Sector: Power
Reference ID: PSS/ Q 0102

Question Bank
Distribution Lineman

PSS N 0105
(Repair and Maintenance of Power Distribution line and Components)

PSS N 0107
(Operation and Maintenance of 11/0.433 KV Distribution Substation)

PSS N 2001
(Use Basic health and safety practices for Power related work)

CSC/N 1336
(Work Effectively with Others)

PSS N 0105
(Repair and maintenance of power distribution lines and components)

1. **Across a street minimum Clearance required above ground of the lowest conductor of low and medium voltage (650 V) line shall as per CEA regulation is?** PSS/N 0105 PC23M
    a. 4.3 m
    b. 5.8 m
    c. 8.0 m
    d. 10 m

2. **Minimum clearance from building of low and medium voltage lines and service lines required for vertical and horizontal as per CEA regulations shall be?** PSS/N 0105 PC9M

    a. 2.5 metre and 1.2 metre
    b. 3.7 metre and 1.2 metre
    c. 3.7 metre and 2.0 metre
    d. 4.0 metre and 2.3 metre

3. **As per CEA Regulations 2010, Relating to Safety and Electric Supply, clause 57(2), the PCC pole (Mechanically processed concrete support) should have the following minimum factor of safety?** PSS/N 0105 PC1M

    a. 1.5
    b. 2.0
    c. 2.5
    d. 3.0

4. **For drawing overhead lines whether LT or HT normally Aluminium Conductors of following different types and sizes as used?** PSS/N 0105 PC11E

a. AAC (All Aluminum Conductors)
b. ACSR (Aluminum Conductor Steel reinforced)
c. AAAC (All Aluminum Alloy Conductors)
d. All of above

5. **Aluminium is preferred in overhead power cables because?** PSS/N 0105 PC7E

a. it is a good conductor better then Copper
b. it acts as an insulator, in case of lightening
c. it prevents accidents
d. it is lighter in weight

6. Poles or supports are made up of? PSS/N0105 PC7E

a. Steel
b. Cement
c. Wooden
d. All of above

7. The current carrying capacity of ACSR dog conductor is? PSS/N0105 PC7T

a. 115 Ampere
b. 270 Ampere
c. 324 Ampere
d. 430 Ampere

8. The Usual span of HT 11 kV ACSR (Dog) conductors with P.C.C poles have? PSS/N0105 PC33M

a. 40-50 meter
b. 50-60 meter
c. 60-80 meter
d. 100-150 meter

9. In Aluminium conductors, Steel core (ACSR) is provided to? PSS/N0105 PC7M

a. Increase the tensile Strength
b. Increase the Flexibility
c. Decrease the Tensile Strength
d. Decrease the Flexibility

10. In over head system Cross-arms are fixed? PSS/N0105 PC19E, PSS/N0107 PC16E

a. On the top of pole
b. In middle of the road
c. On the base of at the ground level
d. Non of above

11. How many lines are placed over a Cross-Arm in 11 kV over head lines? PSS/N0105PC19E,PSS/N0107 PC16E

a. One
b. Two

c. Three
d. Four

12. In 11 kV double circuit how many cross arms will be fitted on pole? PSS/N0105 PC19E, PSS/N0107 PC16E

a. One
b. Two
c. Three
d. Four

13. Spacers are used in L.T. Lines to protect from high pressure wind / storms as: PSS/N0105 PC28M

a. Spiral
b. Composite
c. A and b
d. None of above

14. Top hamper is fitted on the top of HT 11 kV PCC pole to support? PSS/N0105 PC7M

a. Pin insulator
b. Shackle insulator
c. Disc insulator
d. Pig insulator

15. Which types of Insulators used in overhead system at the dead end of HT 11 kV line? PSS/N0105 PC7E

a. Pin Insulator
b. Shackle Insulator
c. Disc Insulator
d. All of above

16. PG Clamp (Pressure Grip clamp) is used along with Disc insulator to support the conductor at the end of over head line termination and at every DP structure to? PSS/N0105 PC7M

a. To hold the conductor end firmly
b. To make jumper connection
c. To isolate incoming line
d. To make earth connection

17. Anti climbing device is a safety device fitted on HT PCC pole at? PSS/N0105 PC7E, PSS/N0107 PC17E

a. 1 metre above the ground
b. 2 metre above the ground
c. 3 metre above the ground
d. 5 metre above the ground

18. In LT over head system Two line cross arm is fitted below the line conductors for? PSS/N0105 PC19E, PSS/N0107 PC17E

a. To lay earth line over it
b. To support guard wire below the live lines
c. To help lineman to stand on it

d. All of above

19. Wedge type connector are used in LT lines to provide reliable electrical and mechanical connections for all types of conductors in making joints between? PSS/N0105 PC19E

a. Jumpers
b. 'T' connections
c. Service connections
d. All of above

20. How many over head lines are laid in LT 3 phase distribution system of urban area including street light point? PSS/N0105 PC19M

a. 4 numbers
b. 5 numbers
c. 6 numbers
d. 7 numbers

21. Guard wire in LT over head distribution system is connected with? PSS/N0105 PC28E

a. Earth and Neutral line
b. Earth wire connected to bobbin (made of ceramic or PVC) over neutral line
c. Bobbin over phase and neutral line
d. Bobbin over phase and earth line

22. The reason for troubles shooting in over head lines is due to? PSS/N0105 PC7E

a. Loose sag
b. Snapping of conductors
c. Tree branches touching the lines
d. All of above

23. PCC poles are dig and grouted up to its total length? PSS/N0105 PC7E, PSS/N0107 PC12E

a. ½ portion depth
b. 1/4th depth
c. 1/6th depth
d. 1/8th portion depth

24. Utility's distribution line which connected up to the consumer's premises up to meter terminals is called? PSS/N0105 PC7E

a. Distributor line
b. Service line
c. Feeder line
d. Main line

25. In LV 3 phase service line at consumer premises phase to phase voltage is available up to?

a. 11 kV PSS/N0105 PC7E
b. 1000 V
c. 650 V
d. 415 V

26. Stay wire / Guy assembly is used at dead-end and angular locations to counter balance the load on the supports (pole) due to pulling of the over head conductors, so that supports (pole) remain straight in vertical position is combination of? PSS/N0105 PC24M

a. Anchor plate with stay wire
b. Turn buckle
c. Guy strain insulator
d. All of above

27. Where the guy strain insulator is fixed in the stay wire assembly? PSS/N0105 PC24M

a. At the top of pole near eye bolt
b. Three metre above the ground
c. At centre of stay wire
d. One metre above the ground near

