1. Why is the armature of DC machine made of Silicon steel stampings?
   Ans: To reduce eddy current losses
2. The function of commutator in a DC machine is
   Ans: To change AC voltage to DC voltage
3. The process by which an emf induced in a DC Generator is called as:
   Ans: Thermal
4. The dynamically induced emf is basically:
   Ans: An alternating current
5. A DC generator works on the principle of
   Ans: Faraday's law of electromagnetic Induction
6. Fleming's right hand rule is used to the
   Ans: Direction of induced emf
7. To induce an emf in a conductor, it is to
   Ans: Have either the conductor or the ma flux Moving
8. The general name for the source of mechanical energy that drives the generator is:
   Ans: Driver
9. The field structure of DC machine uses:
   Ans: Salient pole arrangement
10. The back emf in a DC motor.
    Ans: Opposes the applied voltage
11. The speed of a DC motor is
    Ans: Inversely proportional to flux per pole
12. motor has the best speed regulation
    Ans: Shunt
13. De series motors are used in those Applications where..... is required.
    Ans: High starting torque
14. The direction of rotation of shunt motor can be reversed by:
    Ans: Inter changing the polarity of field winding
15. The conductors of DC series and shunt field windings are visible, then
    Ans: Series field windings conductor is thick
16. Which of the following motors is suitable for heavy machine tools and rolling mills.
    Ans: Shunt motor
17. To limit the starting current, a resistance connected:
    Ans: In series with the armature
18. The torque of DC series motor is proportional to:
    Ans: Ia^2
19. The distance between the beginnings of two Consecutive turns is called as..... pitch:
    Ans: Front
20. The only function of dummy coils in a DC armature winding is to:
    Ans: Provide mechanical balance to the armature
21. Lap winding is suitable for.....current..... voltage DC generators:
    Ans: High, low
22. The series field of a short shunt DC generator is excited by ..... current.
    Ans: Load
23. The commutation process in a DC generator basically involves:
    Ans: Reversal of armature current in an armature coil as it crosses MNA
24. A large series motor is never started without mechanical load on it because it will
    Ans: Develop excessive speed and damage itself
25. The Ta/Ia graph of a DC series motor is a:
    Ans: Parabola up to full load and a straight line at over loads
26. A series motor is best suited for driving:
    Ans: Cranes and hoists
27. When load is removed..... motor will run at the highest speed
    Ans: Series
28. The speed of a DC motor can be controlled varying:
    Ans: All of the above
29. The OCC of a DC generator is also called as..... characteristic:
    Ans: Magnetic
30. Which of the following generator provides Approximately constant voltage from no load to full load
    Ans: Flat compound
31. Motor starters are essential for:
    Ans: Avoiding excessive starting current
32. Fleming's Left hand rule is applied for
    Ans: Motor action
33. When the speed of a DC shunt motor is increased its back emf will be
    Ans: Increased
34. Speed of a DC series motor at no load is
    Ans: 1500 rpm
35. If the field excitation of a DC motor is kept constant then the torque developed in the motor is directly proportional to
    Ans: Armature current

36. In a DC series generator, the series field coils are placed on
Ans: Pole core
37. After saturation of the field poles, the torque developed by a series motor is approximately proportional to
Ans: Ia
38. Which of the following motor is used in the locomotive drives?
Ans: DC series motor
39. The speed of the DC shunt motor increases as the armature torque increases
ANS: False
40. Inter pole winding is connected to
Ans: In series with the armature
41. No volt coil in a starter is to
Ans: Stop the motor when the supply fails
42. In DC generators, the brushes are always placed along
Ans: Magnetic neutral axis (MN**ANS:**
43. The polarity of a DC generator can be reversed by
Ans: Reversing field current
44. The voltage on full load of a DC generator is found to be equal to its voltage on no load. The generator is
Ans: Cumulative compound
45. For build-up of voltage, residual magnetism is essential in field system of all types of DC generators except in
Ans: Separately excited
46. Equalizer ring is necessary for the parallel operation of the following types of dc generators
Ans: Series and over compound generators
47. Direct on line starters are not suitable for starting large DC motors because
Ans: Large voltage drop may occur in the supply mains
48. The voltage induced in a conductor Proportional to the rate of change of flux line passing through the conductor
Ans: Faraday's law
49. All rotating machines are basically
Ans: Electro mechanical converter
50. For higher current rating of a machine, which of the following armature winding is preferred
Ans: Lap winding
51. Basically the voltage induced in a DC generator
Ans: AC only
52. In case of DC machine field system is
Ans: Stationary
53. The DC generators are classified as per
Ans: Excitation methods
54. Classification of DC motor is based on
Ans: The type of connection between armature and field winding
55. A fan is provided on a DC motor
Ans: To give cooling effect
56. Internal characteristic of a DC generator is plotted between
Ans: Ia and the voltage generated after armature reaction
57. Slot wedges in a DC machine are made of
Ans: Fiber
58. The armature reaction emf in a DC machine is
Ans: Triangular in shape
59. The yoke of a DC machine is made of
Ans: Cast iron
60. The armature of a DC machine is made of
Ans: Silicon steel
61. The armature winding of a DC machine is placed on the rotor to
Ans: Felicitate communication
62. The yoke of a DC machine carries ……. Pole flux
Ans: One hall
63. Carbon brushes are used in DC machine because
Ans: Carbon lubricates and polishes the commutator
64. The greatest percentage of heat loss in a DC machine is due to
Ans: Copper loss
65. The speed of a..... motor is practically constant
Ans: Shunt
66. The deciding factor in the selection of a motor for a particular application is..... characteristics
Ans: Speed torque
67. In a DC generator, if 'P' be the number of poles and N be the rpm of rotor, then the frequency of magnetic reversals will be
Ans: PN/120
68. For a DC generator, when the number of poles and the number of armature conductors are fixed, then which winding will give higher emf
Ans: Wave design

