadabhai Naoroji
  - C:-Gopalakrishna Gokhale
  - D:-WC Banerjee
- Correct Answer:- Option-D
- Question10:-Lala Lajpat Rai died as a result of injuries during the protest against the visit of .....
- A:-Prince of Wales
  - B:-Crips Mission
  - C:-Simon Commission
  - D:-Queen Victoria
- Correct Answer:- Option-C
- Question11:-Who is known as Abraham Lincoln of Kerala?
- A:-Dr Palpu
  - B:-Ayyankali
  - C:-Pandit Karuppan
  - D:-Sreenarayana Guru
- Correct Answer:- Option-C
- Question12:-International day of UN Peacekeepers?
- A:-May 25
  - B:-June 14
  - C:-July 11
  - D:-May 29
- Correct Answer:- Option-D
- Question13:-According to World economic Forum report 2015, which is the biggest employer in the world?
- A:-US Defence Department
  - B:-Indian Railway
  - C:-Indian Army
  - D:-Chinese Army
- Correct Answer:- Option-A
- Question14:-Who has been chosen for Columbia's highest civilian award in 2015?
- A:-Sri Sathya Sai Baba
  - B:-Matha Amrutananda Mayi
  - C:-Sri Sri Ravisankar
  - D:-Sushama Swaraj
- Correct Answer:- Option-C
- Question15:-Which of the following river has its source near the Manasarovar Lake?
- A:-Brahmaputra
  - B:-Yamuna
  - C:-Ravi
  - D:-Jhelum
- Correct Answer:- Option-A
- Question16:-The most fertile region of India is?
- A:-The Deccan Plateau
  - B:-The Himalayan area
  - C:-The Central Highlands
  - D:-The Indo-Gangetic Plain
- Correct Answer:- Option-D
- Question17:-'Commonweal' was a weekly published by...?
- A:-Annie Besant
  - B:-Bala Gangadhar Tilak
  - C:-Mahatma Gandhi
  - D:-Subhash Chandra Bose
- Correct Answer:- Option-A

Question18:-'Kanneerum Kinavum' is associated with...?

- A:-Mannath Padmanabhan
  - B:-VT Bhatathirippad
  - C:-K Kelappan
  - D:-Kumaranassan
- Correct Answer:- Option-B

Question19:-The place 'Eraviperoor' is connected with?

- A:-NSS
  - B:-SNDP
  - C:-PRDS
  - D:-CMI
- Correct Answer:- Option-C

Question20:-The first martyr of the Revolt of 1857 ?

- A:-Rani Laxmi Bai
  - B:-Mangal Pandey
  - C:-Bahadursha
  - D:-Nana Saheb
- Correct Answer:- Option-B

Question21:-Recommended current density for a copper bus bar which is unenclosed should not exceed

- A:-165 A/sq. cm
  - B:-118 A/sq. cm
  - C:-178 A/sq. cm
  - D:-135 A/sq. cm
- Correct Answer:- Option-A

Question22:-In which type of winding, a long coil of sufficient length is first wound and then inserted in one slot and the remainder of the length is turned and inserted in the adjacent slots?

- A:-Skein winding
  - B:-Involute coil winding
  - C:-Chain winding
  - D:-Basket winding
- Correct Answer:- Option-A

Question23:-If single phasing occurs during running of a 3 phase induction motor, then

- A:-the motor may or may not run, will draw large current and the winding may burnout
  - B:-the motor may or may not run, will draw the normal current
  - C:-the motor will run normally
  - D:-the motor will stop
- Correct Answer:- Option-A

Question24:-Buchholz relay operates on

- A:-oil pressure
  - B:-gas pressure
  - C:-temperature
  - D:-current
- Correct Answer:- Option-B

Question25:-The cooling oil used in a transformer should have

- A:-to absorb moisture easily when exposed to air
  - B:-high insulation resistance
  - C:-low heat conductivity
  - D:-low firing point
- Correct Answer:- Option-B

Question26:-The maximum value of torque that a synchronous motor can develop without losing its synchronism is known as

- A:-breaking torque
  - B:-synchronising torque
  - C:-pull out torque
  - D:-pull in torque
- Correct Answer:- Option-C

Question27:-The transformer whose secondary is not isolated from the primary is

- A:-current transformer
  - B:-potential transformer
  - C:-autotransformer
  - D:-step up transformer
- Correct Answer:- Option-C

Question28:-In the magneto-generator type insulation tester the handle is cranked at a speed of ----- rpm approximately.

