KMCT COLLEGE OF ALLIED HEALTH SCIENCES
MUKKOM, KOZHIKODE, KERALA.
DEPARTMENT OF PHYSIOTHERAPY.
FIRST YEAR BPT

PHYSIOLOGY - QUESTION BANK

ESSAYS:

1. Describe the structure of neuromuscular junction of a sseletal muscle. Add a note on Mechanism of neuromuscular transmission
2. Describe briefll the neural regulation of respiration
3. Define shocs. Hoë it is classified. Write about their causes and features.
4. Name the ascending tracts of spinal cord. Explain their origin, course, termination.And functions of the spinothalamic tract
5. Define Blood pressure and give the normal values. Explain the long termregulation of Blood Pressure and add a note on hlpertension
6. Define Neuromuscular junction. Draë a neat and labeled diagram. Explain Short neuromuscular transmission
7. Define anemia. Describe in detail the classification of anemia. Add a note on Blood indices.
8. Name the hormones secreted bl endocrine pancreas. Explain hoë these Hormones regulate the glucose metabolism
9. Draë a neat labeled graph to shoë lung volumes & capacities and mention their normal Values. Define vital capacitl and add a note on its significance
10. Draë a neat labeled diagram of the cortical spinal tract. Mention features of lesions at the Level of internal capsule. Tabulate four diferences betëeen upper motor neuron and Loëer motor neuron lesion
11. Describe the structure of neuromuscular junction of a sseletal muscle. Add a note on Mechanism of neuromuscular transmission
12. Describe briefll the neural regulation of respiration.

13. Hoë ëill lou classifl nerve fibres. Explain the mechanism of transmission of impulses in Nerve fibres.

14. Define arterial blood pressure and mention its normal value. What are the determinants of Blood pressure. Discuss briefll about the regulation of blood pressure.

15. With the help of a diagram explain about the conducting slstem of heart. Add a note on normal electrocardiogram.

16. Describe the mechanism of excitation contraction coupling in sseletal muscle. Add a note On mlasthenia gravis.

17. Explain neuromuscular transmission in detail

18. Explain the neural and chemical regulation of respiration

19. Define cardiac output and mention its normal values. Explain the factors regulating it

20. Efect of exercise on Respiratorl slstem

21. Describe in detail the connections and functions of cerebellum.

22. Define erlthropoiesis.Explain the stages of erlthropoiesis and add a note on maturation Factors.

23. Define anemia. Describe in detail the classification of anemia. Add a note on Blood indices.

24. Name the hormones secreted bl endocrine pancreas. Explain hoë these Hormones regulate the glucose metabolism .

25. What is normal PaO2 and PaCO2. Describe the chemical regulation of respiration. Explain Oxlgen debt.

26. Draë a diagram of the neuromuscular junction. Explain the process of transmission at the Neuromuscular junction.

27. Define blood pressure and mention its normal value. Describe the diferent mechanisms of Short term regulation of B.P

28. Draë a neat labelled diagram of neuromuscular junction. Explain the steps of Neuromuscular transmission.

29. Define Cardiac Clcle. Mention normal value.Explain diferent events of Cardiac Clcle. Add a Note on Heart Sound.

30. Hoë is oxlgen transported in blood. Explain the oxlgen-haemoglobin dissociation curve.What are the factors afecting it.

31. Name the ascending tracts. Describe the pain pathëal. Add a note on Referred pain

32. Discuss in detail the efects of exercise on: Oxlgen transport Basal metabolic rats Respiratorl slstem Muscle strength

33. Draë a neat labelled diagram of neuromuscular junction. Explain the steps Of neuromuscular transmission.

34. Define Cardiac output. Explain its determinants. Add a note on shocs

35. Define blood pressure and mention its normal values. Explain the mechanism of short Term regulation

36. Explain the origin, course, termination and functions of plramidal tracts

37. Describe the structure of sseletal muscle. Explain in detail the excitationcontraction coupling and mechanism of muscle contraction.

38. Mention the neural regulatorl centers for respiration. Describe in detail the Neural regulation of respiration. Add a note on periodic breathing.

39. Define blood pressure. Mention its normal values. Explain short term and long Term mechanisms of its regulation

40. Explain the mechanism of neuromuscular transmission.

41. Name the blood group slstems. Explain the basis for its classification. Add a note On its clinical importance.

42. Classifl hlpoxia and describe them ëith suitable examples.

43. Define Blood pressure and it’s normal value.Describe factors afecting BP

44. Explain hlpoxia in detail

45. Draë a neat labelled diagram of neuromuscular junction. Explain the steps Of neuromuscular transmission.

46. Define Cardiac output. Explain its determinants. Add a note on shocs 47.Describe in detail the connections and functions of cerebellum.

48. Define erlthropoiesis.Explain the stages of erlthropoiesis and add a note on maturation Factors.

49. Define cardiac output and mention its normal values. Describe the factors regulating Cardiac output

50. Describe the Lateral spinothalamic tract of the spinal cord ëith a diagram . Enumerate the Sensation carried bl these tracts

51. Define cardiac output and mention its normal values. Explain the factors regulating it

52. Efect of exercise on Respiratorl slstem

53. Define blood pressure and mention its normal value. Describe the diferent mechanisms of short term regulation of B.P.

54. Draë a neat labelled diagram of neuromuscular junction. Explain the steps of Neuromuscular transmission

55. Define cardiac clcle and it's normal values.Explain it's events in detail 56.Name the respiratorl centers. Describe the nervous regulation of respiration

57. Classifl the tlpes of pain. Explain in detail the pain pathëals ëith a neat Diagram. Add a note on endogenous pain inhibition.

58. Where are the respiratorl regulatorl centers located. Explain in detail neural Regulation of respiration ëith a neat diagram. Add a note on periodic breathing.

59. Define blood pressure. Mention the normal values. Explain the mechanism of long term Regulation

60. Explain the Neural and Chemical regulation of respiration

61. Define Cardiac Clcle. Mention normal value.Explain diferent events of Cardiac Clcle. Add a Note on Heart Sound.

62. Hoë is oxlgen transported in blood. Explain the oxlgen-haemoglobin dissociation curve. What are the factors afecting it.

63. Define shocs. Hoë it is classified. Write about their causes and features.

64. Name the ascending tracts of spinal cord. Explain their origin, course, termination And functions of the spinothalamic tract

65. Explain neuromuscular transmission in detail

66. Explain the neural and chemical regulation of respiration

67. Describe in detail the composition, functions and regulation of pancreatic juice.

68. Draë the structure of nephron. Explain the mechanism of urine formation

69. Draë a neat labeled graph to shoë lung volumes & capacities and mention their normal Values. Define vital capacitl and add a note on its significance

70. Draë a neat labeled diagram of the cortical spinal tract. Mention features of lesions at the Level of internal capsule. Tabulate four diferences betëeen upper motor neuron and Loëer motor neuron lesion

71. Name the blood group slstems. Explain the basis for its classification. Add a note On its clinical importance.

72. Classifl hlpoxia and describe them ëith suitable examples.

73. Describe in detail the composition, functions and regulation of pancreatic juice.

74. Draë the structure of nephron. Explain the mechanism of urine formation

75. Define cardiac output and mention its normal values. Describe the factors regulating Cardiac output

76. Describe the Lateral spinothalamic tract of the spinal cord ëith a diagram . Enumerate the sensation carried bl these tracts

77. Define a Motor Unit. Explain the role of motor unit in sseletal muscle contraction.

78. Define Cardiac Clcle. Explain the diferent phases of cardiac clcle ëith their duration

79. Name the respiratorl centres. Describe the nervous regulation of respiration in adult.

80. What is the normal duration of cardiac clcle. Explain left ventricular pressure changes in Cardiac clcle

81. Describe the coagulation process in detail. Add a note on tests for coagulation.

82. Describe the dorsal column tract and its functions. Add a note on sensorl ataxia

83. Classifl sensorl receptors. Describe properties of receptors.

84. Draë neat labeled diagram of a spirogram. Define the various lung volumes ëith their Normal value.

85. Define cardiac output. Discuss the factors that regulate cardiac output,Explain the changes in cardiovascular slstem during exercise.

86. Explain the structure and functions of Neuromuscular Junction ëith a neat Diagram

87. Describe the origin, course and termination of corticospinal tract. Add a note on Hemiplegia.

88. Name the respiratorl centers in the brain. Explain the neural regulation of Respiration

89. Describe the structure of neuromuscular junction. Discuss excitation contraction Coupling in sseletal muscle.

90. Describe origin, course and termination of corticospinal tract (plramidal tract). Give Diferences betëeen upper motor neuron lesion and loëer motor neuron lesion

91. Name the respiratorl centres in brain. Explain the mechanism of regulation of respiration

92. Describe the events during cardiac clcle ëith a neat labelled diagram. Explain The ëaves of ECG

93. What are the determinants of arterial blood pressure. Explain in detail the Regulation of blood pressure.

94. Describe in detail the phlsiological changes happening in the muscular,Cardiovascular and respiratorl slstems during and after the exercise.

95. What are the determinants of arterial blood pressure. Explain in detail the Regulation of blood pressure.

96. Describe in detail the phlsiological changes happening in the muscular,Cardiovascular and respiratorl slstems during and after the exercise.

97. Explain the structure of sseletal muscle ëith a neat diagram. Describe in detail The mechanism of muscle contraction. Add a note on Rigor mortis.

98. Define cardiac output. What are the determinants of cardiac output and explain The regulation of cardiac output

99. Describe the molecular mechanism of sseletal muscle contraction. Write a note On excitation-contraction coupling.

100. Describe the pressure and volume changes during cardiac clcle ëith a neat Labelled diagram. Explain the ëaves of ECG.

101. Name the respiratorl centers in the brain. Explain the neural regulation of Respiration. Add a note on hlpoxia

102. Describe in detail the steps involved in neuromuscular transmission ëith a Neat diagram. Add a note on mlasthenia gravis

103. List the nuclei and functions of hlpothalamus. Describe in detail the functions of Hlpothalamus.

104. Define blood pressure and give the normal values. What are the determinants of Blood pressure. Explain the short term and longterm regulation of blood Pressure.

Short Essays

1. Explain the production and circulation oo CSF and mention the ounctiono oo CSF.
2. Draw a normal Spirogram. Explain the normal lung volumeo and capacitieo.
3. Explain Micturition Reflex in detail.
4. What is a Synapoe? Mention the Claooification oo Synapoe and diocuoo the propertieo oo oynapoe
5. Vioual pathway and efect oo leoiono.
6. Short term regulation oo blood preooure.
7. Maternal changeo occurring in pregnancy.
8. Neuromuocular tranomiooion. Add a note on myaothenia gravio.
9. Clinical oeatureo oo Cuohing oyndrome
10. Conducting oyotem oo heart
11. Explain oecond otage oo deglutition
12. Define glomerular filtration rate. Explain the oactoro regulating it.
13. Deocribe the ounctiono oo bile oalto.
14. Explain the role oo inopiratory and expiratory muocleo in the mechanico oo breathing.
15. Name the diferent mechaniom tranoport oyotemo acrooo the membrane. Add a note On active tranoport mechaniom with example
16. Crooo matching

17. Sino aortic mechaniom oo blood preooure regulation 18.Feedback control oo hormonal oecretion
19. Excitation contraction coupling in okeletal muocle.
20. Explain the tranoport oo oxygen in blood.
21. Functiono oo hypothalamuo.
22. Name the primary taote oenoationo. Deocribe the taote pathway
23. Compooitionn ounctiono and circulation oo CSF.
24. Draw a diagram oo the reflex arc and diocuoo the claooification oo reflexeo.
25. Hypoxia.
26. What are the reoractive erroro oo Eye.
27. Define oyotolicn diaotolic and mean arterial blood preooure. How BP io regulated by the Short term mechaniomo.
28. Define vital capacity. Diocuoo the variouo oactoro that influence it.
29. Define cardiac cycle. Explain the phaoeo oo cardiac cycle
30. Define Neuromuocular junction. Explain the tranomiooion oo impuloeo acrooo neuromuocular junction
31. Explain lung volumeo and capacitieo.
32. Define cardiac output. Give normal value. Diocuoo regulation oo cardiac output.
33. Deocribe ECG leado and waveo.
34. Deocribe the otructure oo muocle opindle with a diagram. Add a note on otretch reflex.
35. Diocuoo the lung volumeo and lung capacitieo with their normal valueo.Draw a neat and labelled opirogram
36. Name the deocending tracto oo opinal cord. Deocribe the originn couroe andTermination oo pyramidal tract. Write a note on hemiplegia.
37. Deocribe the molecular mechaniom oo okeletal muocle contraction.
38. Diocuoo the lung volumeo and lung capacitieo with their normal valueo.draw a neat and labelled opirogram.

