**Questions of III rd totalization for General Medicine faculty , academic year 2021-2022**

1. What are causes of hypertonic/isotonic/hypotonic hyperhydration?
2. What are causes of hypertonic/isotonic/hypotonic dehydration?
3. What is pathogenesis of hypertonic/isotonic/hypotonic hyperhydration?
4. What is pathogenesis of hypertonic/isotonic/hypotonic dehydration?
5. What pathological processes do hypertonic/isotonic/hypotonic hyperhydration develop in?
6. What pathological processes do hypertonic/isotonic/hypotonic dehydration develop in?
7. How the plasma osmolality and cell volume are changed in hypertonic/isotonic/hypotonic hyperhydration?
8. How the plasma osmolality and cell volume are changed in hypertonic/isotonic/hypotonic dehydration?
9. How the capillary-interstitial and interstitium-cell water exchange are changed in hypertonic/isotonic/hypotonic dehydration?
10. How the capillary-interstitial and interstitium-cell water exchange are changed in hypertonic/isotonic/hypotonic overhydration?
11. What kind of fluid-electrolytes imbalances occur into the blood in hypertonic/isotonic/hypotonic overhydration?
12. What kind of fluid-electrolytes imbalances occur into the blood in hypertonic/isotonic/hypotonic dehydration?
13. How the protein blood level is disturbed in dehydration/overhydration?
14. What fluid-electrolyte disorders develop in vasopressin deficiency/vasopressin excess?
15. How the blood osmolarity and sodium concentration are disturbed in vasopressin deficiency/vasopressin excess?
16. How the blood osmolarity and cell volume are changed in vasopressin deficiency/vasopressin excess?
17. What is pathogenesis of fluid-electrolyte imbalance in vasopressin deficiency/vasopressin excess?
18. What is pathogenesis of fluid-electrolyte imbalance in water deprivation?
19. How the blood osmolarity and sodium concentration are disturbed in water deprivation?
20. How the blood osmolarity and cell volume are disturbed in water deprivation?
21. How the blood osmolarity, sodium concentration and protein level into the blood are disturbed in water deprivation?
22. What is pathogenesis of hypernatremia in water deprivation?
23. How the blood osmolarity, sodium concentration and cell volume are disturbed in excessive intake of water?
24. How the blood osmotic pressure and oncotic pressure are disturbed in excessive intake of water?
25. What is pathogenesis of fluid-electrolyte imbalance due to excessive sweating?
26. How the blood osmolarity, sodium concentration and protein level into the blood are disturbed due to excessive sweating?