- A:-1000 rpm
  - B:-1500 rpm
  - C:-750 rpm
  - D:-160 rpm
- Correct Answer:- Option-D

Question29:-The light meter measures

- A:-luminance
  - B:-luminous intensity
  - C:-luminous flux
  - D:-illuminance
- Correct Answer:- Option-D

Question30:-A servo voltage stabiliser provides constant voltage to an accuracy around

- A:- $\pm 1\%$  to  $\pm 0.5\%$
  - B:-0 to  $\pm 1\%$
  - C:- $\pm 0.5\%$  to  $\pm 1.5\%$
  - D:- $\pm 1\%$  to  $\pm 1.5\%$
- Correct Answer:- Option-A

Question31:-Submersible pumps come under the category of

- A:-centrifugal pumps
  - B:-jet pumps
  - C:-reciprocating pumps
  - D:-mono bloc pumps
- Correct Answer:- Option-A

Question32:-The size of the transformer used in battery charger depends upon

- A:-charging voltage of the battery
  - B:-charging power of the battery
  - C:-charging current capacity
  - D:-charging energy of the battery
- Correct Answer:- Option-B

Question33:-According to IE rules a clear space of not less than ----- in width shall be provided in front of the switch board.

- A:-91.44 cm
  - B:-9.144 cm
  - C:-91.44 mm
  - D:-9.144 mm
- Correct Answer:- Option-A

Question34:-To solder parts and terminals of medium size, the soldering iron used should be of

- A:-30 W
  - B:-60 W
  - C:-80 W
  - D:-125 W
- Correct Answer:- Option-B

Question35:-The size of binding wire used for binding insulator in overhead lines should not be less than

- A:-2 sq.mm
  - B:-1.5 sq.mm
  - C:-2.5 sq.mm
  - D:-1 sq.mm
- Correct Answer:- Option-A

Question36:-The fusible plug fitted on the top of the electrical geyser casing is to

- A:-disconnect the electrical supply in case of short circuit

- B:-release the pressure inside the tank in case of thermostat failure
- C:-fuse and release the steam inside the heater in case of over heat
- D:-eject the 3 pin plug to disconnect the supply in case of earth fault

Correct Answer:- Option-B

Question37:-With the help of wheat stone bridge resistance in the range of ----- can be measured.

- A:-0 to 1K $\Omega$
- B:-10 $\Omega$  to 1M $\Omega$
- C:-100 $\Omega$  to 10M $\Omega$
- D:-1 $\Omega$  to 1M $\Omega$

Correct Answer:- Option-D

Question38:-The heat generated in a conductor by the flow of an electric current is proportional to the square of the current value, the resistance of the conductor and the time for which the current flows. This is stated by the law

- A:-Ohm's law
- B:-Joule's law
- C:-Faraday's law
- D:-Murphy's law

Correct Answer:- Option-B

Question39:-In case of double squirrel cage induction motors, the outer cage has

- A:-high resistance and low reactance
- B:-high resistance and high reactance
- C:-low resistance and high reactance
- D:-low resistance and low reactance

Correct Answer:- Option-A

Question40:-The property retentivity of material is useful on the construction of

- A:-transformers
- B:-electromagnets
- C:-permanent magnets
- D:-non magnetic substances

Correct Answer:- Option-C

Question41:-The leakage flux in a transformer depends upon

- A:-load current, voltage, frequency and power factor
- B:-load current, voltage and frequency
- C:-load current and voltage
- D:-load current

Correct Answer:- Option-D

Question42:-The slip rings of wound rotor machines are made from

- A:-mild steel
- B:-copper
- C:-brass
- D:-cast iron

Correct Answer:- Option-C

Question43:-In large generators, Hydrogen is used as

- A:-conducting medium
- B:-insulating medium
- C:-insulating and cooling medium
- D:-conducting and cooling medium

Correct Answer:- Option-C

Question44:-Highest power factor can be expected in which method of heating?