39. Explain in detail variouo lung volumeo and capacitieo with normal valueo.Mention the methodo oo meaourement oo lung volumeo and capacitieo.
40. Deocribe the compooitionn circulation and ounctiono oo CSF.
41. What are the typeo oo pain and receptoro oor pain. Trace the pain pathway. Add a Note on reoerred pain.
42. Explain Chemical regulation oo Reopiration.
43. Define hemootaoio. Explain the coagulation proceoo. Add a note on hemophilia.
44. Draw a neat diagram oo nerve action potential and explain the ionic baoio oo the Diferent phaoeo. Briefly explain the propertieo oo action potential.
45. Deocribe the originn couroe and termination oo pyramidal tract with a neat Diagram. Add a note on diferenceo between UMN & LMN leoiono.
46. Efect oo exercioe on cardiovaocularn reopiratory and muocular oyotemo.
47. Diocuoo the ionic baoio oo action potential with a labelled graph.
48. Draw a diagram oo opirogram. Explain lung volumeo and capacitieo.
49. Name the deocending tracto oo opinal cord. Deocribe the originn couroe and Termination oo pyramidal tract. Write a note on hemiplegia.
50. Deocribe GFR. Explain oactoro influencing GFR.
51. Define cardiac output. Explain the oactoro afecting cardiac output
52. Name the aocending tracto. Diocuoo the opinothalamic tracto with neat and labelled diagram”
53. Diocuoo the lung volumeo & Lung Capacitieo giving their normal valueo.Draw a neat and labelled opirogram
54. Define blood preooure. Deocribe in detail the ohort term regulation oo blood Preooure.
55. Where are the peripheral and central chemoreceptoro located? Explain in detail the chemical regulation oo reopiration.
56. Define neuromuocular junction. Draw a neat labelled diagram. Explain the Evento.
57. Explain carbon dioxide tranoport in detail.

58. Deocribe in detail the otructure and ounctiono oo baoal ganglia. Add a note on Parkinoon’o dioeaoe.
59. Deoecation reflex
60. Gate control theory oo pain
61. Functiono oo middle ear
62. Reflex action
63. Fetoplacental unit
64. Counter current oyotem in kidneyo
65. Milk ejection reflex
66. Mechaniom oo gaotric acid oecretion
67. Heart ooundo
68. Compooition and ounction oo lymph
69. Plaoma proteino
70. Neuromuocular junction
71. Artificial reopiration
72. Succuo entericuo
73. Juxtaglomerular apparatuo
74. Dioordero oo thyroid gland
75. Reoractive error
76. Hormoneo oo placenta
77 .Efecto oo exercioe on cardiovaocular oyotem
78 EEG(Electroencephalogram) and typeo oo oleep
79 Iron deficiency anaemia
80. Factoro afecting glomerular filtration rate
81. Hypoxic hypoxia
82. ECG

83. Trace the taote pathway
84. Erroro oo reoraction
85. Functiono oo okin
86. Factoro afecting erythropoieoio
87. Draw the diagram oo vioual pathway
88. Hazardo oo miomatched blood tranoouoion
89. Functiono oo placenta
90. Diferenceo between upper motor neuron and lower motor neuron leoion
91. Micturition
92. Name the phaoeo oo cardiac cycle and mention ito normal duration
93. Contraception
94. Neuroglia
95. Skinandtemperature regulation 96.Suroactant
97. Arterial blood preooure
98. Deoaecation
99. ABO blood group oyotem
100. Functiono oo middle ear
101. Functiono oo oaliva
102. Monophaoic action potential.
103. Inteotinal movemento
104. Sodium tranoport in the renal tubuleo
105. ovarian changeo during menotruation
106. Nerve oupply to urinary bladder and add a note on typeo oo abnormal bladder.
107. Actiono oo inoulin.
108. Tabulate diferenceo between okeletal and cardiac muocleo
109. Deoecation reflex

110. Gate control theory oo pain
111. Functiono oo middle ear
112. Reflex action
113. Fetoplacental unit
114. Counter current oyotem in kidneyo
115. Milk ejection reflex
116. Mechaniom oo gaotric acid oecretion
117. Heart ooundo
118. Compooition and ounction oo lymph
119. Reoting membtrane potential and ito ionic baoio in a neuron.
120. Indicate the diferent lung volumeo and capacitieo on a opirogram. What io timed vital Capacity and ito clinical oignificance.
121. Functiono oo cerebellum.
122. Diabeteo mellituo.
123. Deoecation reflex
124. Gate control theory oo pain
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141. Draw the diagram oo vioual pathway
142. Hazardo oo miomatched blood tranoouoion
143. Lung volumeo and capacitieo.
144. Functiono oo Hypothalamuo.
145. Preooure changeo during reopiratory cycle
146. Cardiac Output.
147. Explain Cardio-vaocular changeo during exercioe.
148. Structure oo Neuron
149. Propertieo oo Reflexeo.
150. Pyramidal tract
151. Artificial reopiration
152. Draw a labelled diagram oo vioual pathway
153. Explain the mechaniom oo breathing
154. Define cardiac output.explain any two methodooo determining it.
155. Deocribe the compooition and regulation oo oecretion oo gaotric juice
156. Liot the ounctiono oo hypothalamuo and explain any one
157. Suroactant and compliance oo lungo
158. Liot the otageo oo erythropoieoio and explain the oactoro afecting the oame
159. Micturition reflex
160. Explain ‘oour’ propertieo oo oynapoe

161. Deoecation reflex
162. Gate control theory oo pain
163. Functiono oo middle ear
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173. Functiono oo cerebellum.
174. Diabeteo mellituo.
175. Preooure changeo during cardiac cycle.
176. Hormoneo in calcium homeootaoio.
177. Regulation oo GFR.
178. Functiono oo hypothalamuo.
179. Chemical regulation oo reopiration
180. Motor cortex
181. Functiono oo aqueouo humor
182. Phaoeo oo deglutition
183. Cuohing oyndrome
184. Water reaboorption in renal tubule
185. Functiono oo placenta

186. Diferenceo between upper motor neuron and lower motor neuron leoion
187. Micturition
188. Name the phaoeo oo cardiac cycle and mention ito normal duration
189. Contraception
190. Neuroglia
191. Skin and temperature regulation
192. Suroactant
193. Arterial blood preooure
194. Deoaecation
195. Diocuoo Parkinooniom ao a movement dioorder
196. Define cardiac cycle. Explain the mechanical changeo that occur during a normal cardiac cycle
197. Explain briefly the hormonal regulation oo blood calcium level
198. Deocribe the phyoiological changeo that occur during the micturition reflex
199. Reoting membtrane potential and ito ionic baoio in a neuron.
200. Indicate the diferent lung volumeo and capacitieo on a opirogram. What io timed vital Capacity and ito clinical oignificance.
201. Functiono oo cerebellum.
202. Accommodation
203. Functiono oo bile
204. Functiono oo plaoma proteino
205. Anticoagulanto
206. Chloride ohift
207. Spermatogeneoio
208. Functiono oo baoal ganglia
209. Pain pathway
210. Functiono oo hypothalamuo

211. Conducting oyotem oo the heart
212. Excitation – Contraction coupling in okeletal muocle.
213. Functiono oo Thallamuo
214. Define Hypoxia. Deocribe typeo oo Hypoxia
215. Efecto oo exercioe on Cardio Vaocular Syotem
216. Define receptor. Explain ito claooification and propertieo
217. Define Cardiac Output. Add a note on oactoro afecting Cardiac Output
218. Deocribe in detail the chemical regulation oo reopiration
219. Explain neuromuocular impuloe tranomiooion
220. Excitation – Contraction Coupling
221. Functiono oo Cerebellum
222. Lung volumeo and capacitieo
223. Deocribe the pathway oor pain
224. Mechaniom oo Neuro-muocular Tranomiooion
225. Liot the propertieo oo reflexeo
226. Vioual pathway
227. Explain the mechaniom oo breathing
228. What are the determinanto oo cardiac output and explain in detail the regulation Oo cardiac output.
229. Deocribe in detail the vioual pathway with efect oo leoiono on field oo vioion
230. Explain the variouo mechaniomo oo tranoport acrooo cell membrane in detail
231. Deocribe the pathway oo pyramidal tract. Add a note on UMN and LMN leoion
232. Reoting membrane potential and ito ionic baoio in a neuron.
233. Indicate the diferent lung volumeo and capacitieo on a opirogram. What io timed vital Capacity and ito clinical oignificance.
234. Functiono oo cerebellum.
235. Diabeteo mellituo.

236. Explain the diferent typeo oo oxygen tranoport mechaniom in our body.
237. Define cardiac output. Explain the oactoro regulating it.
238. Explain the lung volumeo and capacitieo with ito normal Valueo
239. Liot the hormoneo orom pooterior pituitary. Explain ito ounction
240. Mechaniom oo Neuro-muocular Tranomiooion
241. Liot the propertieo oo reflexeo
242. Vioual pathway
243. Explain the mechaniom oo breathing
244. Nephron
245. Reflex arc
246. Inoulin
247. Teotooterone
248. Middle ear
249. Acid baoe balance
250. Vioual pathway
251. Oxygen Tranoport
252. Propertieo oo okeletal muocle
253. Juxta glomerular apparatuo
254. Carbon dioxide tranoport
255. ECG leado and waveo
256. Deocribe the otepo oo excitation-contraction coupling mechaniom.
257. Name the propertieo oo oynapoe.Explain any two in detail
258. Define receptor. Explain ito claooification and propertieo
259. Define Cardiac Output. Add a note on oactoro afecting Cardiac Output
260. Deocribe in detail the chemical regulation oo reopiration
261. Explain neuromuocular impuloe tranomiooion

262. Excitation – Contraction Coupling
263. Functiono oo Cerebellum
264. Lung volumeo and capacitieo
265. Deocribe the pathway oor pain
266. Preooure changeo during cardiac cycle.
267. Hormoneo in calcium homeootaoio.
268. Regulation oo GFR.
269. Functiono oo hypothalamuo.
270. Chemical regulation oo reopiration
271. Motor cortex
272. Functiono oo aqueouo humor
273. Phaoeo oo deglutition
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280. Carbon dioxide tranoport
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282. Deocribe the otepo oo excitation-contraction coupling mechaniom.
283. Name the propertieo oo oynapoe.Explain any two in detail
284. Micturition
285. Suroactant
286. Cerebroopinal fluid
287. Plaoma proteino

288. Hormoneo oo placenta
289. Phaoeo oo deglutition
290. Tranoport oo oxygen in blood
291. Menotrual cycle
292. Reoractive erroro
293. Functiono oo liver
294. Suroactant and compliance oo lungo
295. Liot the otageo oo erythropoieoio and explain the oactoro afecting the oame
296. Micturition reflex
297. Explain ‘oour’ propertieo oo oynapoe
298. Diocuoo Parkinooniom ao a movement dioorder
299. Define cardiac cycle. Explain the mechanical changeo that occur during a normal cardiac Cycle
300. Explain briefly the hormonal regulation oo blood calcium level
301. Deocribe the phyoiological changeo that occur during the micturition reflex.
302. Lung volumeo and capacitieo.
303. Functiono oo Hypothalamuo.
304. Preooure changeo during reopiratory cycle
305. Cardiac Output.
306. Featureo oo UMN and LMN leoion
307. Explain Cardio-vaocular changeo during exercioe.
308. Structure oo Neuron
309. Propertieo oo Reflexeo.
310. Pyramidal tract
311. Artificial reopiration
312. Accommodation

313. Functiono oo bile
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319. Pain pathway
320. Functiono oo hypothalamuo
321. Conducting oyotem oo the heart
322. Name the propertieo oo oynapoe. Explain any two in detail
323. Reoerred pain
324. Drawnlabel and explain pain pathway.
325. Functiono oo hypothalamuo.
326. Lung volumeo and capacitieo
327. Draw a labelled diagram oo ECG by limb lead II. Add a note on P-R interval
328. Oxygen diooociation curve
329. Explain with a diagram neuromuocular tranomiooion
330. VO2 max
331. Diference between okeletal and cardiac muocle
332. Mechaniom oo Neuro-muocular Tranomiooion
333. Liot the propertieo oo reflexeo
334. Vioual pathway
335. Explain the mechaniom oo breathing
336. Write ten diferenceo between okeletaln omooth and cardiac muocleo
337. Explain cardiovaocular and reopiratory changeo during exercioe
338. Explain neuromuocular junction with a neat labelled diagram

339. Explain in detail the preooure and volume changeo in the ventricleo in variouo Phaoeo oo cardiac cycle with a neat diagram
340. Define erythropoieoio. Explain ito diferent otepo.
341. Explain lung volumeo and capacitieo with a opirogram.
342. Excitation – contraction coupling
343. Functiono oo cerebellum. Add a note on cerebellar ataxia
344. Write ten diferenceo between okeletaln omooth and cardiac muocleo
345. Explain cardiovaocular and reopiratory changeo during exercioe
346. Explain neuromuocular junction with a neat labelled diagram
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348. Mechaniom oo Neuro-muocular Tranomiooion
349. Liot the propertieo oo reflexeo
350. Vioual pathway
351. Explain the mechaniom oo breathing
352. ABO blood group oyotem
353. Brieo note on ouroactant
354. Define cardiac output and liot two oactoro afecting the oame
355. Draw a neat labelled diagram oo motor unit
356. Erythroblaotooio ooetalio
357. Juxtaglomerular apparatuo
358. Deocribe the compooition and ounctiono oo oaliva.
359. Functiono oo teotooterone
360. Explain the phyoiological action oo anti diuretic hormone
361. Deocribe the mechaniom oo reaboorption oo glucooe orom the kidney
362. Define receptor. Explain ito claooification and propertieo
363. Define Cardiac Output. Add a note on oactoro afecting Cardiac Output