28. In HT 11 kV (DP) double pole structure GO switch is use? PSS/N0105 PC18E,

a. For earthing PSS/N0107 PC19E

b. To isolate the Distribution Transformer from HT line
c. To change over the HT line
d. None of above

29. The main purpose of GO switch is to ensure protection of the maintenance person under any circumstance and operated under 'OFF LOAD' condition. State GO switch is? PSS/N0105 PC18E PSS/N0107 PC19E

a. Air circuit breaker
b. Isolator
c. LT Triple pole switch
d. Oil Circuit Breaker

30. State which type of fuse are placed beneath the GO switch in HT over head system? PSS/N0105 PC8M PSS/N0107 PC19M

a. Rewireable
b. HRC
c. Barrel
d. Glass

31. A fuse wire should have? PSS/N0105 PC8T

a. Low specific resistance and high melting point
b. Low specific resistance and low melting point
c. High specific resistance and high melting point
d. High specific resistance and low melting point

32. Tinned plated copper wires are used in kit kat fuse. 22 SWG wire is used for how much current? PSS/N0105 PC8M

a. 15 Ampere
b. 20 Ampere
c. 25 Ampere
d. 30 Ampere

33. Barrels fuse are used in 11 kV over head distribution systems are colour coded. 2 ampere fuse element is used for 25 KVA transformer. State the colour code of barrel? PSS/N0105 PC8T

a. White
b. Green
c. Red
d. Yellow

34. The function of fuse is to provide protection of discrete component or complete circuit by reliably melt under overload and short circuit, their types are? PSS/N0105 PC8E

a. Rewireable (Kit Kat)
b. HRC

c. Barrel
d. All the above

35. In LT line you have checked current flow in each phase through Clamp On meter and found the load as 100 Ampere, 100 Ampere and 100 Ampere state how much current is flowing through the neutral line? PSS/N0105 PC8M

a. 5 Ampere
b. 0 Ampere
c. 15 Ampere
d. Around 10 Ampere

36. Bare metal earth lead is connected to electric machine, equipment and apparatus to save human as well as equipment because? PSS/N0105 PC18E

a. Earth resistance is very low
b. It is in zero potential
c. Leakage current rush to ground
d. All the above

37. Following material is poured to fill the earthing pit? PSS/N0105 PC19E, PSS/N0107 PC15E

a. Salt & charcoal
b. Wood & paper
c. Rubber & plastic
d. Glass & ceramic

38. Now a day's three types of earthing are prepared i.e. Pipe, Plate and Electrolytic (chemical). State how much boring of soil will be carried out below the test pit of 60 sq. centimetres? PSS/N0105 PC187M

PSS/N0107 PC15M

a. 1 metre
b. 3 metre
c. 5 metre
d. 10 metre

39. Desirable earth resistance of 11 kV installations is required? PSS/N0105 PC1M, PSS/N0107 PC15M

a. Less than 1 Ohm
b. Up to 5 Ohm
c. Up to 10 Ohm
d. Above 10 Ohm

40. In earth Megger test two spikes C (Current) and P (Potential) are placed 40 metre apart from E (Earth) terminal. State at what distance you will grout spike C away from Megger (Earth under test)?

a. 40 metre PSS/N0105 PC1M, PSS/N0107 PC15M
b. 15 metre

c. 25 **metre**
d. 1 metre near the test pit

41. Voltage Mean? PSS/N0105 PC1E

a. Potential difference between the positive and the negative terminals of a battery
b. electromotive force
c. both a & b
d. Flow of Current

42. As per CEA regulation the definitions for different gradation voltages are given as Low Voltage, Medium Voltage, High Voltage and Extra High Voltage where in Medium voltage is up to?

a. Not exceeding 250 Volts PSS/N0105 PC1M
b. 650 Volts
c. 33 kV
d. Exceeding 33 kV

43. Which material opposes the movement Current? PSS/N0105 PC1E

a. Semi-Conductor
b. Conductor
c. Insulator
d. Resistor

44. Resistance is the? PSS/N0105 PC1M

a. property of materials to oppose the flow of electricity
b. property of materials to flow the electricity
c. property of materials to generate the electricity
d. none of above

45. Copper is? PSS/N0105 PC8E

a. Good conductor for electricity.
b. Good insulator for electricity
c. Good resistor
d. None of above

46. Resistance is measured by PSS/N0105 PC8E

a. Ohm meter
b. Volt meter
c. Ammeter
d. None of above

47. In live LT lines current is measured by instrument? PSS/N0105 PC8E

a. Galvano meter
b. Clamp 'ON' or Tong tester
c. Multi meter
d. Megger

48. What is Condenser or Capacitor? PSS/N0105 PC8E

a. Device to store an electrical charge
b. Device to have a specific amount of capacitance
c. both a & b
d. none

49. Capacity of a Capacitor is measured in PSS/N0105 PC9T

a. Farad
b. Henry
c. Coulomb
d. Ohm

50. This meter is known as PSS/N0105 PC8E

a. Multimeter
b. pressure gauge
c. Megger
d. Clamp 'ON' meter

51. Batteries are source of PSS/N0105 PC8E

a. Direct current (DC)
b. Alternating current (AC)
c. High Frequency (HF)
d. Power Factor (PF)

52. This instrument is known as PSS/N0105 PC8E

a. Wattmeter
b. Voltmeter
c. Ammeter
d. none

53. Types of Electricity Generations are PSS/N0105 PC6E

a. Thermal (Coal, Gas & Diesel)
b. Hydro
c. Non-Conventional Energy (Solar, Wind power)
d. All of above

54. Distribution lines up to 33 kV consists of PSS/N0105 PC7E

a. Over head through towers
b. Over head through Poles
c. Underground cables
d. All of above

55. Distribution network Lines have PSS/N0105 PC7E

a. Over head lines and underground cables
b. Lines in rural area are mostly radial in nature
c. Ring mains circuit in urban area
d. All of above

56. Name of this tool is PSS/N0105 PC12E

a. Combination Pliers
b. Adjustable Wrench
c. Pipe Wrench
d. Nose plier

86. Name of this Tool is? PSS/N0105 PC12E

a. Plier
b. Crimping Tool
c. Chisel
d. Spanner

57. State which tool used for making a hole? PSS/N0105 PC12E

a. Screw driver
b. Combination Plier
c. Pipe Wrench
d. Drill machine

58. To avoid drag and damage to cable insulation the tool used for easy laying of cable is? PSS/N0105 PC20E

a. Line tester
b. Wooden planks
c. Crow bar
d. Roller Stool

59. Types of instrument transformer are? PSS/N0105 PC34E

a. C.T. and P.T.
b. DY11 (Distribution transformer)
c. Delta to Delta (Power transformer)
d. All of above

60. What is the full form of C.T. PSS/N0105 PC34E

a. Voltage transformer
b. Parallel transformer
c. Series transformer
d. Current Transformer

61. What PTW mean in electrical system? PSS/N0105 PC17E

a. Permit to work on electrical equipments and lines
b. Private transport work of vehicle in utility
c. Private temporary wiring
d. Potential testing work of line

62. This equipment known as PSS/N0105 PC37M

a. Insulator
b. Rotor
c. Auto-re-closer
d. Change over switch

63. ACB mean PSS/N0105 PC37E

a. Automatic change bracket
b. Air Circuit Breaker
c. Both a & b
d. None

64. The frequency of DC supply is? PSS/N0105 PC25M

a. Zero
b. 16Hz.
c. 50Hz.
d. 100Hz.