- A:-Electric arc heating
- B:-Dielectric heating
- C:-Induction heating
- D:-Resistance heating

Correct Answer:- Option-D

Question45:-Sulphur hexa fluoride is used in

- A:-Dynamos
- B:-DC series motors
- C:-Switch gears
- D:-Synchronous motors

Correct Answer:- Option-C

Question46:-In automobile electrical system, where alternators are used as power source, the negative terminal is earthed, because

- A:-to reduce corrosion
- B:-to prevent damage to rectifiers and transistors
- C:-to avoid electric shock
- D:-to avoid damage to alternator

Correct Answer:- Option-B

Question47:-Magnetic over load relays operate faster than bi-metallic relays, because magnetic over load relays operate on

- A:-current intensity
- B:-voltage intensity
- C:-thermal intensity
- D:-power factor

Correct Answer:- Option-A

Question48:-3 phase squirrel cage induction motors with high slip, high starting torque and relatively low starting current are comes under the class of

- A:-Class D motors
- B:-Class C motors
- C:-Class B motors
- D:-Class A motors

Correct Answer:- Option-A

Question49:-Measuring instruments are classified based on their measuring accuracy. The precision and laboratory measuring devices comes under quality class of

- A:-1.0
- B:-0.3
- C:-0.5
- D:-1.5

Correct Answer:- Option-B

Question50:-A triac when tested by an ohm meter will show a lower resistance in the order of 300 ohms between terminals

- A:-MT 2 positive and G negative
- B:-MT 1 positive and G negative
- C:-MT 2 negative and G positive
- D:-MT 1 positive and MT 2 negative

Correct Answer:- Option-B

Question51:-\_\_\_\_\_ is the measure of how much potential difference the insulation layer can withstand without breaking down.

- A:-Insulation resistance
- B:-Breakdown voltage
- C:-Resistance
- D:-Dielectric strength

Correct Answer:- Option-D

Question52:-The light output of Tin oxide Sodium lamps is in the order of

- A:-50 lumens/watt
- B:-45 lumens/watt
- C:-75 lumens/watt
- D:-150 lumens/watt

Correct Answer:- Option-D

Question53:-The torque of a three phase induction motor is proportional to

- A:-square root of applied voltage
- B:-applied voltage
- C:-square of applied voltage
- D:-half of applied voltage

Correct Answer:- Option-C

Question54:-Tap changing transformers are used for

- A:-stepping up the voltage
- B:-stepping down the voltage
- C:-both stepping up and stepping down the voltage

- D:-supplying low current for instruments  
Correct Answer:- Option-C
- Question55:-Which Dc motor have negligible effect on speed with increase in torque?  
A:-DC differential compound motor  
B:-DC cumulative compound motor  
C:-DC series motor  
D:-DC shunt motor  
Correct Answer:- Option-D
- Question56:-In a pure inductive AC circuit, the average true power is equal to  
A:-V x I watts  
B:-Zero watts  
C:-Square of current multiplied by reactance Watts  
D:-V x I volt amperes  
Correct Answer:- Option-B
- Question57:-The part of an instrument which helps in leading in and leading out the current to the moving coil is  
A:-the spindle  
B:-the copper or aluminium disc  
C:-jewel bearing  
D:-control spring  
Correct Answer:- Option-D
- Question58:-An outside micrometer can measure thickness and outside diameters to an accuracy of  
A:-±0.1mm  
B:-±0.5mm  
C:-±0.001mm  
D:-±0.01mm  
Correct Answer:- Option-D
- Question59:-When a secondary battery is charged at 2% to 3% of normal rate for a long period, it is known as  
A:-boost charge  
B:-trickle charge  
C:-freshening charge  
D:-initial charge  
Correct Answer:- Option-B
- Question60:-Double squirrel cage induction motors are used where \_\_\_\_\_ torque is essential.  
A:-high starting torque  
B:-low starting torque  
C:-low running torque  
D:-high running torque  
Correct Answer:- Option-A
- Question61:-Which one of the following wiring circuit is not in accordance with IE rules?  
A:-Corridor wiring  
B:-Tunnel wiring  
C:-Godown wiring  
D:-Bank wiring  
Correct Answer:- Option-B
- Question62:-The distance between the two active sides of a coil under adjacent dissimilar poles is called  
A:-coil pitch  
B:-winding pitch  
C:-pole pitch  
D:-pitch factor  
Correct Answer:- Option-A
- Question63:-For the blocked rotor test of a 3 phase induction motor, the supply voltage should be limited to less than \_\_\_\_\_ percentage of rated voltage.  
A:-5%  
B:-10%  
C:-3%  
D:-20%  
Correct Answer:- Option-A
- Question64:-The amount of heat required to increase the temperature of one kilogram of water through 1°C is  
A:-3187 joule  
B:-4187 joule  
C:-4187 calorie  
D:-3187 calorie  
Correct Answer:- Option-B
- Question65:-Admittance is the reciprocal of  
A:-resistance  
B:-conductance  
C:-reactance  
D:-impedance  
Correct Answer:- Option-D
- Question66:-The damping winding in a synchronous motor is generally used  
A:-to provide starting torque only  
B:-to reduce noise level  
C:-to prevent hunting and to provide the starting torque  
D:-to reduce eddy currents  
Correct Answer:- Option-C
- Question67:-Voltage dependent resistors are used as  
A:-as current stabilisers  
B:-as heating elements  
C:-to suppress surges  
D:-for inductive circuits  
Correct Answer:- Option-C
- Question68:-In a DC generator, brush shifting is done to  
A:-alter the inter pole flux  
B:-alter the main field flux  
C:-neutralise the cross magnetising effect  
D:-neutralise the demagnetising effect  
Correct Answer:- Option-C
- Question69:-To control a lamp from 4 positions, how many switches are required?  
A:-4 two-way switches  
B:-4 intermediate switches  
C:-3 two-way switches and one intermediate switch  
D:-2 intermediate switches and 2 two-way switches  
Correct Answer:- Option-D
- Question70:-The fusing factor for HRC fuse is  
A:-2.0  
B:-1.7  
C:-1.4  
D:-1.1  
Correct Answer:- Option-D
- Question71:-Low and medium voltage underground cables should be laid at a depth of \_\_\_\_\_ from the ground surface to the top of the cable.  
A:-0.75m  
B:-0.9m  
C:-1.0m  
D:-1.05m  
Correct Answer:- Option-A
- Question72:-For low and medium voltage overhead lines, the minimum clearance above ground, which is erected across a street, shall not be less than  
A:-5.791m  
B:-6.096m  
C:-5.486m  
D:-4.572m  
Correct Answer:- Option-A