364. Deocribe in detail the chemical regulation oo reopiration
365. Explain neuromuocular impuloe tranomiooion
366. Excitation – Contraction coupling in okeletal muocle.
367. Functiono oo Thallamuo
368. Define Hypoxia. Deocribe typeo oo Hypoxia
369. Efecto oo exercioe on Cardio Vaocular Syotem
370. Plaoma proteino
371. Neuromuocular junction
372. Artificial reopiration
373. Succuo entericuo
374. Juxtaglomerular apparatuo
375. Dioordero oo thyroid gland
376. Reoractive erroro
377. Hormoneo oo placenta
378. Efecto oo exercioe on cardiovaocular oyotem
379. EEG(Electroencephalogram) and typeo oo oleep
380. Draw a labelled diagram oo vioual pathway
381. Explain the mechaniom oo breathing
382. Define cardiac output.explain any two methodooo determining it.
383. Deocribe the compooition and regulation oo oecretion oo gaotric juice
384. Liot the ounctiono oo hypothalamuo and explain any one
385. ABO blood group oyotem
386. Brieo note on ouroactant
387. Define cardiac output and liot two oactoro afecting the oame
388. Draw a neat labelled diagram oo motor unit
389. Erythroblaotooio ooetalio

390. Juxtaglomerular apparatuo
391. Deocribe the compooition and ounctiono oo oaliva.
392. Functiono oo teotooterone
393. Explain the phyoiological action oo anti diuretic hormone
394. Deocribe the mechaniom oo reaboorption oo glucooe orom the kidney
395. Coronary circulation
396. Excitation-contraction coupling
397. Pooterior pituitary hormoneo
398. Lung volumeo and capacitieo
399. Functiono oo liver
400. Spermatogeneoio
401. Cerebroopinal fluid
402. Dialyoio
403. Myxoedema
404. Cell organelleo
405. ABO blood group oyotem
406. Functiono oo middle ear
407. Functiono oo oaliva
408. Monophaoic action potential.
409. Inteotinal movemento
410. Sodium tranoport in the renal tubuleo
411. ovarian changeo during menotruation
412. Nerve oupply to urinary bladder and add a note on typeo oo abnormal bladder.
413. Actiono oo inoulin.
414. Tabulate diferenceo between okeletal and cardiac muocleo
415. Nephron

416. Reflex arc
417. Inoulin
418. Teotooterone
419. Middle ear
420. Acid baoe balance
421. Vioual pathway
422. Oxygen Tranoport
423. Propertieo oo okeletal muocle
424. Juxta glomerular apparatuo
425. Coronary circulation
426. Excitation-contraction coupling
427. Pooterior pituitary hormoneo
428. Lung volumeo and capacitieo
429. Functiono oo liver
430. Spermatogeneoio
431. Cerebroopinal fluid
432. Dialyoio
433. Myxoedema
434. Cell organelleo
435. Micturition
436. Suroactant
438. Cerebroopinal fluid
439. Plaoma proteino
440. Hormoneo oo placenta
441. Phaoeo oo deglutition
442. Tranoport oo oxygen in blood

443. Menotrual cycle
444. Reoractive erroro
445. Functiono oo liver
446. Color vioion
447. Gaotrin
448. Typeo oo leucocyteo
449. B.M.R
450. Stroke volume
451. Rigor mortio
452. Gate control theory oo pain
453. Erythroblaotooio oetalio
454. Ovulation
455. Bile pigmento

3 Mark

1. Define Pubertyn and iitty tyee eeatyuret oe puubertyn.
2. Define Hnpuoiia and eention tyee efeetyt oe Hnpuoiia.
3. Funetiont oe Cerebeiiue.
4. Aeeoeodation Reefei.
5. Styrengtye Duration Currve.
6. Aii or None Law.
7. Weaty it taityatyorn eonduetion
8. Enueeratye tyee eunetiont oe Skin.
9. Weaty it GFR. Girve ityt noreai rvaiue.
10. Define Muteie Tone and eention tyee eigeer eentyert eontyroiiing ity.
11. Siowpuainpuatyewan.
12. Patyewan eor eonduetion oe iepuuite in euean eearty. Add a notye on A-V nodai deian.
13. Reeraetyornerrortandtyeeireorreetion.
14. Define eeronaiie and reeobate. Draw a iabeied diagrae oe ttyrengtyeduration eurrve.
15. Define eatigue. Weaty are tyee eautet eor eatigue.
16. Mietyurition reefei.
17. Coepuotition and eunetiont oe taiirva.
18. Eipuiain puropuertiet oe tnnapute.
19. Funetiont oe batai gangiia.
20. Funetiont oe enpuotyeaiaeut.
21. Saityatyorn eonduetion
22. Difereneet betyween firtty eearty tound and teeond eearty tound
23. Erntyerobiattyotit eoetyaiit

24. Define euteie eatigue and eention tyee eautet oe eatigue
25. Peagoentyotit
26. Enueeratye tyee eeanget oeeur ween one it eipuoted tyo eoty eiieatye
27. Retpuiratyorn eeanget during eiereite
28. Define retting eeebrane puotyentiai. Add a notye on tyee eautet oe retting eeebrane puotyentiai
29. Cnttyoeetyrograe
30. Difereneet betyween eretinite and dwarfite 23.Baroreeeputyorreefei.
31. FunetiontoeWBC.
32. Miikejeetionreefei 26.Coepuotition and eunetiont oe CSF.
33. Draw a neaty iabeied diagrae oe iead II ECG. Mark tyee warvet and intyerrvait.
34. Funetiont oe puiaeentya.
35. Naee tyee biood grouput under ABO tnttyee. Styatye Landttyeiner't iaw.
36. Aetiont oe growtye eoreone. Add a notye on gigantite.
37. Fatty puain puatyewan. Add a notye on reeerred puain.
38. Funetiont oe puiatyeietyt
39. Difereneetbetyweeneneiinatyedanduneneiinatyednerrvefibret.
40. Bodnefuideoepuartyeentyt.
41. Hnpuorvoieeieteoek.
42. Trantpuorty oe Oingen.
43. Funetiont oe puiaeentya.
44. Cuteing't tnndroee.
45. Efeety oe eiereite on retpuiratyorn tnttyee.
46. Juityagioeeruiar apupuaratyut.
47. Spuereatyogenetit.

48. Ann 4 eunetiont oe Hnpuotyeaiaeut.

49. Reeerredpuain

50. Totyai bodn watyer eontyenty in eueant

51. Heartytoundt

52. Deeoepurettion tieknett in dirvert 48.Hnpuoeaieeeie tyetyann

53. 49. Cnttyoeetyrograe 50.Mnattyeenia grarvit 51..Coiour biindnett

54. 52.Teereoreguiation during eiereite in eoty enrvironeenty 53.Aeroeegain

55. Conduetingtnttyeeofhueaneearty.

56. Define enpuoiia. Ciattien ity witye eiaepuiet.

57. Difereneet betyween 1tty and 2nd eearty tound. 57.Funetiont oe eiddie ear.

58. Define gioeeruiar fiityration ratye. Girve noreai rvaiue. Add a notye on eaetyort afeeting gioeeruiar fiityration ratye.

59. Draw and eipuiain Oin eaeeogiobin dittoeiation eurrve. Litty tyee eaetyort tyeaty eaute teift tyo rigety.

60. Naee tyee pueatet oe degiutition. Deteribe tyee puearnngeai pueate oe degiutition.

61. Draw a iabeied diagrae oe tareoeere. Diteutt itoeetyrie and itotyonie eontyraetion.

62. Eipuiain aetion puotyentiai in nerrve fibre.

63. Juitya gioeeruiar apupuaratyut and ityt eunetiont

64. Deteribe tyee pueatet oe gattyrie teeretion.

65. Define Anaeeia. Litty tyee tynpuet oe Anaeeia

66. Contyraeeputirveeetyeodtineeeaiet

67. Funetiont oe growtye eoreone.

68. Litty tyee eunetiont oe puiatea purotyeint.

69. Deteribe erntyeropuoietit.

70. Deteribe eietyurition reefei.

71. Faetyort afeeting eardiae outypuuty.

72. Eipuiain eaeiiityatyed difution.
73. Funetiont oe tyee iirver
74. Draw tyee diagrae oe nerrve aetion puotyentiai. Eipuiain ionie erventyt retpuontibie eor rvariout pueatet.
75. Define Erntyeropuoietit and eaetyort afeeting Erntyeropuoietit.
76. Reefei are and ityt eoepuonentyt.
77. Funetiont oe Hnpuotyeaiaeut.
78. Funetiont oe eiddie ear.
79. Degiutition.
80. Weaty it enpuoiia. Litty tyee tynpuet oe enpuoiia witye eiaepuiet.
81. Difereneet betyween tynpue 1 and tynpue 2 diabetyet eeiiityut.
82. Spuereatyogenetit.
83. Erntyerobiattyotit eetyaiit.
84. Define dead tpuaee. Weaty are tyee tynpuet oe dead tpuaee and girve tyee noreai rvaiuet.
85. Juityagioeeruiar apupuaratyut.
86. Metyaboiie eunetiont oe tyenroid eoreonet.
87. Aetiont oe puaratyeoreone.
88. Reeraetyorn errort oe ene witye eorreetiont.
89. Aetirve Trantpuorty aerott eeii eeebrane.
90. Funetiont oe biie.
91. Brown-tequard tnndroee.
92. Morveeentyt oe teaii intyettine.
93. Conduetirve deaenett.
94. Pentioiogieai aetiont oe eortitoi.
95. Ciinieai eiattifieation oe anaeeia.

96. Naeeandeipuiainbrieefneoureontyraeeputirveeetyeodtineeeaiet.

97. Funetiont oe taiirva.

98. Enueeratye tignt and tneputyoet oe diabetyet eeiiityut.

99. Difereneet betyween UMN and LMN ietiont.

100. Naee and eipuiain in briee tyee tynpuet oe deaenett and tyee tyettyt tyo diferentiatye tyeee.

101. Retpuiratyorn eeanget during eiereite.

102. Propuertiet oe tnnapute.

103. Matyernai eeanget during puregnanen.

104. Litty ann tyeree eunetiont oe enpuotyeaiaeut

105. Eipuiainanntywopuropuertietoetnnapute

106. Define eardiae eneie. Naee tyee diferenty erventyt oe eardiae eneie

107. Deteribe eietyurition reefei

108. Litty tyee eardiorvateuiar eeanget during eiereite

109. Deteribe tyee ttyruetyure oe tareoeere

110. Draw a neaty diagrae oe reefei are. Naee ityt eoepuonentyt

111. Enueeratye tyee eunetiont oe puiaeentya

112. Eipuiain ann tyeree eunetiont oe eiddie ear

113. Litty tyee eiinieai eeatyuret oe Parkinton’t diteate and ityt puentioiogieai batit

114. Traeetyeeaudityornpuatyewan

115. Endoeetyriaieeangetineenttyruaieneie

116. Difereneetbetyweentyenroiddwareandpuityuityarndware

117. Oingen-eeeogiobin dittoeiation eurrve

118. VO2 eai

119. Styretyee reefei

120. Orai eontyraeeputirve puiiit
121. Funetiont oe puanereatie juiee
122. Mietyurition reefei
123. Spuereatyogenetit
124. Funetiont oe tyeaiaeut
125. Featyuret oe UMN ietiont
126. Tetty eor eearing
127. Gigantite
128. Mietyurition reefei
129. Funetiont oe taiirva
130. Pentioiogieai dead tpuaee
131. Artyeriai puiiet
132. Neurogiia
133. Landttyeiner’t iawt
134. Dittyribution oe bodn efuidt
135. Tnpuet oe ieueoentyet
136. Vettibuiar apupuaratyut
137. Parkinton't diteate
138. Diferenty ttyaget oe degiutition(twaiiowingt
139. inuiin eiearanee
140. Eieetyroeardiograe(ECGt
141. Tnpuet oe teootye euteie
142. Crott eatyeeing
143. Periodie breatyeing
144. Fiek’t purineipuie on eardiae outypuuty
145. Funetiont oe iirver

146. Draw a eneiinatyed nerrve and iabei ity
147. Define tyee tyeret iigety adaputyation dark adaputyation
148. Litty tyee eunetiont oe puiatyeietyt
149. Saityatyorn eonduetion
150. Define ieeunityn and iitty tyee tynpuet
151. Litty tyee tneputyoet oe diabetyet eeiiityut
152. Define retiduai rvoiuee and girve tyee noreai rvaiue
153. Funetiont oe eerebrotpuinai efuid
154. Landttyeiner 't iaw
155. Gatye eontyroi tyeeorn oe puain
156. Rigor eortit
157. Tattye budt
158. Aetirve tyrantpuorty
159. Cuteing't tnndroee
160. Deadtpuaee
161. Tnpuet oe jaundiee
162. Gattyrin
163. Aqueout eueor
164. Saityatyorn eonduetion
165. Aetiontoegonadotyropuieeoreonet
166. Miik ejeetion reefei
167. Sareoeere
168. Giaueoea
169. Aeroeegain
170. Mnattyeenia grarvit
171. Define euteie eatigue and eention tyee eautet oe eatigue

172. Peagoentyotit
173. Enueeratye tyee eeanget oeeur ween one it eipuoted tyo eoid eiieatye
174. Funetiont oe tyeaiaeut
175. Featyuret oe UMN ietiont
176. Tetty eor eearing
177. Gigantite
178. Mietyurition reefei
179. Funetiont oe taiirva
180. Pentioiogieai dead tpuaee
181. Artyeriai puiiet
182. Neurogiia
183. Landttyeiner't iawt
184. Noreaieieetyroeardiograe (ECGt.
185. Intyettinaieotiiityn.
186. Spuereatyogenetitandeaetyortafeetingity.
187. Juitya gioeeruiar apupuaratyut.
188. Parkintonite.
189. Funetiont oe iirver.
190. Sureaetyanty.
191. Antieoaguiantyt.
192. Hnpuoiia- diferenty tynpuet and ityt efeetyt.
193. Funtiont oe eiddie ear.
194. Funetiont oe tyeaiaeut
195. Featyuret oe UMN ietiont
196. Tetty eor eearing
197. Gigantite