65. The Operating Voltage of Extra high tension cable is up to? PSS/N0105 PC25E

a. 0.433 KV
b. 11 KV
c. 33 KV
d. 66 KV

66. The Insulating material property for a cable should have? PSS/N0105 PC20E

a. Low Cost
b. High Dielectric Strength
c. High Mechanical Strength
d. All of above

67. Low tension cables are generally used up to? PSS/N0105 PC25E

a. 200 V
b. 500 V
c. 700 V
d. 1000 V

68. Cable Lubricant is used to? PSS/N0105 PC7M, PSS/N0107 PC22E

a. lower friction and pulling tension during a cabling installation
b. help cable run smoothly over the surface of the conduit
c. preventing potential damage
d. All of These

69. What is the standard depth of trench prepared to lay LT 3 phase cable from ground including sand bed? PSS/N0105 PC20M

a. 1 metre

b. O.75 metre
c. 0.5 metre
d. 1.25 metre

70. Rated current carrying capacity of 4 core 50 sq. mm LT cable is? PSS/N0105 PC20M

a. 195 Ampere
b. 133 Ampere
c. 249 Ampere
d. 365 Ampere

71. Minimum permissible bending radius of 3 core 11 kV XLPE, PVC and PILCA cable is taken according to D (diameter of cable) as? PSS/N0105 PC20T

a. 10 D
b. 12 D
c. 15 D
d. 20 D

72. Current rating of HT 11 kV 3X 150 sq. mm of XLPE cable is? PSS/N0105 PC25M

a. 190 Ampere
b. 240 Ampere
c. 315 Ampere
d. 360 Ampere

73. Two types of joints are prepared in the cable first is Straight through and second is end terminal in conventional cast iron joint boxes and heat shrinkable. Which type of joint you will prefer for outdoor application for jointing with other line in 4 pole Bus structure? PSS/N0105 PC20M, PSS/N0107 PC22M

a. Straight through joint pre moulded
b. Heat shrink terminal end joint
c. Cast iron body straight through
d. Cast iron end box

74. Insulation resistance of LT cable between phase to earth and phase to phase is tested with 1 kV Megger for 1 minute. Minimum IR value should be? PSS/N0105 PC25M

a. 5 Mega ohm PSS/N0107 PC15M
b. 10 Mega ohm
c. 20 Mega ohm
d. 50 Mega ohm

75. HT 11 kV 110 km line considered as? PSS/N0105 PC20E

a. A long line
b. A Short line
c. A medium line
d. None of above

76. A switchgear device that is used to protect electric circuit under earth fault, over current and short circuit is? PSS/N0105 PC18E

a. MCB
b. ACB
c. OCB
d. All of above

77. Which tool is used to tighten Bolts? PSS/N0105 PC12E

a. Wrench
b. Hammer
c. Screwdriver
d. Plier

78. PVC Stand For? PSS/N0105 PC36E

a. Poly Vinyl Chloride
b. Post Varnish Conductor
c. Pressed and Varnished Conductor

d. Positive Voltage Conductor

79. Which of the following Insulation is used in Cables? PSS/N0105 PC36E

a. Varnished Cambric
b. Rubber
c. Paper
d. All of the above

80. Which of the following metal is not used in distribution lines? PSS/N0105 PC12E

a. Copper wire
b. Aluminium wire
c. Steel wire
d. Tungsten wire

PSS N 0107

(Operation and Maintenance of 11/0.433 KV Distribution Substation)

Q.1 Types of transformers are? PSS/N0107 PC8E

A) Power Transformer
B) Distribution Transformer.
C) Instrument transformer
D) All of above

Q.2 **Types of Circuit Breakers are?** PSS/N0107 PC8E

a) Minimum oil circuit breakers.
b) Air circuit breakers.
c) Vacuum circuit breakers
d) All of above

Q.3 **Current transformer is connected in** PSS/N0107 PC8M

a) Series with line
b) Parallel across the line
c) Phase and neutral
d) Phase and earth

Q.4 **Secondary voltage of PT (Potential Transformer) is?** PSS/N0107 PC8M

a) 110 V
b) 500 V

c) 200 V
d) 50 V

Q.5 **what is the use of isolator?** PSS/N0107 PC8E

A) To disconnect live line on no load
B) For winding of motor
C) For pick up load
D) Pole making

.

Q.6.**what is the function of LA (Lightning Arrester)?** PSS/N0107 PC14M

A) Discharges over voltage surges current
B) For winding of motor
C) Increase the voltage
D) All of above

Q.7 **where is the location of lightning arrester at DP structure?** PSS/N0107 PC14E

A) Located near transformer at incoming terminals
B) Under ground near earth terminals
C) On ground beneath the poles near LTACB
D) All of above

Q.8 **Lightning arrester always connected between** PSS/N0107 PC14E

A) On HT phase & earth terminals
B) Neutral & earth terminals
C) On LT phase & earth terminals
D) On LT phase & neutral terminals

Q.9 **which of the following part of transformer visible from outside?** PSS/N0107 PC8E

a. Bushing
b. Core
c. Primary Winding
d. Secondary Winding

Q.10 On line tap changer (OLTC) is used when transformer is delivering the load to regulate? PSS/N0107 PC29T

A) The incoming HT voltage
B) The outgoing LT voltage
C) Control the current
D) To transfer the load

Q.11 **Hot oil circulates through the radiator tubes / fins thus it limits?** PSS/N0107 PC24E

A) Transformer oil temperature to safe limit
B) It control the flow of oil
C) It avoid over flow of oil
D) It keep warm the transformer winding

Q.12 **The frequency of transformer on primary HT side is 49.5 Hz what will be the frequency on secondary LT side of transformer?** PSS/N0107 PC10M

A) 49 Hz
B) 49.5 Hz
C) 50 Hz
D) 50.5 Hz

Q.13 **The secondary phase to phase voltage of distribution transformers is?** PSS/N0107 PC9E

