250 Electromagnetism Multiple Choice Questions

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This document contains 250 Electromagnetism MCQs (basic to advanced) with four options, correct answers, and concise explanations.

Q1. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m^2
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q2. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q3. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q4. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q5. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q6. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q7. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q8. Self-inductance is a property of:

A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q9. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q10. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q11. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q12. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q13. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q14. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q15. Displacement current concept was introduced by:
A) Faraday

B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q16. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q17. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q18. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q19. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q20. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q21. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q22. The unit of capacitance is:
A) Ohm
B) Farad

C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q23. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q24. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q25. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q26. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q27. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q28. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q29. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law

D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q30. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q31. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q32. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q33. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q34. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q35. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q36. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time

Correct Answer: B

Explanation: Induced emf ∝ rate of change of magnetic flux.

Q37. Coulomb's law gives the force between two:

A) Moving charges
B) Stationary charges
C) Magnets
D) Currents

Correct Answer: B

Explanation: Coulomb's law applies to stationary point charges.

Q38. Faraday's law of induction relates:

A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time

Correct Answer: B

Explanation: Induced emf ∝ rate of change of magnetic flux.

Q39. Self-inductance is a property of:

A) Capacitor
B) Coil
C) Resistor
D) Battery

Correct Answer: B

Explanation: A coil opposes change in current due to self-induced emf.

Q40. Self-inductance is a property of:

A) Capacitor
B) Coil
C) Resistor
D) Battery

Correct Answer: B

Explanation: A coil opposes change in current due to self-induced emf.

Q41. Faraday's law of induction relates:

A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time

Correct Answer: B

Explanation: Induced emf ∝ rate of change of magnetic flux.

Q42. The unit of capacitance is:

A) Ohm
B) Farad
C) Coulomb
D) Weber

Correct Answer: B

Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q43. Which law explains the direction of induced current?

A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law

Correct Answer: B

Explanation: Lenz's law gives the direction opposing the cause of induction.

Q44. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q45. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q46. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q47. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q48. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q49. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
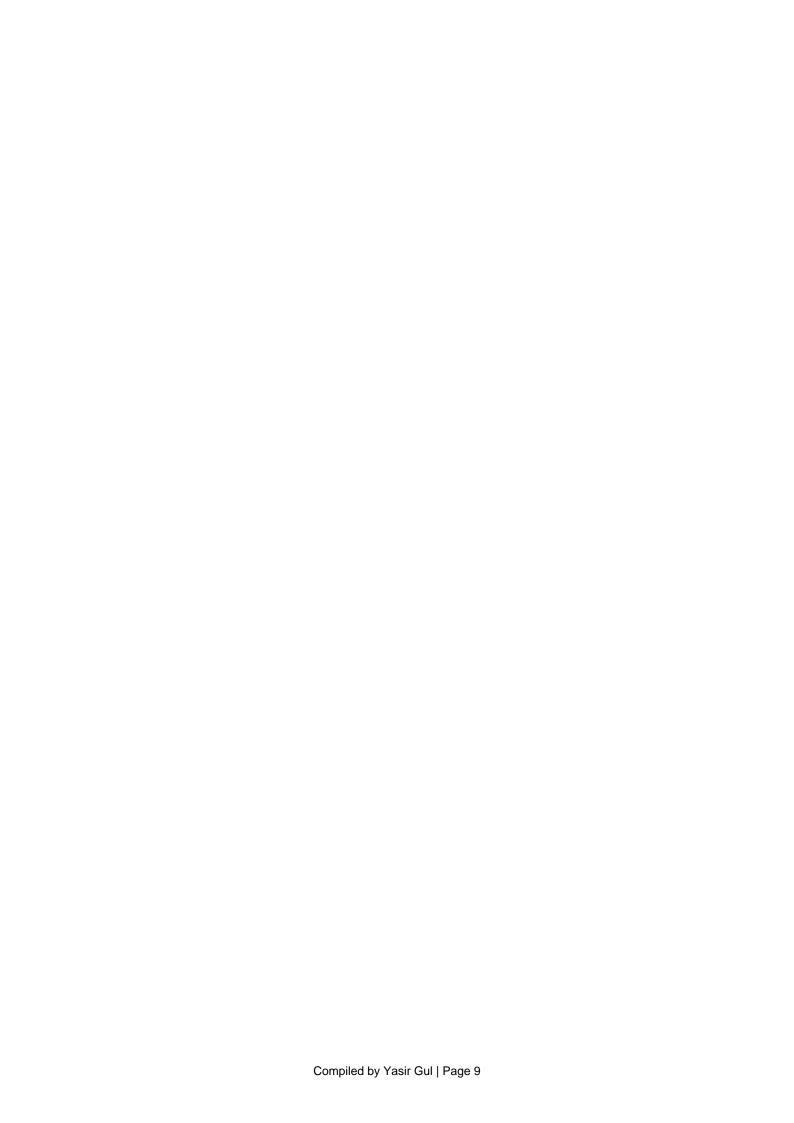B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q50. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q51. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q52. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q53. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q54. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q55. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q56. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q57. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q58. Displacement current concept was introduced by:

A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q59. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q60. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q61. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q62. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q63. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf ∝ rate of change of magnetic flux.

Q64. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q65. Faraday's law of induction relates:
A) Voltage and resistance

B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf ∝ rate of change of magnetic flux.

Q66. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf ∝ rate of change of magnetic flux.

Q67. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf ∝ rate of change of magnetic flux.