27. How the plasma osmolarity and cell volume are disturbed in excessive sweating?
28. How the plasma osmolarity and sodium concentration into the blood are disturbed in excessive sweating?
29. What is pathogenesis of fluid-electrolyte imbalance due to pulmonary hyperventilation?
30. How the plasma osmolarity and cell volume are disturbed due to pulmonary hyperventilation?
31. How the plasma osmolarity and sodium concentration into the blood are disturbed in pulmonary hyperventilation?
32. How the blood osmolarity, chlorine concentration and hydrogen ion levels are disturbed in incoercible vomiting?
33. What fluid-electrolyte imbalance does develop in hypertonic dehydration?
34. How does the compensation of fluid imbalance in hypertonic dehydration occur?
35. What fluid-electrolyte imbalance does develop in diarrhea?
36. What does fluid-electrolyte imbalance develop in hypertonic/isotonic/hypotonic dehydration?
37. What is pathogenetic mechanism of hyperkalemia in hypotonic dehydration?
38. What is compensatory mechanism of osmotic dyshomeostasis in hypotonic dehydration?
39. What is pathogenesis of fluid-electrolyte imbalance in mineralocorticoids insufficiency?
40. How is the oncotic pressure disturbed in hyperhydration?
41. What are pathogenetic mechanisms of edema in hyperhydration?
42. What are compensatory reactions in isotonic hyperhydration?
43. How is define hypotonic/isotonic/hypertonic hyperhydration?
44. What are pathogenetic mechanisms of hyperkalemia in hypotonic hyperhydration?
45. What pathological manifestations develop in hypotonic hyperhydration?
46. What is the mechanism of hemoglobinuria in hypotonic hyperhydration?
47. What is pathogenesis of fluid imbalance in aldosteron hypersecretion/aldosteron hyposecretion?
48. How the blood osmolarity, sodium level and hydrogen ion level are disturbed in diarrhea?
49. How the blood osmolarity, protein level and potassium levels into the blood are changed in II-III degree burns?
50. How the blood volume and concentration of blood cells are disturbed in intravascular dehydration?
51. What are compensatory reactions in intravascular dehydration/intravascular overhydration?
52. How the osmotic and oncotic blood pressure are disturbed in massive infusion of isotonic NaCl solution?
53. How the volume of extracellular and intracellular fluids are disturbed in massive infusion of NaCl solutions?
54. What are immediate disorders of blood oncotic and osmotic pressures after massive infusion of 5% glucose solution?
55. What are delayed disorders of blood oncotic and osmotic pressures after massive infusion of 5% glucose solution?
56. What are immediate disorders of extracellular and intracellular fluid volume after massive infusion of 5% glucose solution?
57. What are delayed disorders of extracellular and intracellular fluid volume after massive infusion of 5% glucose solution?
58. How the circulatory blood volume and blood viscosity are disturbed in absolute hypernatremia/relative hypernatremia?
59. How the circulatory blood volume and concentration of blood cells are disturbed in absolute hypernatremia/relative hypernatremia?
60. How the circulatory blood volume and blood viscosity are disturbed in absolute hyponatremia/relative hyponatremia?
61. How the circulatory blood volume and concentration of blood cells are disturbed in absolute hyponatremia/relative hyponatremia?
62. What fluid imbalance does represent absolute hypernatremia/relative hypernatremia?
63. What fluid imbalance does represent absolute hyponatremia/relative hyponatremia?
64. What is pathogenesis of absolute hypernatremia/relative hypernatremia?
65. What is pathogenesis of absolute hyponatremia/relative hyponatremia?
66. What pathological processes do absolute hypernatremia/relative hypernatremia develop in?
67. What pathological processes do absolute hyponatremia/relative hyponatremia develop in?
68. Which one does sodium imbalance develop in hypersecretion of vasopressin/hyposecretion of vasopressin?
69. Which one does sodium imbalance develop in hypersecretion of mineralocorticoids/hyposecretion of mineralocorticoids?
70. How the blood osmolarity, cell volume and intravascular volume are disturbed in absolute hypernatremia/relative hypernatremia?
71. How the blood osmolarity, cell volume and intravascular volume are disturbed in absolute hyponatremia/relative hyponatremia?
72. What is pathogenesis of cell volume imbalance in absolute hypernatremia/relative hypernatremia?
73. How the arterial blood pressure is disturbed in sodium deficiency?
74. What is pathogenesis of sodium imbalance in chronic liver disorders?
75. Which one sodium imbalance develops in chronic liver disorders?
76. What are compensatory reactions in absolute hypernatremia?
77. What is the final consequence of hypernatremia for cells?
78. What are the electrolyte imbalance in primary hyperaldosteronism?
79. What is pathogenesis of edema in primary hyperaldosteronism?
80. What pathological processes does secondary hyperaldosteronism develop in?
81. What pathological processes do hyperkalemia/hypokalemia develop in?
82. What acid-base imbalance develops in hyperkalemia/hypokalemia?
83. What is pathogenesis of acid-base imbalance develops in hyperkalemia/hypokalemia?
84. What are the changes on ECG in hyperkalemia/hypokalemia?
85. How do the resting membrane potential and neuromuscular excitability disturb in moderate hyperkalemia ( 5,5 - 6,0 mEq/L)?