A) 433V
B) 1000V
C) 240V
D) 24V

Q.14 LT ACB installed on the outgoing side of transformer got tripped due to fault what will you do? PSS/N0107 PC10M

a. Retry to operate ACB
b. Petrol the line to check the fault
c. Try to restore the supply by bypass the ACB
d. Insert wooden rod in ACB relay so that the same could not operate

Q.15**Transformer always connected with?** PSS/N0107 PC11E

A) AC circuit
B) DC circuit
C) Mixed AC & DC circuit
D) None of above

Q.16 **what is the name of transformer part shown in figure?** PSS/N0107 PC32E

A) Breather
B) Pipe
C) Conservator
D) Ventilator

Q.17 What it indicate when silica gel in the breather turns partially in to pink? PSS/N0107 PC32E

a. Show moisture in the transformer
b. Show transformer oil need replacement
c. Show transformer become defective
d. Show transformer running over load

Q. 18 What will you do when silica gel in the breather turns partially in to pink? PSS/N0107 PC32M

a. Give the heat treatment of dry air so that colour of gel turn back to blue and reinsert in breather
b. Replace the gel with new blue coloured pack
c. Wait till complete gel become pink
d. Immediately replace transformer oil

Q.19 **what is the use of radiator in transformer?** PSS/N0107 PC26E

A) For cooling the oil
B) For cooling the water
C) Load transfer

D) Heat treatment of winding

Q.20 **Transformer oil level in conservator tank is viewed from Oil level gauge glass and is kept at?** PSS/N0107 PC26M

a. Minimum level
b. Maximum level
c. Middle level
d. None of the above

Q. 21 **What is the function of 100 mm diameter GI pipe with diaphragm on its end fitted on top plate over the transformer tank called pressure relief vent or explosion vent?** PSS/N0107 PC4M

a. It is a inhale of air device when breather start malfunctioning
b. It's a gas pressure release when diaphragm rapture
c. It control transformer oil level of conservator tank
d. It indicate property of utility as flag on vent pipe

Q.22 **what is the observation to check the quality of Transformer Oil?** PSS/N0107 PC25E

A) Oil Temperature
B) Oil BDV & acidity
C) Sludge
D) All of above

Q.23 **Common method used for cooling a distribution transformer is?** PSS/N0107 PC4M

a. Natural air cooling of transformer oil
b. Air blast cooling through fans
c. Transformer oil is circulated through cooling tank
d. Any of above

Q.24 **what is the causes of physical transformer failure?** PSS/N0107 PC27T

A) Damage of Insulation
B) Cracking of bushings
C) Lightening Surge
D) All of above

Q.25 **The transformer rating is usually expressed in terms of?** PSS/N0107 PC29E

a. Volt
b. KW

c. Ampere
d. KVA

Q.26 **One MVA transformer capacity is equivalent to?** PSS/N0107 PC29M

a. 10 kVA
b. 100 kVA
c. 1000 kVA
d. 10,000 kVA

Q.27 **In terms of copper and iron loss, transformer is most efficient when operated at?** PSS/N0107 PC9M

a. 100% load of its rating
b. 70% load of its rating
c. 50% half load of its rating
d. 25% load of its rating

Q.28 **Megger test of transformer is checked between Primary winding and earth, Secondary winding with earth and Primary & Secondary winding what should be the minimum safe IR value of 11 kV transformer at 40^{o} ambient temperature?** PSS/N0107 PC15T

a. 50 Mega Ohm
b. 100 Mega Ohm
c. 200 Mega Ohm
d. 400 Mega Ohm

Q. 29 **What is the HT and LT side load in ampere of 100 kVA transformer?** PSS/N0107 PC9T

a. 3.2 and 85 Ampere
b. 5.2 and 138 Ampere
c. 13 and 345 Ampere
d. 22 and 85 Ampere

Q. 30 **State from following list maximum capacity of transformer could be installed on double pole mount substation?**

a. 400 kVA PSS/N0107 PC11E
b. 630 kVA
c. 1000 kVA
d. 1200 kVA

Q.31 **State why dry type transformers (Without oil) are erected inside the multi storied building?** PSS/N0107 PC3T

a. Dry type transformers are resin cast thus cannot sustain moisture and rain
b. It's a regulatory compliance
c. Oil immersed transformer cannot be placed inside due to oil seepage
d. Oil immersed transformer are bulkier thus cannot be transported inside building

Q.32 **DD fuse as shown is used for HT protection of the Transformer. It contains a Fuse Wire in it which melts at the time of over current fault. How it is revealed that fuse is blown?** PSS/N0107 PC3M

a. Ceramic tube get burst
b. Barrel get slipped from its upper portion and loosely hang
c. Colour of barrel get changed
d. Fuse blown could not be identified on live status

Q. 33 **How many isolators are connected on the sides of one RMU (Ring main unit)?** PSS/N0107 PC3M

a. One
b. Two
c. Three
d. Four

Q.34 **The Distribution transformers have following winding connections formation?** PSS/N0107 PC10M

a. Y/Y
b. Δ/Y
c. Δ/Δ
d. None of the above

Q.35 **what is the distance between two electrodes in a BDV kit?** PSS/N0107 PC25T

a. 5 mm
b.2.5mm
c.3mm
d.2.5cm

Q.36 **what is the minimum permissible BDV value of oil for a 11KV distribution transformer?** PSS/N0107 PC25T

a. 48 KV
b.20 KV
c.60 KV
d. 30KV

Q.37 **Meggar is used for measuring the?** PSS/N0107 PC9E

a. IR value
b. Contact resistance
c. Winding resistance
d. All of the above

Q. 38 **what are the testing we carried out during breaker maintenance?** PSS/N0107 PC9M

a. IR test
b. CRM (contact resistance measurement) test
c. Time testing (closing, open, CO)
d. All of the above

Q.39 **LA is designed with respect to?** PSS/N0107 PC14M

a. Line voltage
b. Phase voltage
c. Both of the above
d. None of the above

Q. 40 **CT's are used in electrical circuit?** PSS/N0107 PC3M

a. For protection purpose
b. For metering purpose
c. for both protection and metering
d. None of the above

Q.41 **Which one of the following is NOT a factor affecting the life of Transformer?** PSS/N0107 PC24E

a. Earthing
b. Oil leakage
c. Breather
d. None of above

Q.42 **The type of maintenance carried out in the event of breakdown due to malfunctioning of equipment or failure of equipment is termed as?** PSS/N0107 PC3M

a. Preventive maintenance
b. Predictive maintenance
c. Breakdown maintenance
d. None of above