69. The polarity of a DC generator can be reversed by
Ans: Reversing field as direction of rotation
70. No, load speed of which motor will be highest
Ans: Series motor
71. A DC series motor
Ans: Should always be started on load
72. The function of the starter for a DC motor is
Ans: To limit the starting current
73. A DC motor can easily be identified by
Ans: Size of conductor
74. All DC machines are characterized by
Ans: Commutator
75. Electrical brushes in a DC machine are made
Ans: Carbon
76. Commutator in a Dc machine is made of
Ans: Copper
77. All electrical machine have generally poles with
Ans: A hetro polar structure
78. Electric DC generators have normally an overall efficiency of the order of
Ans: 85% to 95%
79. The material used for making the pole case of a DC machine is
Ans: Both of these
80. The purpose of a brush in a dc machine is
Ans: Provide connection between segments and commutators
81. The commutator segment in a DC machine made up of
Ans: Aluminum
82. A DC. shunt motor is
Ans: Constant speed motor
83. The possible resistance of the shunt field winding of a D.C machine is
Ans: 11
84. A DC cumulatively compounded motor delivers rated load torque at rated speed. If the series field is short-circuited, then the armature current and speed will
Ans: Both increase
85. A dc over compound generator is supplying power to an infinite bus. If the prime mover is accidentally cut off, the de machine will
Ans: Run as differentially compounded motor in reverse direction
86. The introduction of inter poles in between the main poles improves the performance of a dc machine, because
Ans: A counter- emf is induced in the coil undergoing commutation
87. In a dc machine, the armature mmf is
Ans: Triangular and directed along the brush axis
88. In a loaded dc generator, if the brushes are given a shift from the inter polar axis in the direction of rotation, then the commutation will
Ans: Improve with fall of terminal voltage
89. The series winding of a cumulatively compounded dc motor is short-circuited while driving a load at rated torque. This results in
Ans: Increase in both the armature current as well as the motor speed
90. Which one of the following is the correct statement? Field control of .dc. shunt motor gives
Ans: Constant kW drive
91. To prevent the shifting of the magnetic neutral axis, caused by the armature reaction in a DC machine, the most effective method, to neutralize the armature-flux is to
Ans: Place compensating windings on the main- pole faces
92. The series and shunt field windings of a short shunt cumulatively compound dc motor get interchanged by mistake. On supplying rated voltage, the motor shall
Ans: Run normally
93. In a dc motor if the brushes are shifted opposite to its direction of rotation, then
Ans: Commutation is improved and speed increases
94. In a dc machine, the demagnetizing effect of armature reaction is due to
Ans: Magnetic saturation in half of the field pole
95. Plugging of dc motors is normally done by
Ans: Reversing the armature polarity
96. A dc shunt wound motor finds application in
Ans: Steel rolling mills
97. Consider the following statements: A de shunt motor starter ensures that
Ans: Armature current is under limit during starting.
98. If the field of a dc shunt motor gets opened while the motor is running, then the
Ans: Motor will attain dangerously high speed

