

1. What are the 3 parts of the brain stem?
2. What is the "cerebral cortex"?
3. What are the 3 meninges of the CNS?
4. What is unique about the Dura mater?
5. What are the 2 "potential spaces" and what does "potential" mean?
6. What lies in the subarachnoid space?
7. What is the connective tissue covering each myelinated neuron called?
8. What are "bundles" of nerves called and what is each bundle covered by?
9. What is the epineurium?
10. What are the 2 nervous system classifications of the PNS?
11. What does efferent and afferent mean?
12. Somatic Sensory information is \_\_\_\_\_ and travels from what structures?
13. Somatic Motor information is \_\_\_\_\_ and travels to what structures?
14. Visceral afferent information comes from what structures?
15. What is the visceral efferent pathway also referred to as?
16. What is the purpose of the visceral efferent system?
17. What 2 types of cells are found in the nervous system?
18. What are glia cells?
19. What are the three categories of macroglia cells?
20. How many glia cells are there to neurons in the CNS?
21. What are microglia?
22. What is a microglia's primary purpose?
23. What glial cells produce myelin in the CNS?
24. What glial cells produce myelin in the PNS?
25. The glial cells of the CNS produce how many myelin internodes?
26. The glial cells of the PNS produce how many myelin internodes?
27. What is the purpose of myelin?
28. What are ependymal cells?
29. What is the choroid plexus?
30. What cells produce cerebral spinal fluid and where are they found?
31. How many ventricles are found in the brain?
32. Which glial cells possess NT receptors?
33. What two types of structures do Astrocytes provide, and where are they found?
34. What does the blood-brain-barrier do?
35. What type of junction is the BBB?
36. Astrocytes also influence embryonic \_\_\_\_\_ or \_\_\_\_\_ of neurites.
37. What does the glial limiting membrane do?

38. What is the cell body of a neuron called?
39. What part of the neuron receives information?
40. What are nissl bodies?
41. What is an axon hillock?
42. Where is the bouton and what does it contain?
43. What is Axoplasmic transport and why does it occur?
44. What are the 2 directions of axoplasmic transport?
45. What are the axonal spaces between myelin sheaths called?
46. What happens to the action potential when the myelin is very thick?
47. What is the input component?
48. If the input component is dependent on a stimulus intensity it is a \_\_\_\_\_ potential.
49. If the input component is dependent on the amount of neurotransmitter it is a \_\_\_\_\_ potential.
50. What is the Trigger component, and what is another name for it?
51. What is the conductile component?
52. What is the output component? Amount is based on what?
53. What are the 4 structural types of neurons, and give a human example of each?
54. What is the nuclei?
55. What is a ganglion?
56. Sensory input enters the CNS through the \_\_\_\_\_, and motor output exits the CNS through the \_\_\_\_\_.
57. What are the functional states of a gated ion channel?
58. What are the four types of gated channels?
59. What is the typical "resting membrane potential" of a cell and how is it determined?
60. What happens when the  $V_m$  is greater than or lower than the resting potential?
61. What ions are normally found in the extracellular fluid?
62. What ions are normally found in the intracellular fluid?
63. What is the equilibrium potential of an ion?
64. What is always attempting to maintain a resting membrane potential?
65. What kind of stimuli can activate the input zone?
66. How is a receptor potential generated?
67. What is the difference between a receptor potential and a synaptic potential?
68. Where is the highest concentration of voltage gated  $Na^+$  channels found?
69. What are the 5 phases of an action potential, and why do they occur?
70. How is an action potential generated at the trigger zone?

71. What is the absolute refractory period?
72. What is the relative refractory period?
73. What are the 2 types of synaptic transmission?
74. What is electrical synaptic transmission?
75. What is chemical synaptic transmission?
76. What is Charcot-Marie-Tooth disease?
77. What is asymmetrical synapsis?
78. What is symmetrical synapsis?
79. What modulates the amount of neurotransmitter release?
80. What is EPSP?
81. What is IPSP?
82. What is a synaptic potential?
83. What is temporal summation?
84. What is spatial summation?
85. What are synaptic vesicles and where are they found?
86. What happens when an action potential reaches the axon terminal?
87. What are excitatory NTs?
88. What are inhibitory NTs?
89. What are neuromodulators?
90. What are presynaptic metabotropic receptors?
91. What happens to unused NTs?
92. Where is Ach used?
93. What are the Tyrosine derivatives and what are they collectively called?
94. What NT is a derivative of Tryptophan?
95. What NT is a derivative of Histidine?
96. What are the amino acid NTs and what are they responsible for?
97. What are the most important neuroactive peptides and what is their function?
98. What are postsynaptic densities?
99. What are the 2 types of Neuro Transmitter gated receptors?
100. What are the 2 types of Ach receptors?
101. The agonist of a nicotinic receptor is \_\_\_\_\_ and the antagonist is \_\_\_\_\_.
102. The agonist of a muscarinic receptor is \_\_\_\_\_ and the antagonist is \_\_\_\_\_.
103. NMDA and non-NMDA receptors are utilized by which NT?
104. What is another name for a non-NMDA receptor?
105. The agonist of a non-NMDA receptor is \_\_\_\_\_ and the antagonist is \_\_\_\_\_.