86. How do the resting membrane potential and neuromuscular excitability disturb in severe hyperkalemia (above 6,5 mEq/L)?
87. How do the resting membrane potential and neuromuscular excitability disturb in hypokalemia?
88. What are the electrophysiological changes in the heart due to hyperkalemia/hypokalemia?
89. What is pathogenesis of potassium imbalance in chronic liver disorders?
90. What is pathogenesis of potassium imbalance treatment with insulin?
91. What is pathogenesis of potassium imbalance in hyperglycemia?
92. What is pathogenesis of potassium imbalance in acidosis/alkalosis?
93. What are clinical manifestations of hyperkalemia/hypokalemia?
94. What is the mechanism of increased amplitude of T wave on ECG in hyperkalemia?
95. What is the mechanism of additional U wave on ECG in hypokalemia?
96. What is the normal Ca2+ions concentration into the blood?
97. What are causes of hypercalcemia/hypocalcemia?
98. What are pathogenetic mechanisms of hypercalcemia/hypocalcemia?
99. What are pathophysiological mechanisms of calcium dyshomeostasis in liver disorders/renal disorders?
100. What is pathogenesis of calcium imbalance in catecholamine hypersecretion?
101. What is pathogenesis of calcium imbalance in excess of parathyroid hormone/deficiency of parathyroid hormone?
102. What is pathogenesis of neuromuscular excitability disorders in hypercalcemia/hypocalcemia?
103. What are cardiovascular manifestations in hypocalcemia?
104. What are manifestations in hypercalcemia/hypocalcemia?
105. What is pathogenesis of osteomalacia in hypocalcemia?
106. What are compensatory reactions in hypercalcemia/hypocalcemia?
107. What severe complications of hypocalcemia can develop in children?
108. What is the mechanism of hypocalcemia in bile deficiency in the small intestine?
109. What are the criteria of acidosis/alkalosis?
110. What do respiratory acidosis/respiratory alkalosis represent?
111. What do metabolic acidosis/metabolic alkalosis represent?
112. What do compensated acidosis/decompensated acidosis represent?
113. What do compensated alkalosis/decompensated alkalosis represent?
114. What processes do metabolic acidosis/respiratory acidosis develop in?
115. What processes do metabolic alkalosis/respiratory alkalosis develop in?
116. What are pathogenetic factors of metabolic acidosis/respiratory acidosis?
117. What are pathogenetic factors of metabolic alkalosis/respiratory alkalosis?
118. How do pH and PaCO2 change in metabolic acidosis/metabolic alkalosis?
119. How do pH and PaCO2 change in respiratory acidosis/respiratory alkalosis?
120. How do pH and NaHCO3 change in metabolic acidosis/metabolic alkalosis?
121. How do pH and NaHCO3 change in respiratory acidosis/respiratory alkalosis?
122. How do respiratory frequency and PaCO2 change in metabolic acidosis/metabolic alkalosis?
123. Which one acid-base imbalance develops in aldosterone hypersecretion/aldosterone hyposecretion?
124. What is pathogenesis of acid-base imbalance in aldosterone hypersecretion/aldosterone hyposecretion?
125. What kind of accumulated endogenous substances of can lead to acidosis?
126. What kind of accumulated acid compounds lead to development of metabolic acidosis in insulin deficiency?
127. What is the pathogenetic factor of acid-base imbalance in insulin deficiency?
128. How do pH and bicarbonate change in insulin deficiency?
129. What is pathogenesis of acid-base imbalance in inanition (starvation)?
130. How do pH and bicarbonate change in inanition?
131. What is pathogenesis of acid-base imbalance in hypoxia?
132. How do pH and bicarbonate change in hypoxia?
133. What is pathogenesis of acid-base imbalance in diarrhea?
134. What is the pathogenesis of acid-base imbalance in liver disorders?