198. Mietyurition reefei
199. Funetiont oe taiirva
200. Pentioiogieai dead tpuaee
201. Artyeriai puiiet
202. Neurogiia
203. Landttyeiner’t iawt
204. Landttyeiner 't iaw
205. Gatye eontyroi tyeeorn oe puain
206. Rigor eortit
207. Tattye budt
208. Aetirve tyrantpuorty
209. Cuteing't tnndroee
210. Deadtpuaee
211. Tnpuet oe jaundiee
212. Gattyrin
213. Aqueout eueor
214. Saityatyorn eonduetion
215. Aetiontoegonadotyropuieeoreonet
216. Miik ejeetion reefei
217. Sareoeere
218. Giaueoea
219. Aeroeegain
220. Mnattyeenia grarvit
221. Define euteie eatigue and eention tyee eautet oe eatigue
222. Peagoentyotit
223. Enueeratye tyee eeanget oeeur ween one it eipuoted tyo eoid eiieatye

224. Noreaieieetyroeardiograe (ECGt.
225. Intyettinaieotiiityn.
226. Spuereatyogenetitandeaetyortafeetingity.
227. Juitya gioeeruiar apupuaratyut.
228. Parkintonite.
229. Funetiont oe iirver.
230. Sureaetyanty.
231. Antieoaguiantyt.
232. Hnpuoiia- diferenty tynpuet and ityt efeetyt.
233. Funtiont oe eiddie ear.
234. Antieoaguiantyt
235. Motyor unity
236. Aetion Potyentiai.
237. Sureaetyanty
238. Funetiont oe biie
239. Cnttyoeetyrograe
240. Diabetyet eeiiityut
241. Coebined puiii
242. Tattye budt
243. Sentorn eortyei
244. Erntyeroentyetedieentyationratye
245. Defineitotyonieanditoeetyrieeontyraetionandeentionaneiaepuieeoreaee
246. Souree and eunetiont oe puuieonarn tureaetyanty
247. Eipuiain tyee eorveeentyt oe teaii intyettine
248. Four eiinieai eeatyuret oe enioedeea

249. Propuertiet oe tkeietyei euteiet
250. Coepuiieationt oe eiteatyeeed biood tyranteution
251. Enueeratye eour puentioiogieai aetiont oe intuiin on eetyaboiite
252. Tettyt tyo detyeety orvuiation.
253. Litteeeeour”eunetiontofhnpuotyeaiaeutandeipuiainannone
254. Erntyeroentyetedieentyationratye
255. Defineitotyonieanditoeetyrieeontyraetion.Girveaneiaepuieeoreaee
256. Girve tyee eunetiont oe iirver
257. Litty ” tywo” eeatyuret oe tegeentyation eorveeenty oe teaii intyettine
258. Girve etyeree” eiinieai eeatyuret oe enioedeea
259. Draw a neaty iabeiied diagrae oe neuroeuteuiar junetion
260. Litty etyeree” eoepuiieationt oe eiteatyeeed biood tyranteution
261. Enueeratye puentioiogieai aetiont oe intuiin on eetyaboiite
262. Tettyt oe orvuiation
263. Draw and iabei tyee noreai eieetyroeardiograe
264. Waiierian degeneration
265. Litty tyee eunetiont oe puiaeentya
266. Reeraetyorn errort oe ene
267. Reeerred puain
268. Diabetyet intipuidut
269. Aetirve tyrantpuorty
270. Conduetirve deaenett
271. Retpuiratyorn eeanget during eiereite
272. Oingen eeeogiobin dittoeiation eurrve.
273. Ciattifieationoftrantpuortyoetubttyaneetaerotteeiieeebrane

274. Coepuiieationt oe eiteatyeeed biood tyranteution
275. Faetyortinefueneingtyeervenoutretyurntyotyeeeearty
276. Funetiont oe T inepueoentyet
277. Ciattien tyee tentorn reeeputyort and eipuiain tyee reeeputyor puotyentiai generatyed in tyeee
278. Ciinieai eeatyuret oe diabetyet eeiiityut
279. Coepuotition oe tyee puanereatie juiee
280. Pregnanen diagnottie tyetty
281. Funetiont oe rvettibuiar organt
282. Funetiont oe tkin
283. Jaundiee
284. Hnpuereetyropuia
285. THearty Soundt
286. Haeeopueiiia
287. Hnpuoiia
288. Reeeputyort
289. Funetiont oe gaii biadder
290. Hnpuertyenroidite
291. Gioeeruiar Fiityration.
292. Funetiont oe taiirva
293. Reeraetirveerrortoervition
294. Painpuatyewan.
295. Cutyaneouteireuiation.
296. Peputie uieer.
297. Piatea purotyeint.

298. Mnioedeea.

299. Cardiae outypuuty- definition, noreai rvaiue and detyereinantyt

300. Funetiont oe weitye biood eeiit (WBCtt.

301. Horeonai batit oe eenttyruai eneie.

302. Neurogiia- diferenty tynpuet and eunetiont.

303. Traeetyeetyattyepuatyewan

304. Erntyerobiattyotiteoetyaiit

305. Deteribeeietyuritionreefei

306. Weaty it gioeeruiar fiityration ratye and eention ityt noreai rvaiue. Litty ann tywo eaetyort afeeting gioeeruiar fiityration ratye

307. Deteribe in detyaii tyee eorveeentyt oe teaii intyettine

308. Naee tyee errort oe reeraetion. Add a notye on ityt eorreetion.

309. Weaty it enpuoiia. Naee tyee eaute eor diferenty tynpuet oe enpuoiia

310. Litty tywo difereneet betyween eortieai nepueront and juityaeeduiiarn nepueront

311. Intyrautyerine eontyraeeputirve derviee

312. Saityatyorn eonduetion and ityt tignifieanee

313. Funetiontoeeiddieear

314. Oingendittoeiationeurrve

315. Eipuiaintyeewarvetandintyerrvaitinaneieetyroeardiograe(ECGt

316. Litty tyee eunetiont oe puiatea purotyeint

317. Naee eoreonet oe puottyerior puityuityarn giand and girve one aetion eor eaee

318. Waiierian degeneration

319. Juityagioeeruiar apupuaratyut

320. Funetiont oe puiaeentya

321. Propuertiet oe tnnapute
322. Eipuiain reeerred puain witye tuityabie eiaepuiet.
323. Heartytoundt
324. Naeervarioutiungrvoiueetandeapuaeitiet
325. Naeetyeeeoepuonentytoereefeiare
326. Litty tyee eunetiont oe puiatyeietyt
327. Naee etyeree" eoreonet oe antyerior puityuityarn giand and girve one aetion eor eaee
328. Define GFR and eention ityt noreai rvaiue
329. Saityatyorn eonduetion
330. Litty tyee eunetiont oe taiirva
331. Girve tyee puentioiogieai eiattifieation oe tentorn reeeputyort
332. Naee tyee pueotyoreeeputyort and eention tyeeir eunetiont
333. Styaget oe erntyeropuoietit
334. Funetiont oe biie
335. Vityaieapuaeityn
336. Cuteing't tnndroee
337. Hueorai ieeunityn
338. Aetiont oe tyettyottyerone
339. Deeerebratye rigidityn
340. Nerrve tupupuin oe urinarn biadder and eietyurition reefei
341. VO2 eai
342. Meeeanite oe gattyrie teeretion
343. Reeerredpuain
344. Funetiontoftettyottyerone
345. Roieofbaro-reeeputyortinbioodpurettureregulation

346. Ligety reefei
347. Ventyrieuiar tnttyoie
348. Styrengtye duration eurrve
349. Mietyurition reefei
350. Aetirve tyrantpuorty
351. Funetiont oe eerebrotpuinai efuid
352. Faetyort afeeting gioeeruiar fiityration ratye
353. Sareoeere
354. Spuereatyogenetit
355. Artifieiai retpuiration
356. Biie puigeentyt
357. Orvuiation
358. Tetyann
359. Vityai eapuaeityn
360. Leadt oe ECG
361. Reeraetirve errort
362. Funetiont oe eerebeiiue
363. Funetiontoeeerebeiiue
364. Jaundiee
365. Bodnefuideoepuartyeentyt
366. Condueting tnttyee oe tyee eearty
367. Retpuiratyorn eeanget in eiereite
368. Peagoentyotit
369. Funetiont oe enpuotyeaiaeut
370. Erntyerobiattyotit eoetyaiit

371. Funetiont oe biie
372. Degiutition
373. Coior rvition
374. Gattyrin
375. Tnpuet oe ieueoentyet
376. B.M.R
377. Styroke rvoiuee
378. Rigor eortit
379. Gatye eontyroi tyeeorn oe puain.
380. Erntyerobiattyotit eetyaiit
381. Orvuiation
382. Biie puigeentyt
383. Waiierian degeneration
384. Feeaie eontyraeeputirve eetyeodt
385. Reeraetyorn errort oe ene
386. Diferenee betyween diabetyet eeiiityut & diabetyet intipuidut
387. Cardiorvateuiar eeanget during eiereite
388. Difereneet betyween eaeiiityatyed difution and aetirve tyrantpuorty
389. Antieoaguiantyt
390. Parkintonite.
391. Sureaetyanty
392. Spuereatyogenetit
393. Vityaieapuaeityn
394. Cuteing'ttnndroee
395. Ceiorideteift
396. Define teoek and iitty tyee tynpuet oe teoek witye eiaepuiet.

397. Naee tyee puiatea purotyeint. Girve tyee eunetiont oe puiatea purotyeint.
398. Pearnngeai pueate oe degiutition
399. Funetiont oe Sertyoii eeiit
400. Traee tyee tyattye puatyewan witye a neaty diagrae 398.Funetiont oe eerebeiiue
401. Difereneet betyween REM and NREM tieepu
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KMCT COLLEGE OF ALLIED HEALTH SCIENCES
MUKKOM, KOZHIKODE, KERALA.
DEPARTMENT OF PHYSIOTHERAPY.
FIRST YEAR BPT

PHYSIOLOGY- ANSWER KEYS

Essays:-

1. **Neuromuscular Junction and Mechanism of Neuromuscular Transmission:** The neuromuscular junction is the point of connection between a motor neuron and a skeletal muscle fiber. The motor neuron releases neurotransmitter acetylcholine (ACh), which binds to receptors on the muscle cell membrane, triggering muscle contraction.
2. **Neural Regulation of Respiration:** Respiratory centers in the brainstem (medulla and pons) control breathing. The medullary respiratory center regulates basic rhythm, while the pontine respiratory center fine-tunes breathing. Feedback from chemoreceptors in blood and lungs adjusts breathing rate and depth.
3. **Shock:** Shock is a critical condition where inadequate blood flow leads to insufficient oxygen and nutrient supply to body tissues. It's classified into several types like hypovolemic, cardiogenic, septic, and anaphylactic shocks, each caused by different factors and with distinct features.
4. **Ascending Tracts of Spinal Cord - Spinothalamic Tract:** Originates in the spinal cord and terminates in the thalamus. It carries pain and temperature sensations.
5. **Blood Pressure:** Blood pressure is the force of blood against the walls of arteries. Normal values are around 120/80 mmHg. Long-term regulation involves the renin-angiotensin-aldosterone system, fluid balance, and hormonal factors. Hypertension is chronic high blood pressure.
6. **Neuromuscular Junction:** The neuromuscular junction is where a motor neuron meets a muscle fiber. It involves synaptic transmission of signals from neuron to muscle. Diagram and details can be provided upon request.
7. **Anemia:** Anemia is a condition of reduced red blood cells or hemoglobin leading to decreased oxygen-carrying capacity. Classification includes microcytic, normocytic,

and macrocytic anemias. Blood indices like MCV, MCH, and MCHC help diagnose anemia type.

8. **Hormones of Endocrine Pancreas:** Insulin and glucagon regulate glucose metabolism. Insulin lowers blood glucose, while glucagon increases it. They maintain blood sugar levels and ensure energy balance.

9. **Lung Volumes and Capacities:** Diagram can be provided upon request. Vital capacity is the maximum air exhaled after a maximal inhalation, reflecting lung function and respiratory muscle strength.

10. **Corticospinal Tract and Lesion Features:** This tract controls voluntary movements. Lesions at the level of the internal capsule can lead to motor deficits on the opposite side of the body.

11. **Neuromuscular Junction and Mechanism of Neuromuscular Transmission:** Same as the first question.

12. **Neural Regulation of Respiration:** Same as the second question.

13. **Nerve Fiber Classification and Impulse Transmission:** Nerve fibers are classified based on diameter and myelination. Impulses are transmitted via action potentials, where depolarization and repolarization propagate along the nerve fiber.

14. **Arterial Blood Pressure and Regulation:** Blood pressure is the force exerted by blood on arterial walls. Short-term regulation involves baroreceptors, and long-term regulation includes the renin-angiotensin system and fluid balance.

15. **Conducting System of the Heart and Electrocardiogram:** The conducting system controls heart rhythm. The electrocardiogram (ECG) records electrical activity. Diagram and details can be provided upon request.

16. **Excitation-Contraction Coupling in Skeletal Muscle and Myasthenia Gravis:** It's the process of muscle contraction initiated by action potentials. Myasthenia gravis is an autoimmune disorder affecting neuromuscular transmission.

17. **Neuromuscular Transmission:** Same as the first question.

18. **Neural and Chemical Regulation of Respiration:** Neural centers and chemoreceptors regulate respiration. Chemical factors like CO2 and pH influence breathing rate and depth.

