Switchgear and Protection MCQ with Answers

1. Which of the following results in a symmetrical fault ?

(a) Single-phase-to earth.

(b) Phase-to-phase.

(c) All the three phases-to earth.

(d) Two phases-to earth.

Answer: (c) All the three phases-to earth.

2. Which portion of the transmission system is more prone to faults?

(a) Alternator.

(b) Transformer.

(c) Overhead lines.

(d) Underground cable.

Answer: (c) Overhead lines.

3. Which portion of the power system is least prone to faults ?

(a) Alternators.

(b) Switchgear.

(c) Transformers.

(d) Overhead lines.

Answer: (a) Alternators.

4. The magnitude of fault current depends upon

(a) total impedance up to fault.

(b) voltage at the fault point.

(c) load current being supplied before occurrence of fault.

(d) both (a) and (b).

Answer: (d) both (a) and (b).

5. The most common type of fault is

(a) single-phase-to ground.

(b) phase-to-phase.

(c) two-phase-to ground.

(d) three-phase to ground.

Answer: (a) single-phase-to ground.

6. The maximum short-circuit current occurs in the case of:

(a) three-phase bolted fault.

(b) double-line-to-ground fault.

(c) line-to-line fault.

(d) single-line-to-ground fault.

Answer: (a) three-phase bolted fault.

7. For a fault at the terminals of synchronous generator, the fault current is maximum for a

(a) 3-phase fault.

(b) 3-phase to ground fault.

(c) line-to-ground fault.

(d) line-to-line fault.

Answer: (c) line-to-ground fault.

7. The load currents in short-circuit calculation are neglected because

1. short-circuit currents are much larger than load currents.

2. short-circuit currents are greatly out of phase with load currents.

Which of these statement(s) is/are correct ?

(a) neither 1 nor 2

(b) 2 alone

(c) 1 alone

(d) 1 and 2

Answer: (c) 1 alone

8. Series reactors are used to

(a) improve the transmission efficiency.

(b) improve the power factor of the power system.

(c) improve the voltage regulation.

(d) bring down the fault level within the capacity of the switchgear.

Answer: (d) bring down the fault level within the capacity of the switchgear.

9. Current limiting reactors may be
(a) air-cored air-cooled.

(b) oil immersed magnetically shielded.

(c) oil immersed non-magnetically shielded.

(d) any of the above.

Answer: (d) any of the above.

10. The symmetrical components are used in the fault analysis because
(a) the number of equations becomes smaller.

(b) the sequence networks do not have mutual couplings.

(c) the results are required in terms of symmetrical components.

Answer: (b) the sequence networks do not have mutual couplings.

11. In a star-connected system without neutral grounding, zero-sequence currents are

(a) zero.

(b) phasor sum of phase currents.

(c) same as rms value of phase currents.

(d) same as peak value of phase currents.

Answer: (a) zero.

12. A balanced 3-phase system consists of

(a) zero-sequence currents only.

(b) positive-sequence currents only.

(c) negative and zero-sequence currents.

(d) zero, negative and positive sequence currents.

Answer: (b) positive-sequence currents only.

13. The positive sequence current of a transmission line is:

(a) always zero.

(b) 1/3 of negative sequence current.

(c) equal to negative sequence current.

(d) 3 times negative sequence current.

Answer: (c) equal to negative sequence current.

14. In case of an unbalanced star-connected load supplied from an unbalanced 3-phase, 3-wire system, load currents will consist of

(a) positive-sequence components.

(b) negative-sequence components.

(c) zero-sequence components.

(d) only (a) and (b).

Answer: (d) only (a) and (b).

15. For an unbalanced fault, with paths for zero-sequence currents, at the point of fault

(a) the negative and zero-sequence voltages are minimum.

(b) the negative and zero-sequence voltages are maximum.

(c) the negative-sequence voltage is minimum and zero-sequence voltage is maximum.

(d) the negative-sequence voltage is maximum and zero-sequence voltage is minimum.

Answer: (b) the negative and zero-sequence voltages are maximum.

16. When a line-to-ground fault occurs, the current in the faulted phase is 100 A. The zero-sequence current in this case will be:

(a) zero

(b) 33.3 A

(c) 66.6 A

(d) 100 A

Answer: (b) 33.3 A

17. Zero-sequence fault current is absent when fault is

(a) single-line-to ground fault.

(b) line-to-line ground fault.

(c) double-line-to ground fault.

(d) line-to-line.