106. NMDAs are receptors involving which ions and amino acids?
107. What is the purpose of Glycine in an NMDA receptor?
108. What is the purpose of Mg<sup>+</sup> and Zn<sup>2+</sup> in an NMDA receptor?
109. The antagonist of an NMDA receptor is \_\_\_\_\_.
110. What is the most common CNS demyelinating disease?
111. What are the symptoms of MS?
  
112. What is Lupus?
113. What is paresthesias?
114. What is internuclear ophthalmoplegia?
115. What is paresis?
116. What are the clinical courses of MS?
  
117. What is Guillian Barre Syndrome?
118. What are the symptoms of Guillian Barre?
119. How is Gullian Barre treated?
120. What is Amyotrophic Lateral Sclerosis?
121. What are the symptoms of ALS and what are the chances of survival?
122. What is Bells Paulsey?
123. What is Myasthenia Gravis?
124. What are the symptoms of Myasthenia Gravis?
125. What is prescribed for Myasthenia Gravis?
126. What is a lesion?
127. What is axotomy?
128. What is Chromalytic Reaction?
129. What occurs during a Chromalytic reaction?
130. What is another possible fate of the proximal portion?
131. What happens to the distal portion?
132. What occurs during a Wallerian degeneration?
133. What is Transneuronal Anterograde Degeneration?
134. What is Transneuronal Retrograde Degeneration?
  
135. How do PNS neurons regenerate?
136. If PNS axonal sprouts fail to synapse, what may they do and become?
137. What is Frey's Syndrome?
138. In the PNS, what is the order of axonal growth to myelin growth?

139. In the CNS, what is the order of axonal growth to myelin growth?
140. After the embryonic stages, on the PNS, via \_\_\_\_\_, produce \_\_\_\_\_.
141. The CNS secretes what that the PNS does not?
142. The CNS may have less \_\_\_\_\_ making them less able to regenerate.
143. In a CNS injury, what is often seen?
144. In the case of a CNS injury, what is important to be administered quickly?
145. What are the cranial nerves associated with the pons?
146. The vestibulocochlear is \_\_\_\_\_ with its nuclei found on the \_\_\_\_\_ of the \_\_\_\_\_ ventricle.
147. Where does the vestibulocochlear and facial nerve exit?
148. What are the functions of the VIII nerve?
149. A lesion to the vestibular portion results in what?
150. A lesion to the cochlear portion results in what?
151. What is nystagmus?
152. What is tinnitus?
153. Is the Facial, VII, nerve motor or sensory?
154. What is the motor nucleus of the facial nerve and what does it control?
155. What is the Sensory nucleus of the facial nerve and what does it deal with specifically?
156. What is the Secretomotor nucleus of the facial nerve and what does it control?
157. What two nerves control the tongue?
158. What is an upper motor neuron lesion of the facial nerve and what does it effect?
159. What is a LMN lesion of the facial nerve and what does it effect?
160. What is a LMN lesion of the facial nerve also known as?
161. In the case of a facial nerve lesion, the effected area usually exhibits what?
162. What is a patient suspected of a facial nerve lesion asked to do?
163. The trigeminal nerve is a \_\_\_\_\_ nerve.
164. What does the motor portion of the trigeminal nerve control?
165. What trigeminal nucleus controls pain and temperature of the face and oral cavity?
166. In the trigeminal nerve, what is in charge of proprioception?
167. In nerve V, what controls Pressure and discriminatory tactile sensation and of what structures?
168. What may occur if the trigeminal nerve has a lesion?
169. Shingles is the result of \_\_\_\_\_ causing \_\_\_\_\_ pain along the \_\_\_\_\_.
170. What is sudden unilateral severe sharp stabbing pain along the distribution of the nerve?
171. In a nerve V lesion, what side does the jaw deviation occur on and why?
172. The abducent #\_\_ nerve is a (motor/sensory) nerve.
173. Where is the nucleus and exit of the abducent?
174. What is the function of the abducent? Ipsi or contralateral control?
175. What is the failure to move eyes laterally?