Q.43 **Which of the following is/are the benefits of preventive maintenance?** PSS/N0107 PC3M

a. Reduces major system/equipments/equipments breakdown
b. Improve services reliability
c. Improve cost effectiveness of routine task
d. All of the above

Q.44 **The Voltage drop in transmission / distribution line depends upon?** PSS/N0107 PC3M

a. reactance and resistance of line
b. current in the line
c. length of line
d. all of the above

Q.45 **Which of following is self controlled device for automatic interrupting and reclosing with predetermined sequence of opening & re-closing followed by lock out?** PSS/N0107 PC11M, PSS/N0105 PC26M

a. RMU's
b. Circuit breakers
c. Circuit Auto recloser
d. None of above

PSS N 2001

(Use Basic health and safety practices for Power related work)

Q.1 what is the most important during electrical job execution. PSS/N 2001 PC4M

a. Safety of self and safety of others
b. Job knowledge
c. safety of equipments
d. all of the above

Q.3 **which points is followed by everybody at the time of work?** PSS/N 2001 PC4E

a) Safety of the self
b) Safety of the Co-workers.
c) Safety of the Public
d) All of above

Q.4 **what are the PPE's (personal protective equipments) should be used during electrical work?** PSS/N 2001 PC7E

a. safety helmets with shield or spectacles
b. safety gloves
c. safety shoes
d. safety belt.
e. all of the above

Q.5 which safety precaution flowing before starting the work? PSS/N 2001 PC2E

a) Do not consume liquor while working or before coming to work
b) While working on line avoid cracking of jokes or any foul play
c) Make sure about safety precautions
d) All of above

Q.6 **what is General Causes of Accidents?** PSS/N 2001 PC4E

a) Working without authority

b) Doing work in an unsafe way, such as throwing T & P/ line material or doing hasty work.
c) Using higher capacity fuse or by passing the fuse..
d) All of above

Q.7 **why we used the hand gloves during work on the live lines?** PSS/N 2001 PC4E

a) For firm grip of hand tools
b) For safety from electric shock
c) So that hands remain clean from dust
d) All of above

Q.8 **which equipment used in case of fire?** PSS/N 2001 PC26E

a) Fire extinguishers
b) Fire buckets filled with clean dry sand
c) A & B
d) All of above

Q.9**How much Clearance required between ground and lowest overhead conductor for 650 volt?** PSS/N 0105 PC9E, PSS/N 2001 PC7M

a) 5.8 meter
b) 10 meter
c) 20 meter
d) None of above

Q.10 **How electrical shock occurs?** PSS/N 2001 PC32E

a) when electrical current passes through the body
b) Touching a live wire and an electrical ground
c) Touching a live wire and another wire at a different voltage
d) All of above

Q.11 **what Precautions to be taken while working on live line?** PSS/N 2001 PC5E

A) Circuit is in off condition
B) Line clear permit is taken from authorities
C) Equipment / Line is properly earthed.
D) All of above

Q.12 **which tool required for working on heights?** PSS/N 2001 PC7E

a) Ladder

b) Zola & rope
c) Safety belt
d) All of above

Q.13 **.Portable ladders are normally types of…** PSS/N 2001 PC7E

a) Straight
b) Extension
c) Step-ladders
d) All of above

Q.14 **Portable ladders are normally made of…** PSS/N 2001 PC7E

a) Wood
b) Aluminium
c) Fibreglass
d) All of above

Q.15 **what is the first requirement to take up work on the live line?** PSS/N 2001 PC7M

a) PTW for shut down
b) Ladder
c) Tools and tackles
d) Safety sign board

Q.16 **who is the authorize body to provide the PTW (permit to work) in DISCOM?** PSS/N 2001 PC5M

a. PSC (power system control)
b. Designated system managers
c. Top management
d. Zonal manager

Q.17 **Permit to work system provides to workmen engaged in electrical work?** PSS/N 2001 PC5M

a. in built safety
b. Free to execute the job under dead condition
c. No suspect of back up supply
d. All the above

Q.18 **CAUTION ORDER TAG is always used in conjunction with a PTW?** PSS/N 2001 PC5M

a. To ensure line is clear dead from all source
b. Earth chain on line is provided
c. HT line is dead and earth from isolator
d. All of above

Q.19 **In safety Tagging system DO NOT OPERATE (DNoP) TAG acts as lock?** PSS/N 2001 PC5M

a. Once the tag is attached to a equipment that equipment cannot be connected to known sources of electricity
b. Could be taken up for testing purpose
c. Operation can be carried in emergency
d. All of above

Q.20 who is authorized for issue the permit? PSS/N 2001 PC5M

a) Manager or Executive Engineer
b) Assistant Manager or SDO
c) Authorised nominated officer
d) Executive or Junior Engineer

Q.21 **what is Discharge Rod?** PSS/N 2001 PC8M

a) A insulated rod having hook at on side connected with earth lead
b) A bamboo of 8 feet having arrow on one side
c) A rod having wet cloth to cool down the hot spot
d) A neon sign rod which indicate and beep when put close to live line

Q.22 **what is the function of discharge rod?** PSS/N 2001 PC8M

a) The discharge rod is used to discharge the static & induction charge to earth
b) The discharge rod is used for cutting the branches of tree touching the HT line
c) The discharge rod is used for removing the birds nest, kites from live line
d) The discharge rod is used to hook the jumpers for connections in over head lines

Q.23 **how to Maintain the Discharge – Rod?** PSS/N 2001 PC8M

a) The rod should not be kept in wet condition.
b) Ensure that the continuity of all wires of discharge rod is intact.

c) The continuity of wires should be tested regularly.
d) All of above

Q24 **what is the use of a Chain in over head lines?** PSS/N 2001 PC8M

a) Cordon the area for traffic diversion
b) Used to give tools and accessories by ground staff to lineman
c) For connecting the separate over head lines
d) Use to short circuit the over head line to earth to avoid back feed of supply

Q.25 **what is this?** PSS/N 2001 PC1E

a) Safety Gloves for hot line work
b) Warm gloves for winter season
c) Medicated gloves to avoid infection
d) None of above

Q.26 **What is process after getting the shutdown of a equipment / line?** PSS/N 2001 PC12E

a. Switch off incoming
b. test the same by neon tester
c. should be earthed after discharge rod
d. All of above

Q.27 where Full body harness safety belt is used? PSS/N 2001 PC7E

a) While working on the live line LT on pole for repair of jumpers
b) While working on the live line LT on pole for replacing service line
c) While working on the dead line on HT pole for repair and maintenance
d) All of above

Q28 **what is fire?** PSS/N 2001 PC23M

a) Combination of Fuel, Heat and Air
b) Combination of water and air
c) Combination of oil and water
d) None of above