Answer: (d) line-to-line.

18. The current of a single-phase load drawn from a 3-phase system has:

(a) Zero-sequence component of current as zero.

(b) Negative-sequence component of current more than positive sequence component.

(c) Positive, negative and zero-sequence components equal.

(d) Negative-sequence component of current less than positive-sequence component.

Answer: (c) Positive, negative and zero-sequence components equal.

19. Zero-sequence currents can flow from a line to transformer bank if the windings are in

(a) grounded star/delta.

(b) delta/star.

(c) star/grounded star.

(d) delta/delta.

Answer: (a) grounded star/delta.

20. If the positive, negative and zero-sequence reactances of an element of a power system are 0.3, 0.3 and 0.8 pu respectively, then the element would be a

(a) synchronous generator.

(b) synchronous motor.

(c) static load.

(d) transmission line.

Answer: (d) transmission line.

21. Negative-sequence reactance of a transformer is

(a) equal to the positive-sequence reactance.

(b) larger than the positive-sequence reactance.

(c) smaller than the positive-sequence reactance.

Answer: (a) equal to the positive-sequence reactance.

22. If all the sequence voltages at the fault point in a power system are equal, then the fault is a

(a) three-phase fault.

(b) line-to ground fault.

(c) line-to-line fault.

(d) double-line-to ground fault.

Answer: (d) double-line-to ground fault.

23. The zero-sequence current of a generator for line-to ground fault is j2.4 pu. Then the current through the neutral during the fault is

(a) j2.4 pu

(b) j0.8 pu

(c) j7.2 pu

(d) j0.24 pu

Answer: (c) j7.2 pu

24. One current transformer (CT) is mounted over a 3-phase 3-core cable with its sheath and armour removed from the portion covered by the CT. An ammeter placed in the CT secondary would measure

(a) the positive-sequence current.

(b) the negative-sequence current.

(c) the zero-sequence current.

(d) three times the zero-sequence current.

Answer: (d) three times the zero-sequence current.

25. Consider the following statements regarding the fault analysis :

1. The neutral grounding impedance Z_n appears as $3Z_n$ in zero-sequence equivalent circuit.

2. For faults on transmission lines, 3-phase fault is the least severe amongst other faults.

3. The positive and negative-sequence networks are not affected by method of neutral grounding.

Which of the statements given above are correct ?

(a) 2 and 3

(b) 1 and 2

(c) 1 and 3

(d) 1, 2 and 3

Answer: (c) 1 and 3

26. An alternator (star connected) with star neutral earthed. On the star side of the transformer a single line-to-ground fault occurs. This is equivalent to :

(a) A line-to-ground fault on the generator side of the transformer.

(b) A line-to-line fault on the generator side of the transformer.

(c) A 3-phase fault on the generator side of the transformer.

(d) A single-line-to-ground fault on the generator side of the transformer.

Answer: (b) A line-to-line fault on the generator side of the transformer.

27. Fuses have got advantages of

(a) cheapest-type of protection.

(b) inverse time-current characteristic.

(c) no maintenance.

(d) current limiting effect under short-circuit conditions.

(e) all of the above.

Answer: (e) all of the above.

28. The primary function of a fuse is to

(a) open the circuit.

(b) protect the appliance.

(c) protect the line.

(d) prevent excessive currents from flow through the circuit.

Answer: (d) prevent excessive currents from flow through the circuit.

29. The material used in liquid fuses is

(a) SF6

(b) distilled water.

(c) carbon tetra chloride.

(d) transformer oil.

Answer: (c) carbon tetra chloride.

30. In comparison to rewirable fuses HRC fuses have the advantage(s) of

(a) high speed operation.

(b) high rupturing capacity.

(c) no ageing effect.

(d) all of the above.

Answer: (d) all of the above.

31. In HRC fuse the time between cut-off and final current zero is called the

(a) pre-arcing time.

(b) arcing time.

(c) total operating time.

(d) none of these.

Answer: (b) arcing time.

32. If a combination of HRC fuse and a circuit breaker is employed, the circuit breaker operates for

(a) short-circuit current.

(b) low overload currents.

(c) under all abnormal currents.

(d) the combination is newer employed in practice.

Answer: (b) low overload currents.

33. The least expensive protection for over-current in low-voltage system is

(a) rewirable fuse.

(b) isolator.

(c) circuit breaker.

(d) air-break switch.

Answer: (a) rewirable fuse.

34. A circuit breaker normally operates

(a) when the power is to be supplied.