Question73:-In capacitor start, capacitor run motors, the capacitors used are

- A:-both capacitors are of same value
- B:-one larger value capacitor of oil filled type and a smaller value capacitor of electrolytic type.
- C:-one larger value capacitor of electrolytic type and a smaller value capacitor of oil filled type.
- D:-both capacitors are of electrolytic type.

Correct Answer:- Option-C

Question74:-While erecting a pole, the depth of pit below the ground level, in normal soil should be about \_\_\_\_\_ of the length of the pole.

- A:-1/6
- B:-1/5
- C:-1/4
- D:-1/7

Correct Answer:- Option-A

Question75:-In an AC operated relay, the purpose of shading coil placed near the tip of magnetic pole face is to

- A:-eliminate chatter
- B:-eliminate humming
- C:-to reduce eddy current
- D:-to reduce hysteresis loss

Correct Answer:- Option-A

Question76:-To test an armature for the short circuited coils, \_\_\_\_\_ is used along with the growler.

- A:-milli-voltmeter
- B:-hacksaw blade
- C:-ohm meter
- D:-meggar

Correct Answer:- Option-B

Question77:-The type of fire extinguisher used where liquified gas is on fire is

- A:-water filled fire extinguisher
- B:-dry powder extinguisher
- C:-foam type fire extinguisher
- D:-carbon dioxide fire extinguisher

Correct Answer:- Option-B

Question78:-Earthing one of the wires of electrical system, to limit the maximum voltage to earth under normal operating conditions is known as

- A:-equipment earthing
- B:-system earthing
- C:-generator earthing
- D:-substation earthing

Correct Answer:- Option-B

Question79:-To measure the earth electrode resistance, the current and pressure spikes of the earth resistance tester are to be driven into the ground at a distance of \_\_\_\_\_ from the main electrode under test.

- A:-20m and 10m apart respectively
- B:-25m and 12.5m apart respectively
- C:-20m and 10m apart respectively in a straight line
- D:-25m and 12.5m apart respectively in a straight line.

Correct Answer:- Option-D

Question80:-The type of joint used for overhead lines for tapping the electrical energy perpendicular to the service line is

- A:-knotted tap joint
- B:-aerial tap joint
- C:-tee joint
- D:-britannia tee joint

Correct Answer:- Option-D

Question81:-According to BIS and NEC, the clearance between the bottom point of the ceiling fan and the floor shall not be less than

- A:-2.5m
- B:-2.75m
- C:-2.25m
- D:-2.4m

Correct Answer:- Option-D

Question82:-If firing angle in an SCR rectifier is increased, the output is

- A:-remains same
- B:-SCR is turned off
- C:-decreased
- D:-increased

Correct Answer:- Option-C

Question83:-Which electrode of the CRT mainly controls the brightness of the image on the screen?