135. What is pathogenesis of acid-base imbalance in pulmonary hyperventilation/pulmonary hypoventilation?
136. How do pH and PaCO2 change in pulmonary hypoventilation/pulmonary hyperventilation?
137. With what electrolytic dyshomeostasis are associated metabolic acidosis/metabolic alkalosis?
138. What is pathogenesis of sodium dyshomeostasis in acidosis/alkalosis?
139. What is pathogenesis of potassium dyshomeostasis in acidosis/alkalosis?
140. What is pathogenesis of calcium dyshomeostasis in acidosis/alkalosis?
141. What is the cause of pulmonary hyperventilation in metabolic acidosis?
142. What is the cause of pulmonary hypoventilation in metabolic alkalosis?
143. What are causes of respiratory changes in metabolic acidosis/metabolic alkalosis
144. What does acid-base imbalance develop compensatory pulmonary hyperventilation in?
145. What does acid-base imbalance develop compensatory pulmonary hypoventilation in?
146. What are compensatory reactions in metabolic acidosis/metabolic alkalosis?
147. What are clinical manifestations in acidosis/alkalosis?
148. What are pathophysiological mechanisms of reduced neuromuscular excitability in acidosis?
149. What are disorders into the blood in metabolic acidosis/respiratory acidosis?
150. What are disorders into the blood in metabolic alkalosis/respiratory alkalosis?
151. What is pathogenesis of arterial hypotension in acidosis?
152. How does the hemoglobin buffer system involve in acidosis compensation?
153. What is the pathogenetic factor of osteomalacia and osteoporosis in acidosis?
154. What are the effects of hypercapnia in respiratory acidosis?
155. How do the oxyhemoglobin dissociation curve and oxygen affinity to hemoglobin change in acidosis/alkalosis?
156. What are compensatory reactions in acidosis/alkalosis?
157. What type of hypoxia develops in disturbance of processes of intracellular use of oxygen?
158. What is pathogenesis of haemic hypoxia in intoxication with nitrates?
159. What is pathogenesis of haemic hypoxia in hemoglobinopathy?
160. What is pathogenesis of haemic hypoxia in bleeding?
161. In what cases develops histotoxic hypoxia?
162. What pathological conditions characterized by deviation to the right of oxyhemoglobin dissociation curve deviates to the right?
163. What pathological conditions characterized by deviation to the right of oxyhemoglobin dissociation curve deviates to the left?
164. What substances are produced under bacterial fermentation in the digestive tract?
165. What is the cause of disaccharides maldigestion?
166. How does the glycemia change in liver failure?
167. What are consequences of carbohydrates fermentation in the large intestine?
168. How does the carbohydrate metabolism change in liver failure?
169. What is the cause of monosaccharides malabsorption at the level of small intestine?
170. What is the consequence of carbohydrates malabsorption?
171. How does the function of endocrine glands change in carbohydrate deficiency?
172. What is the mechanism of glucosuria in excessive carbohydrates consumption?
173. What are causes of hypoglycemia?
174. What are compensatory reactions of hypoglycemia?
175. What are consequences of hypoglycemia?
176. How does the lipidemia change in hypoglycemia?
177. How do the circulatory volume and viscosity of the blood change in hyperglycemia caused by hypoinsulinism?
178. What are the effects of catecholamines in the period of carbohydrate deficiency?
179. What factors determine the pathogenesis of diabetic ketoacidosis?
180. What is the pathogenetic mechanism of diabetic ketoacidosis?
181. How do the blood osmolarity, glycemia, the volume of circulatory blood, arterial systemic pressure and diuresis change in diabetic ketoacidosis?