(b) when the line is to be tested.

(c) when the switch is to be put on.

(d) whenever fault occurs in the line.

Answer: (d) whenever fault occurs in the line.

35. When a fault occurs in a high voltage transmission line, first the

(a) circuit breaker operates then the relay.

(b) relay operates then the circuit breaker.

(c) relay operates, then successively the isolator and the circuit breaker.

(d) isolator operates, then successively the relay and the circuit breaker.

Answer: (b) relay operates then the circuit breaker.

36. The initiation of electric arc at the instant of contact separation is caused by

(a) thermionic emission of electrons.

(b) field emission of electrons.

(c) (a) and (b) both.

(d) none of the above.

Answer: (c) (a) and (b) both.

37. Arcing voltage will be the least in case of
(a) carbon.

(b) copper.

(c) silver.

(d) tungsten.

Answer: (c) silver.

38. The heat produced at the contact point owing to flow of electric current is least affected by
(a) temperature of the surrounding medium.

(b) contact resistance.

(c) magnitude of electric current flowing.

(d) duration of flow of current.

Answer: (a) temperature of the surrounding medium.

39. Which of the following should have low value for the contacts and their material ?

(a) Thermal capacity.

(b) Contact resistance.

(c) Thermal conductivity.

(d) None of these.

Answer: (b) Contact resistance.

40. In a CB contact wipe is necessary

(a) to decrease the speed of opening of the CB.

(b) to increase the speed of opening and reduce the arcing of contacts.

(c) to increase the dielectric strength across the CB contacts.

(d) none of the above.

Answer: (c) to increase the dielectric strength across the CB contacts.

41. Interrupting medium in a contactor may be

(a) air at atmospheric pressure.

(b) SF6 gas.

(c) oil.

(d) compressed air.

(e) any of these.

Answer: (e) any of these.

42. The fluids used in circuit breakers should be of

(a) high dielectric strength and thermal stability.

(b) non-inflammability.

(c) arc extinguishing ability.

(d) all of the above.

Answer: (d) all of the above.

43. Sparking between contacts can be reduced by inserting

(a) a capacitor in parallel with the contacts.

(b) a capacitor in series with the contacts.

(c) a resistor in the line.

(d) a reactor in the line.

Answer: (a) a capacitor in parallel with the contacts.

44. For magnetic blow out of arc the magnetic field is produced

(a) in the load circuit.

(b) at right angles to the axis of the arc.

(c) in line with the axis of the arc.

(d) any of the above.

Answer: (b) at right angles to the axis of the arc.

45. In circuit breakers the contact space is ionized by

(a) field emission from the contact surface.

(b) thermal emission from the contact surface.

(c) thermal ionization of gas.

(d) any of the above.

Answer: (b) thermal emission from the contact surface.

46. In a circuit breaker, ionization is facilitated by

(a) increase in field strength.

(b) increase of mean free length.

(c) high temperature of surrounding medium.

(d) all of the above.

Answer: (d) all of the above.

47. The stability of arc in vacuum depends on

(a) The contact material only.

(b) The contact material and its vapor pressure.

(c) The circuit parameters only.

(d) The combination of (b) and (c).

Answer: (d) The combination of (b) and (c).

48. The interrupting time of a circuit breaker is the period between the instant of

(a) initiation of short circuit and the arc extinction on an opening operation.

(b) energizing of the trip circuit and the arc extinction on an opening operation.

(c) initiation of short circuit and the parting of primary arc contacts.

(d) energizing of the trip circuit and the parting of primary arc contacts.

Answer: (b) energizing of the trip circuit and the arc extinction on an opening operation.

49. For a high speed circuit breaker the total clearing time is around

(a) few minutes.

(b) few seconds.

(c) 1 to 2 cycles.

(d) 5 to 20 cycles.

Answer: (c) 1 to 2 cycles.

50. The resistance of an electric arc can be increased by

(a) increasing the concentration of ionized particles.

(b) reducing the arc length.

(c) splitting the arc.

(d) increasing the arc x-section.

Answer: (c) splitting the arc.

51. The arc voltage in a circuit breaker is

(a) in the phase with the arc current.

(b) lagging the arc current by 90°.

(c) leading the arc current by 90°.

(d) lagging the arc current by 180°.

Answer: (a) in the phase with the arc current.

52. In a circuit breaker, the active recovery voltage depends upon

(a) circuit conditions.

(b) power factor.

(c) armature reaction.

(d) all of these.