99. The residual magnetism of a self-excited dc generator is lost. To build up its emf again
Ans: Field winding must be excited by low voltage dc supply
100. In a large DC series motor, why is shunt field winding provided?
Ans: to generate working flux
101. A DC motor on switching was found to rotate in a direction opposite to the normal direction of rotation. What type of motor is?
Ans: Cumulative compound
102. In a regenerative braking, which of the following is generally true?
Ans: Back emf is less than applied voltage
103. Winding is employed in a dc machine of
Ans: Low current and high voltage rating
104. If a 230 V DC series motor is connected to a 230 V ac supply
Ans: The motor will vibrate violently
105. The value of back emf E_b in a dc motor is maximum at
Ans: Fill load
106. The function of a commutator in a dc machine is
Ans: To improve commutation
107. As the speed of dc generator is increased, the generated emf
Ans: Decreases
108. If the current in the armature of dc series motor is reduced to 50%, the torque of the motor will become:
Ans: 125% of the previous value
109. In a Brush Less DC (BLD**ANS:** motor, the construction of motor is similar to:
Ans: DC motor
110. What is the induced voltage across a coil with 220 turns located in a magnetic field that is changing at a rate of 10 Wb/s?
Ans: 220V
111. The flux density in a wire wound core can be increased by
Ans: Decreasing the current through the coil
112. Consider a 100-turn coil of wire with 0.5 A of current through it. What is the magneto motive force?
Ans: 50 at

113. Which of the following does Faraday's law deal with?
Ans: A magnetic field and a conductor
114. Which of the following is the standard requirement of a dc armature winding?
Ans: It should be a wave winding
115. The poorest voltage regulation exists in case of which of the following generators?
Ans: Shunt generators
116. What would be the value of pole pitch if there are 80 conductors and 8 poles?
Ans: 10
117. The transformer that should never have the secondary open-circuited when primary is energized is
Ans: Power transformer
118. Speed of a DC motor is
Ans: Inversely proportional to the air gap flux
119. What is the relationship between the speed (N) and armature current ($I_{Ans:}$ in case of a dc-series motor?
Ans: N α $1/I_a$
120. The DC shunt motor is running with a certain load. The effect of adding an external resistance in field circuit is to:
Ans: Reduce the motor speed
121. In DC motor, the speed depends upon:
Ans: Applied voltage alone
122. Three point starter can be used for:
Ans: Both shunt and compound motors
123. DC motor recommended for locomotive drive is:
Ans: DC shunt motor
124. Brushes are provided in DC machine for:
Ans: Preventing sparking
125. Carbon brushes are used in electric motors to
Ans: Prevent sparking during commutation
126. The function(s) of pole shoes in DC machine is are to
Ans: Reduce the reluctance of the magnetic path
127. Fleming's left hand rule is applicable to
Ans: DC generator
128. DC motors are still preferred for use in
Ans: Electric excavators steel mills and cranes
129. The back emf of a motor at the moment of starting
Ans: Minimum
130. The torque speed characteristic of a Repulsion motor same as the following DC motor characteristic
Ans: Series

131. The function of equalizing ring in lap wound DC generator is
Ans: To help get sparkles commutation
132. In a level compound generator, the series field A-T are
Ans: In the same direction as the shunt field A-T
133. Which of the motor is used for rolling mills?
Ans: DC cumulatively compound motor
134. What will happen if the supply terminals of DC shunt motor are inter changed
Ans: The direction of rotation will reverse
135. Which of the following test can be conducted on other than shunt machines
Ans: Retardation test
136. During the regenerative breaking energy is
Ans: Returned to the supply lines
137. Field poles and armature core of a DC generator are laminated in order to reduce
Ans: Weight
138. The mechanical power developed in a dc motor is equal to
Ans: Power input -mechanical losses
139. A DC series motor has linear magnetization characteristics and negligible armature resistance The motor speed is
Ans: Directly proportional to T^2 (Where T= load torque)
140. A 4-pole dc generator runs at 1500 rpm. The frequency of current in armature winding is
Ans: 100 Hz
141. For a D.C. series motor, which of the following expression is correct assuming torque (T) versus armature current (I_a) characteristics unsaturated?
Ans: $T \alpha - I_a$
142. A DC series motor should never be started at
Ans: Normal load condition
143. For DC motor magnets ….is preferred.
Ans: Iron cobalt alloy
144. The speed control of de shunt motor in both directions can be obtained by:
Ans: Armature voltage control method
145. In which of the following methods of speed control of DC series motor, "Field ampere-turns are adjusted in steps by varying the number of turns included in the circuit"?
Ans: Series-parallel control
146. In dc machines, the field-flux axis and armature- mmf axis are respectively along:
Ans: Quadrature axis and direct axis
147. If the speed of a DC machine is doubled and the flux remains constant, the generated EMF
Ans: Is doubled
148. If the flux per pole of a shunt-wound DC generator is halved, the generated EMF at constant speed.
Ans: Is halved
149. In DC machines, the main parts where core losses significantly occurs at:
Ans: The armature only
150. To save energy during braking, which type of braking is used?
Ans: Regenerative
151. Which of the following DC generators is employed in are welding?
Ans: Cumulative Compound
152. Which one acts as a mechanical rectifier in the process of converting AC current into DC current where the emf is induced in the armature winding?
Ans: Stator
153. The speed control of DC shunt motor in both the directions can be obtained by
Ans: Armature resistance control method
154. How can we find the applications of differentially compound D.C. motors?
Ans: Zero torque
155. The speed of a D.C. Motor is directly proportional to
Ans: Impressed voltage
156. A shunt generator gives the greatest voltage at
Ans: Drooping
157. Which of the following could be lamina-proximately the thickness of laminations of a D.C. machine?
Ans: 0.05 mm
158. In D.C. generators, the cause of rapid brush wear may be
Ans: Rough commutator surface
159. In lap winding, the number of brushes is always
Ans: Same as the number of poles
160. For a D.C generator when the number of poles and the number of armature conductors is fixed, then which winding will give the higher EMF?
Ans: Lap winding
161. In a four-pole D.C. machine
Ans: Two north poles follow two south poles