Q.29 **Cause of fire due to electricity is?** PSS/N 2001 PC19M

a) Over load and loose joint cause short circuit in the wiring
b) Bad Housekeeping
c) Welding without fire precautions
d) All of above

Q.30 **How many types of fire Extinguishers?** PSS/N 2001 PC23M

a. Dry Chemical Power Type (Class A, B, C and electrical fire)
b. Mechanical Foam Type (Class 'B' fire)
c. Carbon Dioxide (CO_2)
d. All of above

Q.31 **what is electrical hazards?** PSS/N 2001 PC22E

a) Inadequate wiring
b) Exposed electrical parts
c) Wires with bad insulation
d) All of above

Q.32 **What does this sign Indicates?** PSS/N 2001 PC20E

a. Broken arrows likely
b. Danger: High Volt electricity
c. Take a sharp left, then a sharp right

d. Accident prone area

Q.33 **What Does Sign Indicates?** PSS/N 2001 PC20E

a. Smoking Area
b. Caution fire ahead
c. No Smoking
d. No Matchstick

Q.34 **What does this sign Indicates?** PSS/N 2001 PC20E

a. Danger cause fatal
b. Caution
c. No Entry
d. Electric crematorium

Q.35 **This is a symbol stand for?** PSS/N 2001 PC20M

a. Caution
b. No – Horn
c. Tripping hazard
d. Biological Hazard

Q.36 What does this sign Indicates? PSS/N 2001 PC20E

a. Drinking Water
b. Fire Extinguisher
c. First Aid
d. Danger

Q.37 **Gloves are made of rubber because:** PSS/N 2001 PC20E

a. Rubber is elastic
b. Rubber is durable
c. Rubber is cheaper
d. Rubber is an insulator

Q.38 **Rubber mats are placed in front of electric panel for:** PSS/N 2001 PC1M

a. Electric safety during operation
b. Workplace decoration
c. To avoid injury due to fall
d. To avoid slippage

Q.39 **The ladders used in electricity departments are made of?** PSS/N 2001 PC7E

a. Wooden (Bamboo)
b. Fibre Glass
c. Aluminium with rubber collar base on both sides
d. All of these

Q.40 The ladder is placed at an angle from ground to inclined vertical plane at? PSS/N 2001 PC7M

a. 90^{o}
b. 75^{o}
c. 60^{o}
d. 45^{o}

CSC/N 1336

(Work Effectively with Others)

Q. 1 A plan shut down has been availed by your supervisor for duration of 4 hrs of the entire rural feeder for tree trimming. Supply has been switched 'OFF' and your team has been instructed to report at site at 6.00 AM sharp in the morning. What you will you do? CSC/N 1336 PC1E

a. Take up the assigned work allotted as per schedule
b. Wait for other colleagues respond
c. You won't report because it is too early
d. Prepare for excuse to avoid the assignment

Q. 2 All employees are required to abide by the Code of conduct rules applicable to them. Employee's behavior not in consonance with conduct rule is liable to attract? CSC/N 1336 PC2E

a. Disciplinary action
b. Deduction in the salary
c. Debar from service
d. All of above

Q. 3 Your one of colleague gets badly injured at site. What will you do after first aid? CSC/N 1336 PC3E

a. Immediately bring him to nearby hospital
b. Report the matter to seniors
c. Pass on the information to all colleagues
d. All of above

Q 4 While carrying jointly at a work site the drill bit of one of your colleague gets broken thus his work become held up for want of drill bit. You are also equipped with drill machine having same size drill bit in spare. What you will do in this situation? CSC/N 1336 PC4E

a. You will give your drill machine with bit knowing that he is not have so much skill to operate your drill machine
b. You will give him only drill bit with the assurance the same will be returned back after completion of work
c. You will give him drill with obligation that his work was held up and propagate
d. You won't provide him any assistance

Q 5 A pole fallen on the road during a storm causing obstruction to traffic vehicular movement and creating chaos supply has been made dead but you are alone at site waiting for your colleagues who did not turn up due to public wrath. What will you do? CSC/N 1336 PC5E

a. Argue with public for poor administration
b. Take up to shift pole on road side with the help of public
c. Run away from site to safe your self
d. Wait for your colleagues

Q 6 You are unable to operate a switch gear due to defective handle to restore the supply. What will you do in this case?

a. Report the matter to supervisor and leave the site. CSC/N 1336 PC6E
b. Get help from colleague who is having the handle
c. Complaint to seniors that you have been issued defective handle
d. Argue with store keeper for giving defective handle

Q 7 Supply of entire area of your locality is fail due to load shedding. Public gathered at your complaint centre and agitated. How you will deal with annoyed consumers? CSC/N 1336 PC7E

a. Remain calm, patient and pacify the customers giving full illustration of shed down
b. Act ruthlessly to consumers and argue
c. Ready to fight with consumers
d. Close and lock the complaint centre and run away

Q. 8 Your one of colleague has pronounced by public on an unethical act. What will you do? CSC/N 1336 PC8E

a. Report the matter to your seniors
b. Call your colleagues to fight with public
c. Try to settle the matter with public
d. Warn the audience for dire consequence

Q.9 **The supply of consumers fail the same is restored within time as per supply code and performance standard regulations. Now what will you do when consumer offer you some sort of obligation?** CSC/N 1336 PC9M

a. Accept the obligation and keep it
b. Accept the obligation and share with your supervisor
c. Show etiquette behaviour and say no
d. Disconnect the consumer line and report to supervisor

Q. 10 **Teamwork is** CSC/N 1336 PC9M

a) Effective way for completion of large-scale project on time
b) Teamwork is key success of company
c) Work is carried out in coordinated way jointly
d) All of above

Q. 11 **Characteristics of disciplined behaviour are** CSC/N 1336 PC9E

a) Be Punctual
b) Maintain work standards
c) Right attitude towards work
d) All of above

Q. 12 **Grievance can be handled through** CSC/N 1336 PC10M

a) Quick action
b) Gathering facts
c) Examining the causes of grievance
d) All of above

Q. 14 **Benefit of Positive Attitude** CSC/N 1336 PC10T

a) It enables you to achieve your goals successfully
b) It lends more dynamism and energy to your life
c) It helps you to turn difficult situations into opportunities to learn
d) All of above

Q. 15 **Why would you need good listening skills?** CSC/N 1336 PC10M

a. The ability to listen well allows you to understand your daily tasks better
b. Being a good listener helps you build a good relationship with your family, friends and superiors.
c. Good listening skills are a key ingredient for building good team spirit.
d. All of above

Practical test of Lineman Distribution (O & M)
Total question -5 Time of execution of each assignment – 15 minute