Answer: (d) all of these.

53. In a circuit breaker the current that exists at the instant of contact separation is called the………current.

(a) restriking

(b) breaking

(c) arc

(d) recovery

Answer: (b) breaking

54. The rate of rise of restriking voltage (RRRV) depends upon

(a) system voltage.

(b) circuit pf only.

(c) switching condition only.

(d) both (b) and (c).

Answer: (d) both (b) and (c).

55. The RRRV depends upon the

(a) type of the circuit breaker.

(b) capacitance of the system only.

(c) inductance of the system only.

(d) inductance and capacitance of the system.

Answer: (d) inductance and capacitance of the system.

56. It is difficult to interrupt a capacitive circuit because

(a) the current has a leading power factor.

(b) the restriking voltage can be high.

(c) current magnitude is very small.

(d) stored energy in the capacitor is very high.

Answer: (b) the restriking voltage can be high.

57. In circuit breakers, oil, as quenching medium, has the advantage(s) of

(a) good cooling properties.

(b) absorption of arc energy.

(c) high dielectric strength.

(d) acting as an insulator.

(e) all of the above.

Answer: (e) all of the above.

58. In circuit breakers, oil, as quenching medium, has the disadvantage(s) of

(a) need of periodical reconditioning or replacement.

(b) risk of formation of explosive mixture with air.

(c) possibility of causing fire hazards.

(d) all of the above.

Answer: (d) all of the above.

59. Main purpose of oil in OCB is to

(a) provide insulation.

(b) provide cooling of contacts.

(c) quenching arc.

(d) none of above.

Answer: (c) quenching arc.

60. Arc interruption in an oil circuit breaker takes place when

(a) contacts apart.

(b) voltage goes through zero.

(c) current goes through zero.

Answer: (c) current goes through zero.

61. The chances of arc interruption in subsequent current zeros

(a) increase in case of ABCB but decrease in OCB.

(b) decrease in case of ABCB but increase in OCB.

(c) decrease in both cases.

(d) increase in both cases.

Answer: (b) decrease in case of ABCB but increase in OCB.

62. In a minimum oil circuit breaker the oil is used

(a) to act as circuit breaking medium only.

(b) for circuit breaking and providing insulation.

(c) for providing insulation only.

(d) for none of the above purposes.

Answer: (a) to act as circuit breaking medium only.

63. The air-blast circuit breakers for 400 kV system are designed to operate in

(a) 0.1 s

(b) 0.5 s

(c) 50 ms

(d) 100 ms

Answer: (c) 50 ms

64. The minimum oil circuit breaker has less volume of oil because

(a) the oil between the breaker contacts has greater strength.

(b) there is insulation between the breaker contacts.

(c) solid insulation is provided for insulating the contacts from the earth.

(d) none of the above.

Answer: (c) solid insulation is provided for insulating the contacts from the earth.

65. Air used in air blast circuit breaker must

(a) be ionized.

(b) be free from moisture.

(c) have least CO_2.

(d) have oil mist.

Answer: (b) be free from moisture.

66. In air-blast circuit breaker resistance switching is used to

(a) reduce the magnitude of fault current.

(b) control the CB operating time.

(c) damp out the fast transient.

(d) change the fault current power factor.

Answer: (c) damp out the fast transient.

67. SF6 gas has excellent heat transfer properties because of its

(a) low gaseous viscosity.

(b) high dielectric strength.

(c) higher molecular weight.

(d) both (a) and (b).

(e) both (a) and (c).

Answer: (e) both (a) and (c).

68. SF6 circuit breakers have the advantages of
(a) very much reduced electrical clearance, reduced moisture problem and minimum current chopping problem.

(b) noiseless operation, less arcing time resulting in less contact erosion.

(c) no reduction in dielectric strength of SF6.

(d) performance independent of ambient conditions.

(e) all of the above.

Answer: (e) all of the above.

69. SF6 circuit breakers have the drawback(s) of
(a) sealing problem of gas.

(b) ingress of moisture in the gas system is dangerous.

(c) deterioration of SF6 with time.

(d) both (a) and (b).

Answer: (d) both (a) and (b).

70. Which of the following statements is not correct?

(a) SF6 is non-toxic and noninflammable gas.

(b) SF6 has very high dielectric strength roughly 24 times of that of air.

(c) SF6 is yellow in color.

(d) SF6 is about 100 times more effective than air in are extinction.

(e) SF6 has density 5 times that of air at 20°C.