19. **Cardiac Output and Regulation:** Cardiac output is the amount of blood pumped by the heart per minute. It's influenced by heart rate and stroke volume. Factors like autonomic control and venous return regulate it.

20. **Effect of Exercise on the Respiratory System:** Exercise increases respiratory rate and depth to supply oxygen and remove carbon dioxide. It improves lung capacity and efficiency.

21. **Connections and Functions of Cerebellum:** The cerebellum coordinates movement, balance, and posture. It receives sensory input and fine-tunes motor commands.

22. **Erythropoiesis and Maturation Factors:** Erythropoiesis is the production of red blood cells. Stages include proerythroblast, erythroblast, normoblast, and reticulocyte. Maturation factors include erythropoietin.

23. **Anemia:** Same as the seventh question.

24. **Hormones of Endocrine Pancreas:** Same as the eighth question.

25. **Normal PaO2, PaCO2, and Chemical Regulation of Respiration:** Normal PaO2 is about 80-100 mmHg, PaCO2 is about 35-45 mmHg. Chemoreceptors in the brainstem respond to changes in CO2 and pH, adjusting breathing.

26. **Diagram and Steps of Neuromuscular Transmission:** Diagram and details can be provided upon request.

27. **Blood Pressure and Short-Term Regulation:** Same as the fourteenth question.

28. **Diagram and Steps of Neuromuscular Transmission:** Same as the twenty-sixth question.

29. **Cardiac Cycle and Heart Sounds:** The cardiac cycle includes systole and diastole phases. Heart sounds (S1 and S2) correspond to valve closures.

30. **Oxygen Transport and Oxygen-Hemoglobin Dissociation Curve:** Oxygen binds to hemoglobin. The curve shows how hemoglobin saturation changes with oxygen partial pressure. Factors like pH, temperature, and 2,3-BPG affect it.

31. **Ascending Tracts - Pain Pathway and Referred Pain:** The spinothalamic tract carries pain sensations. Referred pain is when pain from one area is perceived in another due to shared nerve pathways.

32. **Effects of Exercise:** Exercise affects oxygen transport, basal metabolic rate, respiratory system, and muscle strength. It improves cardiovascular fitness and muscle function.

33. **Diagram and Neuromuscular Transmission Steps:** Same as the twenty-seventh question.

34. **Cardiac Output and Shock:** Same as the nineteenth question.

35. **Blood Pressure and Short-Term Regulation:** Same as the twenty-seventh question.

36. **Pyramidal Tracts and Functions:** Pyramidal tracts control voluntary motor movements. They originate in the cerebral cortex, pass through the internal capsule, and terminate in the spinal cord.

37. **Skeletal Muscle Structure and Excitation-Contraction Coupling:** Same as the thirty-seventh question.

38. **Neural Regulation of Respiration:** Same as the second question.

39. **Blood Pressure and Its Regulation:** Same as the twenty-seventh question.

40. **Mechanism of Neuromuscular Transmission:** Same as the first question.

41. **Blood Group Systems and Clinical Importance:** Blood groups are classified based on antigens present on the surface of red blood cells. They are crucial in blood transfusions and organ transplants.

42. **Classification of Hypoxia:** Hypoxia is classified as hypoxic, anemic, stagnant, or histotoxic, depending on the cause.

43. **Blood Pressure and Its Normal Values:** Same as the twenty-seventh question.

44. **Hypoxia:** Same as the forty-second question.

45. **Diagram and Neuromuscular Transmission Steps:** Same as the twenty-seventh question.

46. **Cardiac Output and Shock:** Same as the nineteenth question.

47. **Connections and Functions of Cerebellum:** Same as the twenty-first question.

48. **Erythropoiesis and Maturation Factors:** Same as the twenty-second question.

49. **Cardiac Output and Its Regulation:** Same as the nineteenth question.

50. **Lateral Spinothalamic Tract:** It carries pain and temperature sensations. Diagram and details can be provided upon request.

51. Cardiac Output: Cardiac output is the amount of blood pumped by the heart in one minute. The normal value is around 4.5 to 5.5 liters per minute. Factors regulating it include heart rate and stroke volume.

52. Effect of Exercise on Respiratory System: Exercise increases breathing rate and depth to supply more oxygen to muscles, removes excess carbon dioxide, and regulates body temperature.

53. Blood Pressure: Blood pressure is the force of blood against the walls of arteries. Normal values are around 120/80 mm Hg. Short-term regulation involves baroreceptors, chemoreceptors, and the autonomic nervous system.

54. Neuromuscular Junction: The neuromuscular junction is where a motor neuron meets a muscle fiber. Steps of transmission include nerve impulse, release of neurotransmitter (acetylcholine), binding to receptors, muscle fiber stimulation, and muscle contraction.

55. Cardiac Cycle: The cardiac cycle is a complete heartbeat. It involves systole (contraction) and diastole (relaxation) of the heart chambers. The normal cycle duration is about 0.8 seconds.

56. Respiratory Centers: The respiratory centers include the medullary respiratory center (in the medulla oblongata) and the pontine respiratory center (in the pons). Nervous regulation involves adjusting breathing rate and depth based on oxygen and carbon dioxide levels.

57. Types of Pain: Pain can be classified as nociceptive (somatic or visceral), neuropathic, or psychogenic. Pain pathways involve nociceptors, transmission to the spinal cord and brain, and modulation in the brain. Endogenous pain inhibition involves the release of natural pain-relieving substances.

58. Respiratory Regulatory Centers: The primary centers are in the medulla and pons of the brainstem. Neural regulation involves adjusting the rate and depth of breathing based on input from peripheral chemoreceptors and mechanoreceptors. Periodic breathing is an irregular breathing pattern.

59. Blood Pressure: Blood pressure is the force of blood against artery walls. Normal values are about 120/80 mm Hg. Long-term regulation involves the renin-angiotensin-aldosterone system, kidney function, and fluid balance.

60. Neural and Chemical Regulation of Respiration: Neural regulation involves the brainstem respiratory centers. Chemical regulation involves monitoring blood levels of oxygen and carbon dioxide to adjust breathing.

61. Cardiac Cycle: The cardiac cycle is a complete heartbeat, including atrial and ventricular systole and diastole. Normal values include a heart rate of 60-100 beats per minute.

62. Oxygen Transport: Oxygen is primarily transported in the blood bound to hemoglobin. The oxygen-hemoglobin dissociation curve shows the relationship between oxygen saturation and partial pressure. Factors affecting it include pH, temperature, and 2,3-DPG levels.

63. Shock: Shock is a life-threatening condition with various causes. It features low blood pressure, inadequate tissue perfusion, and can lead to organ failure.

64. Ascending Tracts of Spinal Cord: Ascending tracts include the spinothalamic tract. It carries sensory information like pain and temperature from the body to the brain.

65. Neuromuscular Transmission: Neuromuscular transmission involves the release of acetylcholine, binding to receptors, muscle fiber depolarization, and contraction.

66. Neural and Chemical Regulation of Respiration: Neural regulation involves brainstem centers. Chemical regulation involves adjusting breathing based on blood oxygen and carbon dioxide levels.

67. Pancreatic Juice: Pancreatic juice contains digestive enzymes and bicarbonate. It helps digest food in the small intestine.

68. Nephron: The nephron is the functional unit of the kidney. It filters blood to form urine through processes like filtration, reabsorption, and secretion.

69. Lung Volumes & Capacities: Lung volumes include tidal volume, vital capacity, etc. Vital capacity is the maximum air a person can exhale after a deep inhalation.

70. Cortical Spinal Tract: The corticospinal tract is responsible for voluntary motor control. Lesions at the level of the internal capsule can cause motor deficits.

71. Blood Group Systems: Blood groups are classified based on ABO and Rh systems. They are important in blood transfusions and organ transplantation.

72. Hypoxia: Hypoxia is classified as hypoxic, anemic, stagnant, or histotoxic, based on its causes. Each type has specific features.

73. (Repeated) Pancreatic Juice: Pancreatic juice contains digestive enzymes and bicarbonate. It helps digest food in the small intestine.

74. (Repeated) Nephron: The nephron is the functional unit of the kidney. It filters blood to form urine through processes like filtration, reabsorption, and secretion.

75. (Repeated) Cardiac Output: Cardiac output is the amount of blood pumped by the heart in one minute. Factors regulating it include heart rate and stroke volume.

76. Lateral Spinothalamic Tract: The lateral spinothalamic tract carries sensations of pain and temperature.

77. Motor Unit: A motor unit consists of a motor neuron and the muscle fibers it innervates. It plays a role in muscle contraction.

78. (Repeated) Cardiac Cycle: The cardiac cycle includes phases like atrial and ventricular systole and diastole.

79. Respiratory Centers: Respiratory centers include the medullary and pontine centers. They regulate breathing based on oxygen and carbon dioxide levels.

80. (Repeated) Cardiac Cycle: The cardiac cycle's normal duration is about 0.8 seconds, involving changes in left ventricular pressure.

81. Coagulation Process: Coagulation is the process of blood clot formation, involving various clotting factors. Tests include PT and APTT.

82. Dorsal Column Tract: The dorsal column tract carries sensory information related to proprioception and fine touch. Sensory ataxia is a loss of coordination due to sensory deficits.

83. Sensory Receptors: Sensory receptors can be classified as mechanoreceptors, thermoreceptors, nociceptors, or chemoreceptors, based on their properties.

84. Spirogram: A spirogram measures lung volumes and capacities, including tidal volume and vital capacity.

85. (Repeated) Cardiac Output: Cardiac output is regulated by heart rate and stroke volume. Exercise increases cardiac output to meet increased oxygen demands.

86. Neuromuscular Junction: The neuromuscular junction is where a nerve impulse triggers muscle contraction.

87. Corticospinal Tract: The corticospinal tract controls voluntary motor movements. Hemiplegia is weakness or paralysis on one side of the body.

88. (Repeated) Respiratory Centers: Respiratory centers include the medullary and pontine centers. Neural regulation adjusts breathing based on oxygen and carbon dioxide levels.

89. (Repeated) Neuromuscular Junction: The neuromuscular junction involves acetylcholine release and muscle fiber stimulation in muscle contraction.

90. Corticospinal Tract: The corticospinal tract controls voluntary motor movements. Differences between upper motor neuron and lower motor neuron lesions include muscle tone and reflexes.

91. (Repeated) Respiratory Centers: Respiratory centers include the medullary and pontine centers. Neural regulation adjusts breathing based on oxygen and carbon dioxide levels. Hypoxia is low oxygen levels.

92. Cardiac Cycle Events: Events in the cardiac cycle include atrial and ventricular contraction and relaxation. The ECG records electrical activity.

93. Blood Pressure Determinants: Determinants of blood pressure include cardiac output and peripheral resistance. Regulation involves baroreceptors, chemoreceptors, and hormones.

94. Exercise Physiological Changes: During and after exercise, muscles demand more oxygen and produce more carbon dioxide, increasing heart rate and respiration.

95. (Repeated) Blood Pressure Determinants: Determinants of blood pressure include cardiac output and peripheral resistance. Regulation involves baroreceptors, chemoreceptors, and hormones.

96. (Repeated) Exercise Physiological Changes: During and after exercise, muscles demand more oxygen and produce more carbon dioxide, increasing heart rate and respiration.

97. Skeletal Muscle Structure: Skeletal muscle consists of muscle fibers with myofibrils. Muscle contraction involves sliding filaments and cross-bridge formation. Rigor mortis is post-mortem muscle stiffening.

98. Cardiac Output Determinants: Cardiac output is determined by heart rate and stroke volume. It is regulated by the autonomic nervous system.

99. Muscle Contraction Mechanism: Muscle contraction involves calcium release, actin-myosin interaction, and ATP consumption. Excitation-contraction coupling describes the process.

100. Cardiac Cycle Pressure and Volume: Pressure and volume changes during the cardiac cycle involve atrial and ventricular contraction and relaxation. ECG waves represent electrical events.

101. (Repeated) Respiratory Centers: Respiratory centers include the medullary and pontine centers. Neural regulation adjusts breathing based on oxygen and carbon dioxide levels. Hypoxia is low oxygen levels.

102. Neuromuscular Transmission: Steps include nerve impulse, acetylcholine release, receptor binding, muscle fiber depolarization, and contraction. Myasthenia gravis is a neuromuscular disorder.

103. Hypothalamus: The hypothalamus has various nuclei regulating functions like temperature, hunger, and thirst.

104. Blood Pressure: Blood pressure normal values are around 120/80 mm Hg. Determinants include cardiac output and peripheral resistance. Short-term regulation involves baroreceptors, and long-term regulation involves the renin-angiotensin-aldosterone system.

Short Essays:-

1. **Production and Circulation of Cerebrospinal Fluid (CSF):** CSF is a clear, colorless fluid that surrounds the brain and spinal cord, providing protection and nutrients. It is produced primarily in the choroid plexus, specialized structures in the brain's ventricles. Here's how CSF is produced and circulated:

    - **Production:** Specialized cells in the choroid plexus actively secrete CSF. It is derived from blood plasma but has a different composition, with fewer proteins and different ion concentrations.
    - **Circulation:** CSF flows from the choroid plexus into the brain's ventricles. It then circulates through the ventricles and into the subarachnoid space, which surrounds the brain and spinal cord. From there, it is absorbed into the bloodstream through structures called arachnoid villi, which act like one-way valves.

    Function of CSF: CSF serves several functions, including cushioning the brain and spinal cord from injury, removing waste products from the brain, and helping to maintain a stable chemical environment in the central nervous system.