182. What are the changes of acid – base imbalance in the intra- and extracellular space in diabetic ketoacidosis?
183. What are the paraclinic signs of fluid-electrolite imbalance in diabetic ketoacidosis?
184. What is the pathogenetic mechanism of fluid-electrolytic imbalance in diabetic ketoacidosis?
185. What is the pathogenetic mechanism of Kussmaul breathing in diabetic ketoacidosis?
186. What is the consequence of persistent hyperglycemia in insulin deficiency?
187. What is the pathogenetic mechanism of dehydration in diabetic ketoacidosis?
188. What is pathophysiologic mechanism of ketogenesis in carbohydrate starvation?
189. How does the blood content of the blood change in excessive consumption of the lipids?
190. What are metabolic consequences of excessive consumption of the lipids?
191. What are the consequences of lipids insufficiency?
192. What is the pathogenetic mechanism of lipids maldigestion?
193. What are the consequences of lipids malabsorption?
194. What substances are not absorbed at the level of intestinal epithelium in the case of enteritis?
195. Which endocrine disorders lead to intense mobilization of lipid reserves with transport hyperlipidemia?
196. What is the pathogenetic mechanism of lipid maldigestion in inflammation of small intestine mucosa?
197. What is the pathogenetic mechanism of transport hyperlipidemia in excess of glucocorticoids?
198. Which are digestive effects under excessive consumption of fats?
199. What are consequences of lipid maldigestion?
200. What are consequences of transport hyperlipidemia in insulin deficiency?
201. What are causes of retention hyperlipidemia?
202. What are the changes of lipid metabolism in liver failure?
203. What is the pathogenetic mechanism of hyperlipidemia in insulin deficiency?
204. What is the pathogenetic mechanism of hyperlipidemia in stress reaction?
205. What is the pathogenetic mechanism of transport hyperlipidemia in case of catecholamines hypersecretion?
206. How does the lipid metabolism change in chronic pathology of pancreas?
207. What is the pathogenetic mechanism of lipid malabsorption in affection of terminal ileum?
208. What is the pathogenetic mechanism of lipid malabsorption in liver failure?
209. What is the pathogenetic mechanism of lipid malabsorption in occlusion of intestinal lymphatic vessels?
210. What is the pathogenetic mechanism of retention hyperlipidemia in case of nephritic syndrome?
211. What is the pathogenetic mechanism of lipid dystrophy of the liver in case of protein starvation?
212. What are the pathogenetic factors of fatty liver in case of excessive lipid consumption?
213. What are the consequences of excessive consumption of proteins?
214. What are the pathological factors of protein maldigestion in protein starvation?
215. How does the blood protein content change in liver failure?
216. What disturbances of digestive tract lead to maldigestion of proteins?
217. How does the protein metabolism change in maldigestion of proteins?
218. How does the digestive processes from large intestine change in maldigestion of protein?
219. What pathological processes does hypoproteinemia develop in?
220. What pathological processes does maldigestion develop of proteins in?
221. What is the mechanism of dehydration in protein starvation?
222. What are the changes of oncotic pressure and diuresis in protein starvation?
223. What is the cause of hemorrhage syndrome in liver failure?
224. What are the causes of aminoacids malabsorption at the level of intestinal mucosa?
225. How does the protein metabolism change in liver failure?
226. What pathological processes does hyperproteinemia develop in?
227. What are the consequences of hyperproteinemia?
228. What substances are formed in excess under intensification of nucleoproteins catabolism?
229. In what cases is found negative nitrogen balance?
230. In what cases is found positive nitrogen balance?
231. What is the pathogenetic factor of hyperaminoacidemia in liver failure?
232. What are the consequences of reduced detoxification function of the liver in liver failure?
233. What are the consequences of protein metabolic changes in liver failure?
234. What substances are formed into the large intestine under the protein putrefaction?
235. What toxic substances provoke intestinal autointoxication?
236. What pathological processes provoke intestinal autointoxication?
237. What is the pathologic factor of hemic hypoxia in protein starvation?
238. What is the consequence of hyperamonemia in liver failure?
239. What is the pathogenetic mechanism of infections in liver failure?
240. What type of acid –base imbalance is specific for exaggerated consumption of proteins?