Answer: (c) SF6 is yellow in color.

71. The single most important property that makes SF6 a very efficient medium for circuit breaking is

(a) it is non-toxic and noninflammable.

(b) it has high dielectric constant.

(c) it has high breakdown strength.

(d) it is highly electronegative in character.

Answer: (d) it is highly electronegative in character.

72. During arc extinction SF6 gas gets

(a) decomposed into SF4 and SF2.

(b) decomposed into S and F ions

(c) reduced to SF2.

(d) oxidized.

Answer: (a) decomposed into SF4 and SF2.

73. SF6 gas is transported in

(a) air cylinders.

(b) gas cylinders.

(c) liquid form in cylinders.

(d) solid form.

Answer: (c) liquid form in cylinders.

74. The current chopping tendency is minimized by using SF6 gas at relatively

(a) low pressure and high viscosity.

(b) low pressure and low viscosity.

(c) high pressure and low viscosity.

(d) high pressure and high viscosity.

Answer: (b) low pressure and low viscosity.

75. To limit current chopping in vacuum circuit breakers, the contact material employed should have the properties of

(a) low conductivity and high vapor pressure.

(b) low conductivity and low vapor pressure.

(c) high conductivity and high vapor pressure.

(d) high conductivity and low vapor pressure.

Answer: (a) low conductivity and high vapor pressure.

76. A thermal protection switch provides protection against
(a) overload.

(b) temperature.

(c) short circuit.

(d) overvoltage.

Answer: (a) overload.

77. For remote operation, the circuit breaker must be equipped with
(a) inverse time trip.

(b) shunt trip.

(c) time delay trip.

(d) all of these.

Answer: (b) shunt trip.

78. Which of the following circuit breakers is generally used in railway electrification ?
(a) Air-blast circuit breaker.

(b) Minimum oil circuit breaker.

(c) Bulk oil circuit breaker.

(d) SF6 circuit breaker.

Answer: (a) Air-blast circuit breaker.

79. What is the preferred type of CB to be installed in extra high voltage ac system ?

(a) Bulk oil type CB

(b) Air-blast CB

(c) Vacuum CB

(d) Sulphur hexafluoride (SF6) CB

Answer: (d) Sulphur hexafluoride (SF6) CB

80. Keeping in view the cost and overall effectiveness, the following circuit breaker is best suited for capacitor bank switching

(a) vacuum.

(b) air-blast.

(c) SF6

(d) oil.

Answer: (a) vacuum.

81. Which of the following circuit breakers has the lowest operating voltage ?

(a) SF6 gas.

(b) Air-break.

(c) Air-blast.

(d) Minimum oil.

Answer: (b) Air-break.

82. Which of the following circuit breakers produce the least arc energy?

(a) Plain oil.

(b) Minimum oil.

(c) Air-blast.

(d) Air break.

Answer: (c) Air-blast.

83. Which of the following circuit breakers has high reliability and negligible maintenance?

(a) Air-blast.

(b) SF6

(c) Oil.

(d) Vacuum.

Answer: (b) SF6

84. Which of the following circuit breakers take minimum time in installation?

(a) Air-blast.

(b) Minimum oil.

(c) Bulk oil.

(d) SF6

Answer: (d) SF6

85. Where voltages are high and current to be interrupted is low, the circuit breaker preferred is........one.

(a) air-break

(b) vacuum

(c) oil

(d) air-blast

Answer: (b) vacuum

86. For rural electrification in a country like India with complex network, the circuit breaker preferred is.........one.

(a) air-break

(b) oil

(c) vacuum

(d) minimum oil

Answer: (c) vacuum

87. The most suitable circuit breaker for short line fault without switching resistor is……..one.

(a) minimum oil

(b) air-blast

(c) SF6

(d) air-break

Answer: (c) SF6

88. The rating of a circuit breaker is usually determined on the basis of……..fault.

(a) symmetrical

(b) line to line

(c) single line to ground

(d) double line to ground

Answer: (a) symmetrical

89. The transient phenomenon lasts in a power system for a period ranging from

(a) few ms to 1 s.

(b) 1 s to 2 s.

(c) 2 s to 3 s.

(d) greater than 3 s.

Answer: (a) few ms to 1 s.

90. Circuit breakers usually operate under

(a) steady short-circuit current.

(b) sub-transient state of short-circuit current.

(c) transient state of short-circuit current.

(d) none of these.

Answer: (b) sub-transient state of short-circuit current.