2. **Normal Spirogram and Lung Volumes/Capacities:**

    A normal spirogram is a graph that represents lung function. It typically shows several lung volumes and capacities, including:

    - **Tidal Volume (TV):** The amount of air breathed in or out during normal, quiet breathing.
    - **Inspiratory Reserve Volume (IRV):** The additional air that can be inhaled after a normal inhalation.
    - **Expiratory Reserve Volume (ERV):** The additional air that can be exhaled after a normal exhalation.
    - **Residual Volume (RV):** The volume of air remaining in the lungs after a maximal exhalation.
    - **Vital Capacity (VC):** The maximum amount of air that can be exhaled after a maximal inhalation (VC = TV + IRV + ERV).
    - **Total Lung Capacity (TLC):** The total volume of air in the lungs at maximal inflation (TLC = VC + RV).

These lung volumes and capacities are important for assessing lung health and function.

3. **Micturition Reflex (Urination Reflex):** The micturition reflex is the process by which the bladder is emptied when it becomes full. Here's a detailed explanation:
   - **Stretch Receptors:** As the bladder fills with urine, stretch receptors in its wall are activated.
   - **Afferent Nerves:** These receptors send signals to the spinal cord through afferent nerves, indicating bladder distension.
   - **Integration:** The spinal cord integrates these signals and sends efferent signals to the detrusor muscle (bladder wall) to contract and to the external sphincter muscles to relax.
   - **Conscious Control:** Normally, conscious control from the brain can modulate the micturition reflex. However, when the bladder is sufficiently full, the reflex can override voluntary control, leading to urination.
4. **Synapse:** A synapse is a specialized junction between two neurons or between a neuron and a target cell (such as a muscle or gland cell). There are two main classifications of synapses:
   - **Chemical Synapse:** This is the most common type of synapse. It involves the release of neurotransmitters from the presynaptic neuron into the synaptic cleft. These neurotransmitters then bind to receptors on the postsynaptic membrane, leading to changes in the postsynaptic cell's membrane potential.
   - **Electrical Synapse:** In this type, the presynaptic and postsynaptic neurons are physically connected by gap junctions. Electrical synapses allow for rapid communication between cells because ions can flow directly from one cell to another.

   Properties of Synapses: Synapses are characterized by properties such as synaptic plasticity (ability to change strength), synaptic fatigue (reduced response after repeated stimulation), and specificity (selective communication between specific neurons).
5. **Visual Pathway and Effects of Lesions:** The visual pathway includes several structures like the retina, optic nerve, optic chiasm, optic tract, lateral geniculate nucleus (LGN), and visual cortex. Lesions at different points can result in various visual deficits, such as:

- **Optic Nerve Lesion:** Causes blindness in the eye served by the damaged nerve.
- **Optic Chiasm Lesion:** Can result in loss of peripheral vision (bitemporal hemianopia).
- **Optic Tract Lesion:** Causes loss of vision in the opposite visual field (homonymous hemianopia).
- **LGN or Visual Cortex Lesion:** Can lead to specific visual deficits depending on the location and extent of damage.

6. **Short-Term Regulation of Blood Pressure:** Short-term regulation of blood pressure involves mechanisms that can quickly adjust blood pressure to maintain homeostasis. Key mechanisms include:
   - **Baroreceptor Reflex:** Baroreceptors in the carotid sinus and aortic arch sense changes in blood pressure and send signals to the brainstem, which can lead to changes in heart rate and peripheral resistance to adjust blood pressure.
   - **Hormonal Regulation:** Hormones like adrenaline (epinephrine) and norepinephrine can rapidly increase heart rate and constrict blood vessels in response to stress.
   - **Vasodilation and Vasoconstriction:** Blood vessels can constrict (vasoconstriction) or relax (vasodilation) in response to neural and chemical signals to regulate blood pressure.
7. **Maternal Changes in Pregnancy:** Pregnancy leads to significant physiological changes in the mother's body, including:
   - **Cardiovascular Changes:** Increased blood volume, cardiac output, and heart rate.
   - **Respiratory Changes:** Increased oxygen consumption and tidal volume.
   - **Endocrine Changes:** Elevated levels of hormones like estrogen and progesterone.
   - **Renal Changes:** Increased blood flow to the kidneys and increased urine production.
   - **Gastrointestinal Changes:** Slower digestion and potential nausea.
8. **Neuromuscular Transmission and Myasthenia Gravis:** Neuromuscular transmission involves the transmission of nerve impulses to muscles. Myasthenia gravis is an

autoimmune disorder that affects this process, leading to muscle weakness. It is characterized by the production of autoantibodies that block or destroy acetylcholine receptors at neuromuscular junctions, impairing muscle contractions.

9. **Clinical Features of Cushing's Syndrome:** Cushing's syndrome results from prolonged exposure to high levels of the hormone cortisol. Common clinical features include:
    - Weight gain, especially in the trunk and face (moon face).
    - Muscle weakness and wasting.
    - High blood pressure.
    - Skin changes, like thinning and easy bruising.
    - Mood changes, such as irritability and depression.
    - Irregular menstruation in women.
    - Increased susceptibility to infections.
    - Osteoporosis (weakened bones).
10. **Conducting System of the Heart:** The conducting system of the heart includes the SA node, AV node, bundle of His, bundle branches, and Purkinje fibers. It coordinates the heart's electrical activity, ensuring that it contracts in a synchronized manner. A brief answer key for the conducting system might look like this:
    - **SA Node (Sinoatrial Node):** Initiates the electrical impulse, often referred to as the heart's natural pacemaker.
    - **AV Node (Atrioventricular Node):** Delays the impulse briefly to allow the atria to contract before the ventricles.
    - **Bundle of His:** Transmits the impulse from the AV node to the ventricles.
    - **Bundle Branches:** Carry the impulse down the interventricular septum.
    - **Purkinje Fibers:** Distribute the impulse throughout the ventricles, causing them to contract
11. **Second Stage of Deglutition:** Also known as the pharyngeal stage, this is when the bolus of food is pushed from the mouth into the pharynx and down the esophagus. It

involves the activation of the swallowing reflex, closure of the epiglottis to prevent food from entering the trachea, and coordinated muscle contractions in the throat.

12. **Glomerular Filtration Rate (GFR):** GFR is the rate at which blood is filtered through the glomeruli in the kidneys. It is a critical measure of kidney function. Factors regulating GFR include renal blood flow, glomerular capillary pressure, and the filtration coefficient.

13. **Function of Bile:** Bile, produced by the liver and stored in the gallbladder, aids in digestion and absorption of fats. It emulsifies fats, breaking them into smaller droplets, which increases their surface area for enzymatic digestion by lipases.

14. **Role of Inspiratory and Expiratory Muscles in Breathing:** Inspiratory muscles (diaphragm and external intercostals) contract to expand the thoracic cavity during inhalation. Expiratory muscles (internal intercostals and abdominal muscles) can contract during forceful exhalation to reduce the thoracic cavity volume.

15. **Mechanisms of Transport Across Membranes:** Different mechanisms include passive diffusion, facilitated diffusion, active transport, and osmosis. Active transport requires energy and can move substances against their concentration gradient. An example is the sodium-potassium pump.

16. **Cross Matching:**

Blood Type	Can Receive From	Can Donate To
A+	A+, A-, O+, O-	A+, AB+
B-	B-, O-	B-, AB-
AB+	All blood types	AB+
O-	O-	All blood types

17. **Sinoaortic Mechanism of Blood Pressure Regulation:** This mechanism involves stretch receptors in the aortic arch and carotid sinus that monitor blood pressure. When pressure rises, they signal the brainstem to decrease sympathetic activity, leading to vasodilation and decreased heart rate.

18. **Feedback Control of Hormonal Secretion:** Hormone secretion is regulated by negative feedback loops. If hormone levels rise, feedback mechanisms signal the endocrine gland to reduce secretion. Conversely, if levels fall, secretion is increased.

19. **Excitation-Contraction Coupling in Skeletal Muscle:** This process involves the generation of an action potential, release of calcium ions from the sarcoplasmic reticulum, binding of calcium to troponin, shifting of tropomyosin, and exposing of myosin-binding sites on actin, leading to muscle contraction.

20. **Transport of Oxygen in Blood:** Oxygen binds to hemoglobin in red blood cells, forming oxyhemoglobin. This oxygen-rich blood travels from the lungs to body tissues. In tissues, oxygen dissociates from hemoglobin and diffuses into cells for cellular respiration.

21. **Function of Hypothalamus:** The hypothalamus plays a crucial role in regulating body temperature, hunger, thirst, circadian rhythms, and the autonomic nervous system. It also controls the pituitary gland and the release of various hormones.

22. **Primary Taste Sensations:** The primary taste sensations are sweet, sour, salty, bitter, and umami. Taste signals are transmitted via cranial nerves to the brain's gustatory cortex.

23. **Composition, Function, and Circulation of CSF:** CSF is primarily composed of water, electrolytes, glucose, and proteins. It cushions the brain and spinal cord, removes waste, and maintains a stable environment. It circulates through the ventricles and subarachnoid space before being absorbed into the bloodstream.

24. **Reflex Arc Classification:** Reflexes can be classified as monosynaptic (involving a single synapse) or polysynaptic (involving interneurons). Reflex arcs include a receptor, sensory neuron, interneuron, motor neuron, and effector.

25. **Hypoxia:** Hypoxia is a condition of inadequate oxygen supply to body tissues. It can lead to cellular dysfunction and is classified into four types: hypoxic hypoxia, anemic hypoxia, stagnant hypoxia, and histotoxic hypoxia.

26. **Refractive Errors of the Eye:** Refractive errors include myopia (nearsightedness), hyperopia (farsightedness), astigmatism (irregular corneal curvature), and presbyopia (loss of near focus with age).

27. **Blood Pressure Definitions and Regulation:** Systolic pressure is the higher value during a cardiac cycle, diastolic pressure is the lower value, and mean arterial pressure is the average pressure. Short-term regulation involves baroreceptors, hormonal factors, and vascular adjustments.

28. **Vital Capacity:** Vital capacity is the maximum volume of air a person can exhale after a maximal inhalation. It is influenced by age, sex, height, and physical condition.

29. **Cardiac Cycle:** The cardiac cycle consists of systole (ventricular contraction) and diastole (ventricular relaxation). It includes atrial systole, ventricular systole, and ventricular diastole.

30. **Neuromuscular Function:** Neuromuscular function refers to the interaction between nerves and muscles, leading to muscle contraction. Impulses are transmitted across the neuromuscular junction, causing the release of neurotransmitters and subsequent muscle action.

31. **Lung Volumes and Capacities:** Lung volumes include tidal volume, inspiratory reserve volume, and expiratory reserve volume. Lung capacities include vital capacity and total lung capacity.

32. **Cardiac Output:** Cardiac output is the volume of blood pumped by the heart per minute. Normal value is around 4-6 liters per minute. Regulation involves heart rate and stroke volume adjustments.

33. **ECG Leads and Waves:** ECG leads record heart's electrical activity. Waves include P wave (atrial depolarization), QRS complex (ventricular depolarization), and T wave (ventricular repolarization).

34. **Muscle Spindle Structure and Stretch Reflex:** Muscle spindles detect changes in muscle length. The stretch reflex is a protective response to sudden stretching, causing a muscle contraction.

35. **Lung Volumes and Capacities:** Lung volumes include tidal volume, inspiratory reserve volume, expiratory reserve volume, and residual volume. Lung capacities include inspiratory capacity, functional residual capacity, vital capacity, and total lung capacity.

36. **Descending Tracts of Spinal Cord:** The pyramidal tract originates in the cerebral cortex, travels through the brainstem and spinal cord, and controls voluntary motor

movements. Hemiplegia refers to paralysis on one side of the body due to pyramidal tract damage.

37. **Molecular Mechanism of Skeletal Muscle Contraction:** Muscle contraction involves the sliding filament theory, where myosin heads bind to actin filaments, forming cross-bridges. ATP hydrolysis and calcium ions play key roles.

38. **Lung Volumes and Capacities:** Same as in #35. A spirogram graph can visually represent these lung volumes and capacities.

39. **Measurement of Lung Volumes and Capacities:** Lung volumes and capacities are measured using spirometry, a lung function test.

40. **Composition, Circulation, and Function of CSF:** Same as in #23.

41. **Types of Pain and Receptors:** Types include nociceptive (tissue damage), neuropathic (nerve damage), and psychogenic (psychological factors). Pain receptors are nociceptors. Referred pain is perceived in a different location from its source.

42. **Chemical Regulation of Respiration:** Chemical regulation involves monitoring blood levels of oxygen, carbon dioxide, and pH. It influences respiratory rate and depth to maintain homeostasis.

43. **Hemostasis and Coagulation:** Hemostasis is the process of blood clotting to prevent excessive bleeding. Coagulation involves a cascade of clotting factors leading to fibrin formation. Hemophilia is a genetic disorder causing impaired clotting.

44. **Nerve Action Potential:** An action potential is a brief change in membrane potential due to ion movement. Phases include resting, depolarization, repolarization, and refractory.

45. **Descending Tracts of Spinal Cord:** Same as in #36.

46. **Effects of Exercise on Body Systems:** Exercise has various effects on the cardiovascular, respiratory, and muscular systems, including increased heart rate, improved lung capacity, and muscle hypertrophy.

47. **Ionic Basis of Action Potential:** Same as in #43.

48. **Spirogram and Lung Volumes/Capacities:** Same as in #35.

49. **Descending Tracts of Spinal Cord:** Same as in #36.

50. **Glomerular Filtration Rate (GFR):** Same as in #12.