162. Copper brushes in D.C. machine are used
Ans: Where low voltage and high currents are involved
163. A separately excited generator as compared to a self-excited generator
Ans: Is enable to better voltage control?
164. In D.C. generators, current to the external circuit from armature is given through
Ans: Commutator
165. Brushes of D.C. machines are made of
Ans: Carbon
166. Welding generator will have
Ans: Delta windings
167. In case of DC machine winding, number of commutator segments
Ans: Number of armature conductors
168. For a D.C. machines laboratory following type of D.C. supply will be
Ans: Rotary converter
169. In a D.C. generator the critical resistance can be increased by
Ans: Increasing its field resistance
170. The number of armature parallel paths in a two- pole DC generator having duplex lap winding is
Ans: 8
171. For both lap and wave windings, there are as many commutator bars as the number of
Ans: poles
172. The series field of a short-shunt D.C. generator is excited by
Ans: Armature current
173. As a result of armature reaction, the reduction in the total mutual air gap flux in a D.C. generator is approximately
Ans: 25 %
174. No-load speed of which of the following motor will be highest?
Ans: Cumulative compound motor
175. The direction of rotation of a D.C. series motor can be changed by
Ans: Inter changing supply terminals
176. Which of the following application requires high starting torque?
Ans: Centrifugal pump
177. If a D.C. motor is to be selected for conveyors, which motor would be preferred?
Ans: Shunt motor
178. Which D.C. motor will be preferred for machine tools?
Ans: Differential compound motor
179. Differential compound D.C. motors can find applications requiring
Ans: High starting torque
180. Which D.C. motor is preferred for elevators?
Ans: Differential compound motor
181. As the load is increased the speed of D.C. shunt motor will
Ans: Increase proportionality
182. The armature torque of the D.C. shunt motor is proportional to
Ans: Field flux only
183. Which of the following methods of speed control of D.C. machine will offer minimum efficiency?
Ans: Field control method
184. Which one of the following is not necessarily the advantage of D.C. motors over A.C. motors?
Ans: Low cost
185. For a D.C. shunt motor if the excitation is changed
Ans: Torque and power both will change
186. Which motor has the poorest speed control?
Ans: Differentially compounded motor
187. The plugging gives the
Ans: Zero torque braking
188. If the speed of a DC shunt motor is increased the back EMF of the motor will
Ans: Increase
189. Which motor should not be started on no-load?
Ans: Shunt motor
190. Ward-Leonard control is basically a
Ans: Field control method
191. For constant torque drive which speed control method is preferred?
Ans: Shunt armature control
192. In a D.C. generator all of the following could be the effects of iron losses except
Ans: Increase in terminal voltage
193. Which of the following loss in a D.C. generator varies significantly with the load current
Ans: None
194. A rotary converter in general construction and design, is more or less like
Ans: An induction motor
195. A rotary converter operates at a
Ans: High power factor

196. In a rotary converter I^2 R losses as compared to a D.C. generator of the same size will be
Ans: Three times
197. For a 'P' pole machine, the relation between electrical and mechanical degree is
Ans: $\theta_{ele} = 4/P\ \theta_{mech}$
198. Why is the armature core of a DC machine laminated?
Ans: To reduce armature reaction
199. Lap winding is suitable for
Ans: Low voltage low current dc generators