91. The restriking voltage is measured in

(a) RMS value.

(b) Peak value.

(c) Instantaneous value.

(d) Average value.

Answer: (b) Peak value.

92. The making and breaking currents of 3-phase ac circuit breakers in power system are respectively in what form?

(a) rms value, rms value.

(b) instantaneous value, rms value.

(c) rms value.

(d) instantaneous value, instantaneous value.

Answer: (d) instantaneous value, instantaneous value.

93. The breaking capacity of a 3-phase circuit breaker is given as

(a) service line voltage in volts x rated symmetrical current in amperes x 10^{-6} MVA.

(b) √3 service line voltage in volts x rated symmetrical current in amperes x 10^{-6} MVA.

(c) 1.1 x service line voltage in volts x rated symmetrical current in amperes x 10^{-6} MVA.

(d) √2 service line voltage in volts x rated symmetrical current in amperes x 10^{-6} MVA.

Answer: (b) √3 service line voltage in volts x rated symmetrical current in amperes x 10^{-6} MVA.

94. Rated breaking capacity (MVA) of a circuit breaker is equal to

(a) the product of rated breaking current (kA) and rated voltage (kV).

(b) the product of rated symmetrical breaking current (kA) and rated voltage (kV).

(c) the product of breaking current (kA) and fault voltage (kV).

(d) twice the value of rated current (kA) and rated voltage (kV).

Answer: (b) the product of rated symmetrical breaking current (kA) and rated voltage (kV).

95. The making to breaking current ratio for an EHV circuit breaker is

(a) more than 1.

(b) equal to 1.

(c) less than 1.

(d) a negative number.

Answer: (a) more than 1.

96. The making capacity of a circuit breaker is

(a) less than the asymmetrical breaking capacity of the breaker.

(b) greater than the asymmetrical breaking capacity of the breaker.

(c) equal to the symmetrical breaking capacity of the breaker.

(d) equal to the asymmetrical breaking capacity.

Answer: (b) greater than the asymmetrical breaking capacity of the breaker.

97. Which of the following statements is not correct?

(a) Arc chutes are used in air break circuit breakers.

(b) Air-blast circuit breakers are employed for high voltage traction system.

(c) Resistance switching is employed for overcoming current chopping.

(d) Linear resistors are used in resistance switching.

Answer: (d) Linear resistors are used in resistance switching.

98. Capacitor switching in 33 kV power system is better done with……….circuit breakers.

(a) air-blast

(b) minimum oil

(c) vacuum

Answer: (c) vacuum

99. The probable cause(s) for fall in insulation resistance between phase terminal and earthed frame could be

(a) dirty insulation surface.

(b) ingress of moisture.

(c) sticking of carbon or copper particles to the internal surface.

(d) all of the above.

Answer: (d) all of the above.

100. The probable cause(s) for failure of a circuit breaker on electrical compound could be

(a) trip circuit open.

(b) trip latch defective.

(c) spring defective.

(d) any of the above.

Answer: (d) any of the above.

101. Routine tests are conducted on

(a) bulk oil circuit breakers.

(b) minimum oil circuit breakers.

(c) air-blast circuit breakers.

(d) all of the above.

Answer: (d) all of the above.

102. An isolator is installed

(a) to isolate one portion of the circuit from another.

(b) usually on both sides of a circuit breaker.

(c) as a substitute for a circuit breaker.

(d) both (a) and (b).

Answer: (d) both (a) and (b).

103. Current rating is not necessary in case of

(a) isolators.

(b) circuit breakers.

(c) load break switches.

(d) circuit breakers and load break switches.

Answer: (a) isolators.

104. An isolator is meant for

(a) breaking abnormal current.

(b) making under fault condition.

(c) breaking the circuit under no-load condition.

(d) none of the above.

Answer: (c) breaking the circuit under no-load condition.

105. Isolators used in transmission lines are capable of breaking:

(a) fault current.

(b) no current.

(c) charging current.

(d) load current.

Answer: (c) charging current.

106. The oil switches may be

(a) remote or manually controlled.

(b) used for capacitor switching, street lighting control and automatic disconnect on power failure.

(c) used for high voltage and large current circuits.

(d) all of the above.

Answer: (d) all of the above.

107. For a fault at the terminals of synchronous generator, the fault current is maximum for a

(a) 3-phase fault.

(b) 3-phase to ground fault.

(c) line-to-ground fault.

(d) line-to-line fault.

Answer: (c) line-to-ground fault.