Q68. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q69. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q70. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q71. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf ∝ rate of change of magnetic flux.

Q72. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law

C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q73. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q74. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q75. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q76. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q77. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q78. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q79. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law

D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q80. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q81. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q82. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q83. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q84. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q85. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q86. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents

Correct Answer: B

Explanation: Coulomb's law applies to stationary point charges.

Q87. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q88. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q89. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q90. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q91. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q92. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q93. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B

Explanation: Lenz's law gives the direction opposing the cause of induction.

Q94. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q95. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q96. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q97. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q98. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q99. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q100. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q101. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q102. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q103. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q104. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q105. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q106. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q107. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q108. Magnetic flux through a surface is measured in:

A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q109. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q110. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q111. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q112. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q113. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q114. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q115. Self-inductance is a property of:
A) Capacitor

B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q116. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q117. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q118. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q119. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q120. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q121. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q122. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law

C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q123. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q124. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q125. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q126. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q127. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q128. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q129. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere

D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q130. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q131. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q132. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf ∝ rate of change of magnetic flux.

Q133. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q134. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q135. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q136. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time

Correct Answer: B

Explanation: Induced emf ∝ rate of change of magnetic flux.

Q137. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q138. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux $\phi = B \cdot A$, measured in Webers (Wb).

Q139. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q140. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q141. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q142. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q143. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B

Explanation: Lenz's law gives the direction opposing the cause of induction.

Q144. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q145. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q146. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q147. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q148. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q149. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q150. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q151. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q152. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q153. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q154. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q155. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q156. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q157. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q158. Self-inductance is a property of:

A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q159. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q160. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q161. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q162. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q163. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q164. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q165. Faraday's law of induction relates:
A) Voltage and resistance

B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q166. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q167. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q168. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q169. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q170. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q171. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q172. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law

C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q173. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q174. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q175. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q176. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q177. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q178. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q179. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry

D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q180. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q181. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q182. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q183. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q184. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q185. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q186. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla

Correct Answer: B

Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q187. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q188. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q189. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q190. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q191. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q192. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q193. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B

Explanation: Right-hand rule determines direction of force on moving charge.

Q194. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q195. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q196. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q197. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q198. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q199. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q200. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q201. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q202. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q203. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q204. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q205. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q206. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q207. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q208. Which law explains the direction of induced current?

A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B
Explanation: Lenz's law gives the direction opposing the cause of induction.

Q209. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q210. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q211. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q212. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q213. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q214. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q215. The SI unit of electric field is:
A) V

B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q216. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q217. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q218. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q219. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q220. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q221. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q222. Displacement current concept was introduced by:
A) Faraday
B) Maxwell

C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q223. Displacement current concept was introduced by:
A) Faraday
B) Maxwell
C) Ampere
D) Tesla
Correct Answer: B
Explanation: Maxwell introduced displacement current to complete Ampere's law.

Q224. Coulomb's law gives the force between two:
A) Moving charges
B) Stationary charges
C) Magnets
D) Currents
Correct Answer: B
Explanation: Coulomb's law applies to stationary point charges.

Q225. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q226. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q227. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.

Q228. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q229. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb

D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q230. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q231. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q232. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf ∝ rate of change of magnetic flux.

Q233. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q234. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf ∝ rate of change of magnetic flux.

Q235. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B
Explanation: A coil opposes change in current due to self-induced emf.

Q236. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law

Correct Answer: B

Explanation: Lenz's law gives the direction opposing the cause of induction.

Q237. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B

Explanation: Induced emf ∝ rate of change of magnetic flux.

Q238. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B

Explanation: Right-hand rule determines direction of force on moving charge.

Q239. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B

Explanation: A coil opposes change in current due to self-induced emf.

Q240. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B

Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q241. Self-inductance is a property of:
A) Capacitor
B) Coil
C) Resistor
D) Battery
Correct Answer: B

Explanation: A coil opposes change in current due to self-induced emf.

Q242. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B

Explanation: Lenz's law gives the direction opposing the cause of induction.

Q243. Which law explains the direction of induced current?
A) Faraday's law
B) Lenz's law
C) Ampere's law
D) Ohm's law
Correct Answer: B

Explanation: Lenz's law gives the direction opposing the cause of induction.

Q244. Right-hand rule gives the direction of:
A) Electric field
B) Magnetic force
C) Current
D) Displacement
Correct Answer: B
Explanation: Right-hand rule determines direction of force on moving charge.

Q245. Magnetic flux through a surface is measured in:
A) Tesla
B) Weber
C) Henry
D) Volt
Correct Answer: B
Explanation: Magnetic flux ϕ = B·A, measured in Webers (Wb).

Q246. The unit of capacitance is:
A) Ohm
B) Farad
C) Coulomb
D) Weber
Correct Answer: B
Explanation: Capacitance (C) = Q/V, unit is Farad (F).

Q247. Faraday's law of induction relates:
A) Voltage and resistance
B) Induced emf and rate of change of flux
C) Magnetic field and distance
D) Current and time
Correct Answer: B
Explanation: Induced emf $\propto$ rate of change of magnetic flux.

Q248. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q249. The SI unit of electric field is:
A) V
B) V/m
C) N
D) C/m²
Correct Answer: B
Explanation: Electric field E = Force/Charge = N/C = V/m.

Q250. Magnetic field due to long straight current-carrying wire:
A) Parallel to wire
B) Circular around wire
C) Perpendicular to current
D) Along current
Correct Answer: B
Explanation: Magnetic field lines form concentric circles around wire.