176. What does the reticular formation control and a lesion of it may cause what?
177. A lesion to the corticospinal tract of the pons results in what?
178. A lesion to the corticobulbar tract or nucleus of the pons results in what?
179. A lesion to the medial lemniscus of the pons results in what?
180. The Bell-Magendie Law states what?
181. What is proprioception?
182. What cranial nerves are associated with the midbrain?
183. What raises the superior eyelid?
184. What nerve innervates the superior oblique?
185. What nerve innervates the Lateral recti muscle?
186. Unless noted, what muscle innervates an eye muscle?
187. The Oculomotor has 2 nuclei at the level of the \_\_\_\_\_ in the \_\_\_\_\_.
188. What nuclei of the oculomotor innervates the ciliaris and sphincter papillae?
189. What occurs when light is shown on the eye pupil causing contraction?
190. What is the only nerve to exit dorsally?
191. What is the focusing thickening adjustment of the ciliaris called?
192. What is diplopia?
193. Why does diplopia occur?
194. What is mydriasis?
195. What causes mydriasis?
196. What is cycloplegia and what do you lose with it?
197. The nucleus of the Trochlear nerve lies in the \_\_\_\_\_ at the level of the \_\_\_\_\_.
198. What is lost when the oculomotor nerve is lesioned?
199. What is lost when the trochlear nerve is lesioned?
200. Where does the Trochlear nerve decussate?
201. The nucleus of the abducent nerve is in the \_\_\_\_\_ beneath the \_\_\_\_\_.
202. A lesion of the abducent # \_\_\_ nerve results in \_\_\_\_\_ and \_\_\_\_\_.
203. What pathway does the superior colliculus contain?
204. The red nucleus is connected to what nuclei and receives input from where.
205. What does the red nucleus maintain?
206. What are the four main features of parkinson's disease?
207. What is bradykinesia?
208. What three types of fibers are found in the crus cerebri?
209. What promotes conjugate eye movements with the head?
210. What does the brachium of the Superior Colliculus conduct?
211. A lesion to the medial longitudinal fasciculus results in what?
212. The inferior colliculus and the brachium carry what type of information?

213. What envelops the inferior colliculus, thus enveloping what pathway?
214. A lesion to the red nucleus results in what?
215. Although the cerebellum is \_\_\_\_% of the brain, it contains more than \_\_\_\_% of its cells.
216. Most tracts bring information \_\_\_\_\_ the cerebellum.
217. The cerebellum contributes to the \_\_\_\_\_ of movement and involved in \_\_\_\_\_.
218. What separates the flocculonodular lobe?
219. What are the three layers of the cerebellar cortex?
220. \_\_\_\_\_ originate from the spinal cord and relay peripheral information.
221. Where do climbing fibers originate?
222. What type of information do climbing fibers relay?
223. Mossy fibers excite the \_\_\_\_\_ and \_\_\_\_\_, which excite the \_\_\_\_\_.
224. Climbing fibers excite the \_\_\_\_\_ and \_\_\_\_\_.
225. What do Purkinje cell inhibit and why is this important?
226. What is the only efferent fiber in the cerebellar cortex?
227. What are the four deep cerebellar nuclei?
228. What are the three functional divisions of the cerebellum?
229. What nucleus is found in the flocculonodular lobe?
230. What nucleus is found in the medial cerebellar hemispheres?
231. What nucleus is found in the lateral cerebellar hemispheres?
232. Due to a lack of \_\_\_\_\_ cues, a lesion of the Flocculonodular results in what?
233. The medial cerebellar hemispheres function in \_\_\_\_\_ and \_\_\_\_\_ of \_\_\_\_\_ muscles.
234. A lesion to the medial cerebellar hemisphere would result in what?
235. What is pendular reflexes?
236. What is scanning speech?
237. What is appendicular ataxia exhibited by dysmetria?
238. What is intention tremor?
239. The lateral cerebellar hemispheres are involved in the \_\_\_\_\_ and \_\_\_\_\_ of movement.
240. A lesion to the lateral cerebellar hemispheres results in a lack of a \_\_\_\_\_ thus forcing what?