- A:-Anode
- B:-Cathode
- C:-Control grid
- D:-Focusing electrodes

Correct Answer:- Option-C

Question84:-Efficiency of a transformer is maximum, when

- A:-no load loss is equal to full load loss
- B:-hysteresis loss is equal to eddy current loss
- C:-copper loss is equal to eddy current loss
- D:-copper loss is equal to iron loss

Correct Answer:- Option-D

Question85:-For the parallel operation of two transformers, the phase sequence must be identical, otherwise, during the cycle

- A:-when secondaries are loaded, it will produce unequal loading conditions
- B:-impossible to take the full load output without excessive heating of one of the transformer
- C:-each pair of phases will be open circuited
- D:-each pair of phases will be short circuited

Correct Answer:- Option-D

Question86:-A two layer lap wound 4 pole generator with 16 coils will have a pole pitch of

- A:-32
- B:-16
- C:-8
- D:-4

Correct Answer:- Option-C

Question87:-The maximum safe temperature for class F insulating material is

- A:-155°C
- B:-130°C
- C:-120°C
- D:-180°C

Correct Answer:- Option-A

Question88:-The ratio of intensity of magnetisation to the magnetising force is known as

- A:-permeability
- B:-permittivity
- C:-susceptibility
- D:-magnetic potential

Correct Answer:- Option-C

Question89:-While testing the field coil connections by compass method, the DC voltage to be applied to the field coil is

- A:-10 to 20% of rated voltage
- B:-the rated voltage
- C:-60 to 70% of rated voltage
- D:-200% of rated voltage

Correct Answer:- Option-A

Question90:-The relays which are capable of maintaining their contacts in the last assumed position after the power is cut off are

- A:-latching relays
- B:-thermal relays
- C:-reed relays
- D:-electro-mechanical relays

Correct Answer:- Option-A

Question91:-In large motor generator sets, the AC motor used is usually

- A:-squirrel cage type induction motor

- B:-wound rotor type induction motor
- C:-synchronous motor
- D:-universal motor

Correct Answer:- Option-C

Question92:-A watt meter measures the

- A:-Apparent power
- B:-Active power
- C:-Reactive power
- D:-Power factor

Correct Answer:- Option-B

Question93:-A series resonant circuit is known as acceptor circuit, because its \_\_\_\_\_ will be maximum

- A:-voltage
- B:-current
- C:-power factor
- D:-frequency

Correct Answer:- Option-B

Question94:-With two watt meter method of 3 phase power measurement, if one watt meter gives negative indication, then, the power factor will be

- A:-unity
- B:-zero
- C:-more than 0.5
- D:-less than 0.5

Correct Answer:- Option-D

Question95:-A moving coil milliammeter having a resistance of 10 ohm gives full scale deflection, when a current of 5mA is passed through it. If the instrument to be used to measure a current up to 1A, then

- A:-a resistance of 0.502 ohm must be connected in series with the ammeter
- B:-a resistance of 0.502 ohm must be connected in series with the load
- C:-a resistance of 0.502 ohm must be connected in parallel to the ammeter
- D:-a resistance of 0.502 ohm must be connected in parallel to the load

Correct Answer:- Option-C

Question96:-The instrument which give the value of quantity to be measured in terms of deflection and instrument constants are

- A:-secondary instruments
- B:-indicating instruments
- C:-integrating instruments
- D:-absolute instruments

Correct Answer:- Option-D

Question97:-A measuring instrument is enclosed inside an iron case. This is for protecting the measuring mechanism from

- A:-heat
- B:-magnetic flux
- C:-static electricity
- D:-hysteresis effect

Correct Answer:- Option-B

Question98:-The cell voltage of a Lithium cell is

- A:-2.1 to 2.6V
- B:-2.5 to 3.6V
- C:-1.2 to 1.4 V
- D:-1.5V

Correct Answer:- Option-B

Question99:-The illumination is directly proportional to the cosine of the angle made by the normal to the illuminated surface with the direction of the incident flux. This statement is associated with

- A:-Macbeth's law of illumination
- B:-Bunsen's law of illumination
- C:-Lambert's cosine law
- D:-Plank's law

Correct Answer:- Option-C

Question100:-In a drill, \_\_\_\_\_ helps to form the cutting edge.

- A:-Land
- B:-Shank
- C:-Tang
- D:-Flutes

Correct Answer:- Option-D