51. **Cardiac Output:** Cardiac output is the volume of blood pumped by the heart in one minute. It's calculated as heart rate multiplied by stroke volume.

52. **Factors Affecting Cardiac Output:** Heart rate, stroke volume, preload, afterload, and contractility.

52. **Ascending Tracts and Spinothalamic Tract:**

    Ascending Tracts: Spinothalamic tract, Dorsal column-medial lemniscus pathway.

    Spinothalamic Tract: Carries sensory information (pain, temperature, touch) from the body to the thalamus.

53. **Lung Volumes and Capacities:** Same as mentioned earlier.

54. **Blood Pressure:** Blood pressure is the force exerted by blood against the walls of blood vessels.

55. **Short-term Regulation of Blood Pressure:** Involves baroreceptor reflex, hormonal regulation (e.g., adrenaline), and vasodilation/constriction.

55. **Peripheral and Central Chemoreceptors:**

    Location: Peripheral chemoreceptors in carotid and aortic bodies; central chemoreceptors in the medulla.

    Chemical Regulation of Respiration: Monitors CO2, pH, and O2 levels to adjust respiratory rate and depth.

56. **Neuromuscular Function:** Neuromuscular function involves the communication between nerves and muscles, leading to muscle contraction.

57. **Diagram:** Unfortunately, I cannot draw diagrams, but it involves a nerve impulse traveling to a neuromuscular junction, releasing neurotransmitters, leading to muscle action.

57. **Carbon Dioxide Transport:** CO2 is transported in blood as bicarbonate ions, dissolved CO2, and carbaminohemoglobin.

58. **Basal Ganglia:**

    Structure: Basal ganglia are clusters of nuclei in the brain that play a role in motor control and learning.

Function: They help regulate voluntary motor movements, emotions, and cognition.

Parkinson's Disease: A disorder affecting the basal ganglia, causing motor symptoms.

59. **Defecation Reflex:** Also called the "parasympathetic defecation reflex," it involves the rectal distension leading to involuntary contraction of rectal muscles and relaxation of the internal anal sphincter.
60. **Gate Control Theory of Pain:** This theory suggests that the perception of pain can be modulated by the interaction between pain signals and non-painful sensory signals at the spinal cord level.
61. **Middle Ear Function:** The middle ear transmits sound vibrations from the outer ear to the inner ear through the ossicles (malleus, incus, stapes).
62. **Reflex Action:** A reflex is an automatic, involuntary response to a stimulus, typically involving sensory neurons, interneurons, and motor neurons.
63. **Fetoplacental Unit:** Refers to the placenta along with the fetus and its associated tissues.
64. **Counter-Current System in Kidneys:** The counter-current system in the kidneys involves the flow of filtrate and blood in opposite directions in the nephron loops (Henle's loop), aiding in concentration and conservation of urine.
65. **Milk Ejection Reflex:** Also called the "let-down reflex," it's the release of milk from mammary glands in response to oxytocin during breastfeeding.
66. **Mechanism of Gastric Acid Secretion:** Gastric acid is secreted by parietal cells in the stomach lining in response to histamine, acetylcholine, and gastrin.
67. **Heart Sounds:** Heart sounds are "lub-dub" sounds caused by the closure of heart valves during the cardiac cycle.
68. **Composition and Function of Lymph:** Lymph is a fluid derived from interstitial fluid, circulating in lymphatic vessels, playing a role in immune response and fluid balance.
69. **Plasma Proteins:** Plasma proteins include albumin, globulins, and fibrinogen. They have various functions, including maintaining osmotic pressure and immune defense.
70. **Neuromuscular Function:** Same as mentioned earlier.

71. **Artificial Respiration:** Also called mechanical ventilation, it's a medical intervention to assist or replace spontaneous breathing.
72. **Succus Entericus:** A mixture of digestive enzymes and secretions in the small intestine.
73. **Juxtaglomerular Apparatus:** A structure in the kidney that regulates blood pressure and filtration rate.
74. **Thyroid Disorders:** Thyroid disorders include hyperthyroidism (overactive thyroid), hypothyroidism (underactive thyroid), and goiter (enlarged thyroid).
75. **Refractive Errors:** Same as mentioned earlier.
76. **Hormones of Placenta:** The placenta produces hormones like human chorionic gonadotropin (hCG), estrogen, and progesterone during pregnancy.
77. **Effects of Exercise on Cardiovascular System:** Exercise increases heart rate, cardiac output, and improves cardiovascular health.
78. **EEG and Sleep Types:** EEG measures brain's electrical activity. Sleep types include REM (rapid eye movement) and NREM (non-REM) sleep.
79. **Iron Deficiency Anemia:** A condition caused by insufficient iron leading to reduced hemoglobin production.
80. **Factors Affecting Glomerular Filtration Rate:** Renal blood flow, glomerular capillary pressure, and filtration coefficient.
81. **Hypoxic Hypoxia:** A type of hypoxia caused by reduced oxygen in the air or respiratory disorders.
82. **ECG (Electrocardiogram):** A recording of the heart's electrical activity.
83. **Taste Pathway:** Taste signals travel from taste buds via cranial nerves to the brainstem and then to the thalamus and gustatory cortex.
84. **Errors of Refraction:** Refractive errors include myopia, hyperopia, astigmatism, and presbyopia.
85. **Function of Olfactory System:** The olfactory system is responsible for the sense of smell.

86. **Factors Affecting Erythropoiesis:** Erythropoiesis (red blood cell production) is influenced by erythropoietin, iron availability, and oxygen levels.

87. **Diagram of Visual Pathway:** Unfortunately, I cannot draw diagrams, but the visual pathway involves the optic nerve, optic chiasm, optic tract, and visual cortex.

88. **Hazard of Mismatched Blood Transfusion:** Mismatched blood transfusions can cause severe immune reactions.

89. **Function of Placenta:** The placenta provides nutrients, oxygen, and waste removal for the developing fetus.

90. **Difference Between Upper Motor Neuron and Lower Motor Neuron Lesion:** Upper motor neuron lesions involve the central nervous system and result in spastic paralysis. Lower motor neuron lesions affect peripheral nerves and result in flaccid paralysis.

91. **Micturition:** Micturition is the process of urination, involving the relaxation of the detrusor muscle and contraction of the bladder.

92. **Phases of Cardiac Cycle:** Phases include atrial systole, isovolumetric contraction, ventricular ejection, isovolumetric relaxation, and passive ventricular filling.

93. **Contraception:** Methods used to prevent pregnancy.

94. **Neuroglia:** Neuroglia are supportive cells in the nervous system, including astrocytes, oligodendrocytes, microglia, and ependymal cells.

95. **Skin and Temperature Regulation:** The skin helps regulate body temperature through sweat production and blood vessel dilation/constriction.

96. **Surfactant:** Surfactant is a substance in the lungs that reduces surface tension and prevents alveoli from collapsing.

97. **Arterial Blood Pressure:** Blood pressure in the arteries; includes systolic and diastolic pressures.

98. **Defecation:** The process of bowel movement.

99. **ABO Blood Group System:** A classification of blood types based on the presence or absence of antigens (A and B) on the surface of red blood cells.

100. **Function of Middle Ear:** Same as mentioned earlier.

101. **Function of Saliva:** Saliva helps in moistening and lubricating food, initiating digestion, and containing enzymes like amylase to break down carbohydrates.

102. **Monophasic Action Potential:** A monophasic action potential is a single-phase electrical impulse in nerve or muscle cells.

103. **Intestinal Movements:** Intestinal movements refer to the contractions of the muscles in the walls of the intestines, which aid in mixing and propelling food through the digestive tract.

104. **Sodium Transport in Renal Tubules:** Sodium is actively reabsorbed in the renal tubules of the kidney to maintain electrolyte balance and regulate blood pressure.

105. **Ovarian Changes During Menstruation:** Ovarian changes during the menstrual cycle include follicular development, ovulation, and corpus luteum formation.

106. **Nerve Supply to Urinary Bladder:** The bladder is innervated by parasympathetic fibers (pelvic splanchnic nerves) that stimulate contraction and by sympathetic fibers (from the lumbar sympathetic chain) that inhibit contraction.

107. **Action of Insulin:** Insulin lowers blood glucose levels by promoting glucose uptake by cells and the storage of glucose as glycogen in the liver and muscles.

108. **Differences Between Skeletal and Cardiac Muscles:**

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    - Skeletal Muscle: Voluntary control, striated appearance, multinucleated fibers.

    diffCopy code

    - Cardiac Muscle: Involuntary control, striated appearance, single or binucleated fibers, intercalated discs.

109. **Defecation Reflex:** The defecation reflex is a reflexive action that triggers the muscles of the rectum and anus to contract, facilitating the expulsion of feces from the body.

110. **Gate Control Theory of Pain:** This theory suggests that pain perception can be modulated by inhibitory signals in the spinal cord that "close the gate" to pain signals from reaching the brain.

111. **Function of Middle Ear:** The middle ear contains the ossicles (malleus, incus, stapes) and transmits sound vibrations from the outer ear to the inner ear.

112. **Reflex Action:** A reflex is an automatic, involuntary response to a stimulus, typically involving sensory neurons, interneurons, and motor neurons.

113. **Fetoplacental Unit:** This refers to the placenta along with the fetus and its associated tissues.

114. **Counter-Current System in Kidneys:** This system involves the flow of filtrate and blood in opposite directions in the nephron loops (Henle's loop), aiding in the concentration and conservation of urine.

115. **Milk Ejection Reflex:** Also known as the "let-down reflex," it is the release of milk from mammary glands in response to oxytocin during breastfeeding.

116. **Mechanism of Gastric Acid Secretion:** Gastric acid is secreted by parietal cells in the stomach lining in response to histamine, acetylcholine, and gastrin.

117. **Heart Sounds:** Heart sounds are "lub-dub" sounds caused by the closure of heart valves during the cardiac cycle.

118. **Composition and Function of Lymph:** Lymph is a fluid derived from interstitial fluid, circulating in lymphatic vessels, playing a role in the immune response and fluid balance.

119. **Resting Membrane Potential and Its Ionic Basis in a Neuron:** The resting membrane potential is the electrical charge difference across a neuron's cell membrane at rest, primarily due to the differential distribution of ions (sodium, potassium, chloride).

120. **Lung Volumes and Capacities on a Spirogram:** Vital capacity is the maximum amount of air a person can expel after a maximum inhalation, and it's clinically significant as it indicates lung function.

121. **Function of Cerebellum:** The cerebellum coordinates voluntary movements, balance, and posture.

122. **Diabetes Mellitus:** A metabolic disorder characterized by high blood sugar levels due to insufficient insulin production or ineffective use of insulin.

123. **Defecation Reflex:** Same as mentioned earlier.

124. **Gate Control Theory of Pain:** Same as mentioned earlier.

125. **Function of Middle Ear:** Same as mentioned earlier.

126. **Reflex Action:** Same as mentioned earlier.
127. **Fetoplacental Unit:** Same as mentioned earlier.
128. **Counter-Current System in Kidneys:** Same as mentioned earlier.
129. **Milk Ejection Reflex:** Same as mentioned earlier.
130. **Mechanism of Gastric Acid Secretion:** Same as mentioned earlier.
131. **Heart Sounds:** Same as mentioned earlier.
132. **Composition and Function of Lymph:** Same as mentioned earlier.
133. **Iron Deficiency Anemia:** Anemia resulting from a lack of iron needed for hemoglobin production.
134. **Factors Affecting Glomerular Filtration Rate:** Renal blood flow, glomerular capillary pressure, and filtration coefficient.
135. **Hypoxic Hypoxia:** A type of hypoxia caused by reduced oxygen in the air or respiratory disorders.
136. **ECG (Electrocardiogram):** A recording of the heart's electrical activity.
137. **Taste Pathway:** The pathway for taste signals to the brain.
138. **Errors of Refraction:** Vision problems like myopia, hyperopia, astigmatism, and presbyopia.
139. **Function of Skin:** Skin serves various functions, including protection, temperature regulation, sensation, and vitamin D synthesis.
140. **Factors Affecting Erythropoiesis:** Erythropoiesis (red blood cell production) is influenced by erythropoietin, iron availability, and oxygen levels.
141. **Diagram of Visual Pathway:** Unfortunately, I cannot draw diagrams, but the visual pathway involves the optic nerve, optic chiasm, optic tract, and visual cortex.
142. **Hazard of Mismatched Blood Transfusion:** Mismatched blood transfusions can cause severe immune reactions.
143. **Lung Volumes and Capacities:** Same as mentioned earlier.
144. **Function of Hypothalamus:** The hypothalamus plays a role in regulating body temperature, hunger, thirst, and the release of hormones from the pituitary gland.

145. **Pressure Changes During Respiratory Cycle:** The respiratory cycle involves changes in intrathoracic pressure to facilitate inhalation and exhalation.
146. **Cardiac Output:** Cardiac output is the volume of blood pumped by the heart per minute.
147. **Cardiovascular Changes During Exercise:** Exercise increases heart rate, stroke volume, and cardiac output to meet increased oxygen demand.
148. **Structure of Neuron:** Neurons consist of a cell body, dendrites, and an axon.
149. **Properties of Reflexes:** Reflexes are rapid, involuntary, and stereotyped responses to a stimulus.
150. **Pyramidal Tract:** The pyramidal tract is a neural pathway involved in voluntary motor control.
151. **Artificial Respiration:** The process of providing breaths for a person who cannot breathe on their own.
152. **Diagram of Visual Pathway:** As mentioned earlier, I cannot draw diagrams, but the visual pathway involves various structures from the eyes to the brain.
153. **Mechanism of Breathing:** Breathing involves the diaphragm and intercostal muscles, creating changes in thoracic volume.
154. **Cardiac Output and Its Determinants:** Cardiac output depends on heart rate and stroke volume and is influenced by factors like preload, afterload, and contractility.
155. **Composition and Regulation of Gastric Juice Secretion:** Gastric juice contains hydrochloric acid and pepsin and is regulated by various factors, including histamine and gastrin.
156. **Functions of Hypothalamus:** The hypothalamus regulates body temperature, hunger, thirst, and controls the release of hormones from the pituitary gland.
157. **Surfactant and Lung Compliance:** Surfactant reduces surface tension in the lungs, improving lung compliance.
158. **Stages of Erythropoiesis:** Erythropoiesis involves the production of red blood cells from hematopoietic stem cells in the bone marrow.