Question No. 1

Job role testing of earth resistance

Material required

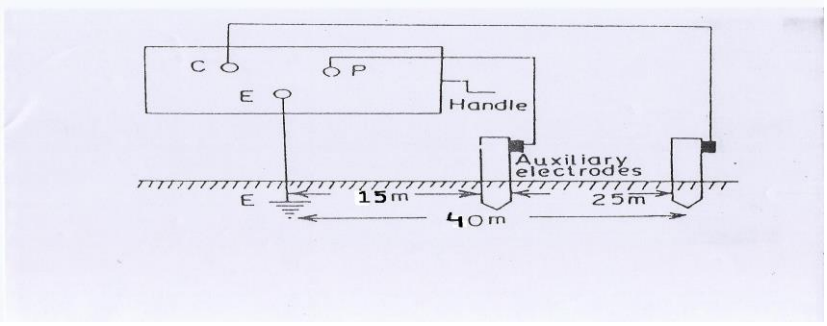
1. Earth Megger
2. Two earth pegs (Spikes)
3. Two leads (40 m and 15 m)
4. Hammer
5. Power cord for charging the earth tester

1. It measures the earth resistance of the equipment connected with electric installation.
2. Earth Megger has three terminals namely E (Earth), P (Potential) and C (Current).
3. Two electrode (Spikes) are grouted and connected at a distance 15 meter and 25-30 meter apart from the earth terminal under test. Ohmic value in Ohm (Ω) indicates the status of earth resistance.
4. 11 kV and above HV equipments desire value must be below 1.0 Ohm (Ω) and for LT system the result should not go beyond 5 Ohm (Ω).

Procedure how to measure earth resistance

Earth resistance is tested with Earth Megger or Earth Tester. It has three terminals E, P_1 and P_2.

1. E terminal is connected with the machine under test.
2. P_1 & P_2 are connected through spikes grouted at 25 m and 15 m apart.
3. Through push button or by oscillating the handle results in Ohm are observed.



Participant will show the above test procedure and will put up the test results three time

Related Query (How earth resistance could be improved?)

Earthing of a system depends upon following condition namely:

1. Resistance of electrode
2. Depth of electrode
3. Soil condition
4. Cross section area of earth plate.

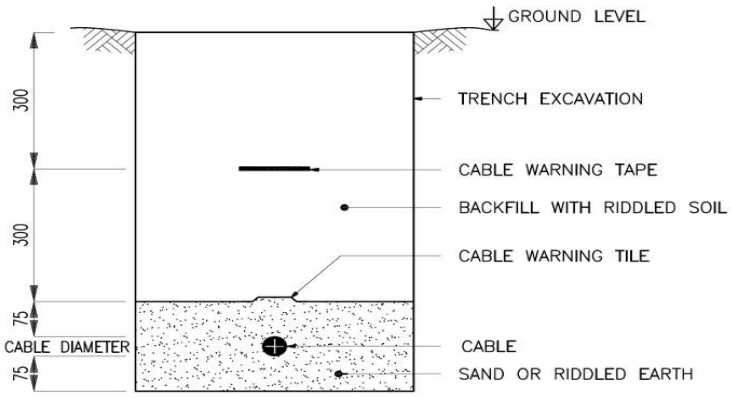
   Thus following steps are taken to improve earth resistance.

   1. Maintain moisture in soil by pouring water in regular interval especially during summer.
   2. Increase the depth of earth pit to access additional moisturized soil.
   3. Dumping layers of salt and charcoal powder surround the electrode.
   4. Laying additional new earth and connect with existing system in parallel.
   5. In over head system three points in every kilo meter have earthing pit connected with all metallic parts of line included stay wire. (It is exempted in case of insulator provided at 3 m height on Stay wire)

Question No. 2

Job role laying of LT cable in open pavement or foot path

Depth of cable trench for LT cable



CABLE LAYING DETAIL
DIRECT BURIED CABLES
415V CABLES

A trench of 2 metres be prepared with right angle bend at one side of 1.0 metre as per aforesaid dimensions

Material required

1. 50 or 95 sq. mm PVC 3½ or 4 core armoured cable Length-3 metre
2. Two sand bag
3. One vernier calliper to check the outer diameter of cable
4. SS Flat scale one meter and one foot

Participant is asked to note the diameter of cable with help of vernier calliper further he will state the bending radius for particular cable and lay the cable accordingly. He may be asked to bend the cable as per standard. Show the depth of cable trench, height of sand bed, height of cable and height of sand bed over cable in centimeters with the help of scale.

Minimum permissible bending radius of LT PVC cable is 12 D (Where D is diameter of cable)

Bending radius is necessary to take care during fault repairs. Maximum number of faults are occurred close to joints

Related Query (Why sand bed is prepared in the trench?)

Current Rating for LT Cables

No of Core	Size in Sq. mm	Rated Current	Derated Current
4	25	195	85
4	50	133	120
4	150	249	185
4	300	365	275

Factors considered for Derating of cable

- Cable Depth
- Variation in Ground & Ambient Temp

- Thermal Soil Resistivity
- Spacing between cables
- Installation condition

Question No. 3

Laying of HT cable in open pavement or foot path

In similar procedure HT cables are laid where depth of cable is maintain as 1.2 meter for 33 kV lines as per regulation 76.

General standard of cable depth in a trench

1. For 33 kV depth is taken as 1.2 meter minimum below ground level
2. For 11 kV depth is taken as 1.0 meter minimum below ground level
3. For LT three 440 V depth is taken as 0.6 meter minimum below ground level
4. For LT Single phase taken 500 centimetre minimum below ground level

Minimum permissible bending radius of HT PILCA & XLPE cable is 15 D (Where D is diameter of cable)

Related Query (Why the depth of HT cable trench is kept more?)

Current Rating for HV cables

Cable Type		PILCA		XLPE	
	Size of Cable in sq. mm	Rated Current in amp	Derated Current in amp	Rated Current in amp	Derated Current in amp
11 kV	3X150	190	143	240	182
	3X240	250	188	315	240
	3X300	280	211	360	274
11 kV	3X1000	585	445	685	550
33 kV	3X300	290	215	352	264
	3X400	332	249	402	301

Construction of Belted/PILCA cables

- **Conductor** – Copper or Aluminium, stranded, sector shaped
- **Insulation over core** – Impregnated Paper insulation wrapped over each conductor
- **Fillers** – placed in between the cores. Made of Jute
- **Insulation over all cores** – Belted paper insulation wrapped over all the cores
- **Lead sheath** – To protect the paper insulation from foreign elements and mechanical shock
- **Bedding** – Protects the lead sheath against corrosion. Consists of bitumen compound and impregnated cotton tapes.