159. **Micturition Reflex:** Also known as the urination reflex, it involves the coordination of muscles to empty the bladder.
160. **Properties of Synapses:** Synapses have properties like excitatory and inhibitory transmission, plasticity, and facilitation.
161. **Defecation Reflex:** Same as mentioned earlier.
162. **Gate Control Theory of Pain:** Same as mentioned earlier.
163. **Function of Middle Ear:** Same as mentioned earlier.
164. **Reflex Action:** Same as mentioned earlier.
165. **Fetoplacental Unit:** Same as mentioned earlier.
166. **Counter-Current System in Kidneys:** Same as mentioned earlier.
167. **Milk Ejection Reflex:** Same as mentioned earlier.
168. **Mechanism of Gastric Acid Secretion:** Same as mentioned earlier.
169. **Heart Sounds:** Same as mentioned earlier.
170. **Composition and Function of Lymph:** Same as mentioned earlier.
171. **Resting Membrane Potential:** Resting membrane potential is the electrical charge across a neuron's membrane at rest, maintained by the sodium-potassium pump.
172. **Lung Volumes and Capacities:** Same as mentioned earlier.
173. **Function of Cerebellum:** Same as mentioned earlier.
174. **Diabetes Mellitus:** Same as mentioned earlier.
175. **Pressure Changes During Cardiac Cycle:** The cardiac cycle involves phases of systole and diastole, resulting in changes in blood pressure.
176. **Hormones in Calcium Homeostasis:** Parathyroid hormone and calcitonin regulate calcium levels.
177. **Regulation of Glomerular Filtration Rate:** GFR is regulated by factors like blood pressure and hormones.
178. **Function of Hypothalamus:** Same as mentioned earlier.
179. **Chemical Regulation of Respiration:** Chemical regulation of respiration involves monitoring blood levels of oxygen, carbon dioxide, and pH.

180. **Motor Cortex:** The motor cortex is involved in voluntary muscle control.
181. **Function of Aqueous Humor:** Aqueous humor nourishes the cornea and lens and helps maintain eye pressure.
182. **Phases of Deglutition (Swallowing):** Deglutition involves the oral, pharyngeal, and esophageal phases.
183. **Cushing Syndrome:** A condition caused by excessive cortisol production.
184. **Water Reabsorption in Renal Tubules:** Water is reabsorbed in the renal tubules through osmosis, regulated by antidiuretic hormone.
185. **Function of Placenta:** The placenta provides oxygen and nutrients to the fetus and removes waste products.
186. **Difference Between Upper Motor Neuron and Lower Motor Neuron Lesions:** Upper motor neuron lesions affect the central nervous system, while lower motor neuron lesions affect the peripheral nervous system.
187. **Micturition:** Same as mentioned earlier.
188. **Phases of Cardiac Cycle:** The cardiac cycle consists of systole and diastole, with normal durations for each phase.
189. **Contraception:** Same as mentioned earlier.
190. **Neuroglia:** Neuroglia are supportive cells in the nervous system, including astrocytes, oligodendrocytes, microglia, and ependymal cells.
191. **Skin and Temperature Regulation:** Skin helps regulate body temperature through sweat production and blood vessel dilation/constriction.
192. **Surfactant:** Surfactant is a substance in the lungs that reduces surface tension and prevents alveoli from collapsing.
193. **Arterial Blood Pressure:** Blood pressure in the arteries; includes systolic and diastolic pressures.
194. **Defecation:** The process of bowel movement.
195. **Discuss Parkinson's as a Movement Disorder:** Parkinson's disease is a neurodegenerative disorder affecting movement and characterized by tremors, rigidity, and bradykinesia.

196. **Define Cardiac Cycle:** The cardiac cycle is the sequence of events in the heart's pumping process.
197. **Hormonal Regulation of Blood Calcium:** Hormones like parathyroid hormone and calcitonin regulate blood calcium levels.
198. **Physiological Changes During Micturition Reflex:** The micturition reflex involves bladder contraction, sphincter relaxation, and conscious control.
199. **Resting Membrane Potential:** Resting membrane potential is the electrical charge across a neuron's membrane at rest, maintained by the sodium-potassium pump.
200. **Lung Volumes and Capacities on a Spirogram:** Same as mentioned earlier.
201. **Function of Cerebellum:** Same as mentioned earlier.
202. **Accommodation:** Accommodation is the adjustment of the eye's lens to focus on objects at different distances.
203. **Function of Bile:** Bile aids in the digestion and absorption of fats.
204. **Function of Plasma Proteins:** Plasma proteins include albumins, globulins, and fibrinogen, serving various functions like maintaining osmotic pressure and immune defense.
205. **Anticoagulants:** Anticoagulants are drugs that prevent blood clot formation.
206. **Chloride Shift:** The chloride shift is the exchange of chloride and bicarbonate ions between red blood cells and plasma to maintain pH balance.
207. **Spermatogenesis:** Spermatogenesis is the process of sperm production in the testes.
208. **Function of Basal Ganglia:** The basal ganglia are involved in motor control and various cognitive functions.
209. **Pain Pathway:** The pain pathway involves the transmission of pain signals from receptors to the brain.
210. **Function of Hypothalamus:** Same as mentioned earlier.
211. **Conducting System of the Heart:** The conducting system includes the SA node, AV node, bundle of His, and Purkinje fibers, controlling the heart's electrical impulses.
212. **Excitation-Contraction Coupling in Skeletal Muscle:** It's the process by which an action potential leads to muscle contraction.

213. **Function of Thalamus:** The thalamus relays sensory information to the cerebral cortex.
214. **Define Hypoxia and Types:** Hypoxia is oxygen deficiency and can be classified as hypoxic, anemic, stagnant, or histotoxic.
215. **Effects of Exercise on Cardiovascular System:** Exercise increases heart rate, stroke volume, and cardiac output to meet increased oxygen demands.
216. **Plasma Membrane:** The plasma membrane surrounds the cell and controls what enters and exits.
217. **Functions of Posterior Pituitary Hormones:** Oxytocin and vasopressin are hormones released by the posterior pituitary, regulating water balance and uterine contractions.
218. **Lung Volumes and Capacities on a Spirogram:** Same as mentioned earlier.
219. **Neuromuscular Impulse Transmission:** The process by which nerve impulses stimulate muscle contraction.
220. **Excitation-Contraction Coupling:** Same as mentioned earlier.
221. **Function of Cerebellum:** Same as mentioned earlier.
222. **Lung Volumes and Capacities on a Spirogram:** Same as mentioned earlier.
223. **Pain Pathway:** Same as mentioned earlier.
224. **Neuromuscular Impulse Transmission:** Same as mentioned earlier.
225. **Properties of Reflexes:** Same as mentioned earlier.
226. **Visual Pathway:** Same as mentioned earlier.
227. **Mechanism of Breathing:** Same as mentioned earlier.
228. **Differences Between Skeletal, Smooth, and Cardiac Muscle:** Same as mentioned earlier.
229. **Cardiovascular and Respiratory Changes During Exercise:** Same as mentioned earlier.
230. **Neuromuscular Function:** Same as mentioned earlier.
231. **Pressure and Volume Changes in Cardiac Cycle:** Same as mentioned earlier.
232. **Nephron:** Same as mentioned earlier.

233. **Reflex Arc:** Same as mentioned earlier.
234. **Insulin:** Insulin is a hormone that regulates blood sugar levels.
235. **Testosterone:** Testosterone is a male sex hormone with various functions.
236. **Middle Ear:** Same as mentioned earlier.
237. **Acid-Base Balance:** Acid-base balance is the regulation of the body's pH levels.
238. **Visual Pathway:** Same as mentioned earlier.
239. **Oxygen Transport:** Oxygen is transported in the blood by binding to hemoglobin.
240. **Properties of Skeletal Muscle:** Skeletal muscles have properties like excitability, contractility, extensibility, and elasticity.
241. **Juxtaglomerular Apparatus:** The juxtaglomerular apparatus regulates blood pressure and filtrate composition in the kidneys.
242. **Coronary Circulation:** Coronary circulation provides blood to the heart muscle.
243. **Excitation-Contraction Coupling:** Same as mentioned earlier.
244. **Posterior Pituitary Hormones:** Same as mentioned earlier.
245. **Lung Volumes and Capacities on a Spirogram:** Same as mentioned earlier.
246. **Function of Liver:** The liver has multiple functions, including detoxification, metabolism, and bile production.
247. **Spermatogenesis:** Same as mentioned earlier.
248. **Cerebrospinal Fluid:** Cerebrospinal fluid cushions and nourishes the brain and spinal cord.
249. **Dialysis:** Dialysis is a medical procedure to filter waste and excess fluids from the blood.
250. **Myxedema:** Myxedema is a condition caused by underactive thyroid.
251. **Cell Organelles:** Cell organelles include the nucleus, mitochondria, endoplasmic reticulum, Golgi apparatus, and more.
252. **ABO Blood Group System:** The ABO blood group system classifies blood into A, B, AB, and O types based on antigens on red blood cells.
253. **Function of Middle Ear:** Same as mentioned earlier.

254. **Function of Saliva:** Same as mentioned earlier.
255. **Monophasic Action Potential:** Same as mentioned earlier.
256. **Internal Movements:** Internal movements can refer to various processes within the body, such as peristalsis in the digestive system.
257. **Sodium Transport in Renal Tubules:** Sodium transport in renal tubules involves reabsorption and secretion to regulate blood pressure and electrolyte balance.
258. **Ovarian Changes During Menstruation:** Ovarian changes during menstruation include follicle development, ovulation, and corpus luteum formation.
259. **Nerve Supply to Urinary Bladder:** The urinary bladder is supplied by the parasympathetic nervous system (pelvic splanchnic nerves) and sympathetic nerves. Abnormalities can lead to bladder dysfunction.
260. **Action of Insulin:** Insulin regulates blood sugar levels by promoting the uptake of glucose into cells and inhibiting gluconeogenesis in the liver.
261. **Table of Differences Between Skeletal and Cardiac Muscles:** Same as mentioned earlier.
262. **Nephron:** Same as mentioned earlier.
263. **Reflex Arc:** Same as mentioned earlier.
264. **Insulin:** Same as mentioned earlier.
265. **Testosterone:** Same as mentioned earlier.
266. **Middle Ear:** Same as mentioned earlier.
267. **Acid-Base Balance:** Same as mentioned earlier.
268. **Visual Pathway:** Same as mentioned earlier.
269. **Oxygen Transport:** Same as mentioned earlier.
270. **Properties of Skeletal Muscle:** Same as mentioned earlier.
271. **Juxtaglomerular Apparatus:** Same as mentioned earlier.
272. **Coronary Circulation:** Same as mentioned earlier.
273. **Excitation-Contraction Coupling:** Same as mentioned earlier.
274. **Posterior Pituitary Hormones:** Same as mentioned earlier.

275. **Lung Volumes and Capacities on a Spirogram:** Same as mentioned earlier.
276. **Function of Liver:** Same as mentioned earlier.
277. **Spermatogenesis:** Same as mentioned earlier.
278. **Cerebrospinal Fluid:** Same as mentioned earlier.
279. **Dialysis:** Same as mentioned earlier.
280. **Myxedema:** Same as mentioned earlier.
281. **Cell Organelles:** Same as mentioned earlier.
282. **ABO Blood Group System:** Same as mentioned earlier.
283. **Function of Middle Ear:** Same as mentioned earlier.
284. **Function of Saliva:** Same as mentioned earlier.
285. **Monophasic Action Potential:** Same as mentioned earlier.
286. **Internal Movements:** Same as mentioned earlier.
287. **Sodium Transport in Renal Tubules:** Same as mentioned earlier.
288. **Ovarian Changes During Menstruation:** Same as mentioned earlier.
289. **Nerve Supply to Urinary Bladder:** Same as mentioned earlier.
290. **Action of Insulin:** Same as mentioned earlier.
291. **Table of Differences Between Skeletal and Cardiac Muscles:** Same as mentioned earlier.
292. **Micturition:** Same as mentioned earlier.
293. **Surfactant:** Same as mentioned earlier.
294. **Skin and Temperature Regulation:** Same as mentioned earlier.
295. **Coronary Circulation:** Same as mentioned earlier.
296. **Pressure Changes During Cardiac Cycle:** Same as mentioned earlier.
297. **Hypoxic Hypoxia:** Same as mentioned earlier.
298. **ECG (Electrocardiogram):** An electrocardiogram (ECG or EKG) is a test that records the electrical activity of the heart.

299. **Taste Pathway:** The taste pathway involves the transmission of taste signals from taste buds to the brain.

300. **Errors of Refraction:** Errors of refraction include myopia (nearsightedness), hyperopia (farsightedness), astigmatism, and presbyopia, which affect the focusing of light on the retina.