- **Armour** – Provides mechanical strength to the cable. Made of steel tape or round galvanised wire
- **Serving** – protects the armour from corrosion. Made of Jute yarns coated with bitumen compound

Disadvantages of PILCA

- Heavy due to lead sheathing
- Less flexibility
- Poor resistance to vibration
- Difficulty in sealing and jointing

Construction of HT (11 kV & 33 kV) XLPE cable

- Conductor
- Semi-conducting Conductor Screen
- Insulation
- Semi-conducting Insulation Screen
- Metallic Screen
- Inner Sheath
- Armour
- Outer Sheath

Question No. 4

Insulation Resistance Measurement of cable (Megger Test)

Material required

1 Insulation Megger
2 Cable piece

Megger (Analogue)

Participant is asked to Test of the ohmic resistance between two different conductors (i.e. Phase to Earth & Phase to Phase) of the cable and put up the IR value.

For L.T Cables:- Phase to earth & Phase to phase to be tested with 1KV Megger for 1min./ or till reading stabilizes. Minimum IR value should be 50MΩ.

For 11KV Cables:- Phase to earth & Phase to phase to be tested with 2.5/5KV Megger for 1min./ or till reading stabilizes. Minimum IR value should be 50MΩ.

For 33KV Cables:- Phase to earth & Phase to phase to be tested with 2.5/5KV Megger for 1min./ or till reading stabilizes. Minimum IR value should be 100MΩ.

Related Query (Why IR value is higher in underground than open cable?)

1. Megger is also called insulation tester. It is a small DC generator produce 500 to 5000 Volts. Check insulation resistance of cables and transformers up to 100 Mega Ohm (MΩ). Testing is carried out between: a. Phase to Phase, b. Phase to earth
2. What is difference between High pot and Insulation tester, Why Hi-Pot is preferred to test the cable.

Answer:The High Pot instrument produces high DC voltage to test the healthiness of a cable towards its insulation. High Volt DC current is injected in the current carrying conductor on each phase and neutral of cable and leakage current observation is evaluated. Frequent test with High pot causes Derating of cable

Precaution and maintenance of Megger Set

1. Ensure earth terminal is connected with the set.
2. Connect phase terminal to testing set tightly. Loose connection lead to spark and electric shock.
3. Pick all the testing leads from insulation.

4. Ensure none of the terminals are kept lying open before energisation of set.
5. Always discharge all terminals in air confirming chattering sound before and after the test.
6. Keep the instrument in water proof, vibration shock proof cushion covered box

Question No. 5
Dehydration of Silica gel and cleaning of breather of transformer

Material required

1 Complete set of silica gel breather bottle
2 Lineman tool comprising of spanner set, combination plier, nose plier, screw drivers etc
3 Transformer oil one cup
4 Cotton waste

Participant is asked to open the Silica gel bottle, dehydrate the gel, clean the bottle and refit the same ensure he had clean the cup and filled the cup with transformer oil for dust free breathe.

Related query

Silica gel in breather is used for absorbing moisture in air during breathing. Due to the absorption of moisture, the blue colour of silica gel crystals turns to pink. Such pink coloured crystals of Silica gel are to be re-activated by heating either by spreading it on a paper in sun or by heating it slowly in a metallic vessel. Whenever the crystals turn white, it renders useless and are to be replaced by new. Oil in the bottom cup of the breather also needs replacement if it becomes dirty.

(a) Silica gel needs to be heated between 150^{o}C to 200^{o}C for proper activation.
(b) While replacing Silica gel; oil in the bottom cup of the breather should also be replaced.
(Oil gets contaminated due to dust in air)

All the aforesaid activities are to carry by participant in sequential order.

Viva (Lineman Distribution)

Total question - 15

(Answering of each steps in sequence carry equal marks with total 4 viva in each question)

Question No.1

a. **What is** *(The lightning arrester is a device which provides very low impedance path to the ground for high voltage travelling waves)*
b. **How any types of LA installed in your system**
c. **How it function**

Question No.2

a. **Where DD fuse is connected**
b. **What happen when DD fuse is blown**
c. **State the colour code w.r.t. their rating**
d. **How DD fuse is replaced? ON line or OFF line**

Question No.3

a. **How many earth pits are prepared near DP structure**
b. **Why independent earth connection for LA**
c. **All equipments and accessories in DP structure are connected with double earth why**
d. **What is the depth of earth pit**

Question No.4

a. **State the vertical clearance of HT 11 kV lowest conductor line**
b. **State the vertical clearance of LT line lowest conductor**
c. What will happen if tree trimming is not carried out
d. **What will you do in case of crack found at one metre height of PCC pole**

Question No.5

a. **What is function of stay wire**
b. **State the components of stay wire assembly**
c. **Where stay wires are grouted**
d. **State the height of pig insulator above the ground in stay wire**

Question No.6

a. **State the types of insulators used in overhead lines**
b. **Where disc insulator is fitted**
c. **Name of clamp fitted with disc insulator**

d. **Where shackle insulators are used**

Question No.7

a. **How many lines are laid in LT distribution have street light and state their name**
b. **Why rating of neutral conductor is less than phase conductor**
c. **What is the function of two-line cross arm in LT overhead**
d. **State the function of guard wire**

Question No.8

a. **What is function of cross arm**
b. **Where the top hamper fitted on HT pole**
c. **What do you know about double circuit how you will mange with single pole line**
d. **What happen when one conductor snapped from X-arm**

Question No.9

a. **What is function of anti climbing device**
b. **At what height Anti climbing device is fitted on pole**
c. **What is written on danger plate**
d. **At what height danger plate is fitted on pole**

Question No.10

a. **State the function of GO or gang switch**
b. **At what location GO switch handle is fitted**
c. **State operating technique of GO switch**
d. **Illustrate the maintenance procedure of GO switch**

Question No.11

a. **State the various components of transformer***)*
b. **State the function of transformer**
c. **What is Explosion Vent**
d. **What is Conservator Tank**

Question No.12

a. **State the function of oil level indicator provided on the visible side of the conservator tank**
b. **State Breather and its function**
c. **Why silica gel is filled in breather**
d. **Why silica gel colour change**

Question No.13

a. **What is function of Tap changer**
b. **How many types of Tap changer are fitted on transformer**
c. **State function of Off load tap changer**

d. **State functions of ON load tap changer**

Question No.14

a. **What is function of Radiator**
b. **Why so numbers of fins provided on radiators**
c. **How transformer gets cool**
d. **Do you know boiling point of transformer oil when it act as fuel**

Question No.15

a. **State the three steps to check the status of transformer**
b. **State physical Check**
c. **State On line Test**
d. **State Off Line Test**