**SEMESTER ATESTTATIONS QUESTIONS**

**SPECIAL PATHOPHYSIOLOGY**

1. CENTRAL NERVOUS SYSTEM
2. What is the measure of cell excitability?
3. What is the excitation threshold of excitable cell?
4. How does the cell excitability change at the decrease in resting potential?
5. How does the cell excitability change at the increase in resting potential?
6. What processes increase the cell excitability?
7. How does the resting potential of the excitable cell membrane change at the stopping of Na, K channels?
8. How does the intracellular concentration of electrolytes modify at the suspension of Na, K membrane pumps?
9. How does the stopping of Ca, Mg pumps membrane influence on intracellular Ca homeostasis?
10. What are the action mechanisms of excitatory mediators?
11. What are the action mechanisms of inhibitory mediators?
12. What are the mechanisms of increased cellular excitability in hypoxic conditions?
13. What are the mechanisms of increased cellular excitability in hypo nutrition conditions?
14. What are the effects of postsynaptic receptors blocking?
15. What are the exhaustion effects of mediator reserves in the nerve endings?
16. What are the exhaustion effects of noradrenalin reserves in postsynaptic sympathetic endings?
17. What are the exhaustion effects of dopamine reserves in extrapyramidal nerve centers?
18. What kind of structures disorders cause spastic paralysis?
19. What kind of structures disorders cause flaccid paralysis?
20. What are the features of spastic paralysis?
21. What are the features of flaccid paralysis?
22. What are the features of physiological pain?
23. What are the features of pathological pain?
24. What are the mechanisms of pain in body anoxia?
25. What are the mechanisms of pain at the spastic contraction of smooth muscles of internal organ?
26. What are the mechanisms of pain in inflammation of the organ?
27. What is the response of suprasegmentary level of CNS to pain?
28. What is the response of cardiovascular system to pain?
29. What is the endocrine response to pain?
30. What are the functions of antinociceptive system?
31. What are the effects of the sympathetic autonomic activation on carbohydrate metabolism?
32. What are the effects of the sympathetic autonomic activation on lipid metabolism?
33. What are the trope sympathetic effects on the endocrine glands?
34. What are the trope sympathetic effects on the cardiovascular system?
35. What are the trope sympathetic effects on the digestive system?
36. What are the trope sympathetic effects on the bronchial tree?
37. What are the trope sympathetic effects on the coronary blood vessels?
38. What are the trope sympathetic effects on the abdominal organs?
39. What are the trope sympathetic effects on the external sexual organs?
40. What are the trope sympathetic effects on the eye?
41. What are the trope sympathetic effects on vessels and skin derivatives?
42. What are the trope parasympathetic effects on the cardiovascular system?
43. What are the trope parasympathetic effects on the digestive tract?
44. What are the trope parasympathetic effects on the bronchial tree?
45. What are the trope parasympathetic effects of the external sexual organs?
46. What are the parasympathetic effects on the eye?

II. PATHOPHYSIOLOGY OF ENDOCRINE SYSTEM

1. What are the causes for adenohypophysis dysfunction?
2. What are the causes for ADH hypersecretion?
3. What are the causes for hyposecretion of ADH in trauma of the hypophysis stack?
4. What are manifestations of ADH hypersecretion?
5. What are manifestations of ADH hyposecretion?
6. What are the causes for prolactin hypersecretion?
7. What are manifestations of prolactin hypersecretion in female?
8. What are manifestations of prolactin hypersecretion in male?
9. What are mechanisms of prolactin hypersecretion in trauma of the hypophysis stack?
10. What are the causes for hypersecretion of somatotropin?
11. What are the causes for hyposecretion of somatotropin?
12. What are carbohydrate metabolic changes in hypersecretion of somatotropin?
13. What are lipid metabolic changes in hypersecretion of somatotropin?
14. What are protein metabolic changes in hypersecretion of somatotropin?
15. What are biochemical changes in the blood in hypersecretion of somatotropin?
16. What are somatic changes in somatotropin hypersecretion in children?
17. What are somatic changes in hypersecretion of somatotropin in adult?
18. What are somatic changes in somatotropin hyposecretion in children?
19. What are somatic changes in hyposecretion of somatotropin in adult?
20. What are the possible causes for tertiary hypercorticosolism?
21. What are the possible causes for secondary hypercorticosolism?
22. What are the possible causes for primary hypercorticosolism?
23. What are the possible causes for tertiary hypocorticosolism?
24. What are the possible causes for secondary hypocorticosolism?
25. What are the possible causes for tertiary hypercorticosolism?
26. What are the mechanisms for adrenal cortex hyposecretion in long-term administration of high doses of glucocorticoids?
27. What are the mechanisms for atrophy of Leydig cells in long-term administration of high doses of androgens?
28. What are the mechanisms for atrophy of Sertoli cells in long-term administration of high doses of androgens?
29. What are the mechanisms for testosterone hyposecretion in long-term administration of high doses of androgens?
30. What are manifestations in hypersecretion of glucocorticoids?
31. What are manifestations in hyposecretion of glucocorticoids?
32. What are metabolic effects in hypersecretion of glucocorticoids?
33. What are metabolic effects in hyposecretion of glucocorticoids?
34. What are the causes of primary hyperaldosteronism?
35. What are the causes of secondary hyperaldosteronism?
36. What are manifestations of hyperaldosteronism?
37. What are manifestations of hypoaldosteronism?
38. What is the biological role of glucocorticoids in stress reaction?
39. What are metabolic effects of glucocorticoids?
40. What are organogenic effects of glucocorticoids?
41. What is biological role of glucocorticoids in antenatal ontogenesis of lungs?
42. What is biological role of glucocorticoids in antenatal ontogenesis of thyroid?
43. What is biological role of glucocorticoids in antenatal ontogenesis of digestive tract?
44. What is biological role of glucocorticoids in antenatal ontogenesis of eyes?
45. What is the role of glucocorticoids in inflammatory reaction?
46. How influence glucocorticoids vascular reactions in inflammatory focus?
47. How influence glucocorticoids exudation in inflammatory focus?
48. How influence glucocorticoids leucocyte emigration in inflammatory focus?
49. What is pathogeny of tertiary hyperthyroidism?
50. What is pathogeny of secondary hyperthyroidism?
51. What is pathogeny of primary hyperthyroidism?
52. What is pathogeny of tertiary hypothyroidism?
53. What is pathogeny of secondary hypothyroidism?
54. What is pathogeny of primary hypothyroidism?
55. What are hormonal changes in the blood in tertiary hyperthyroidism?
56. What are hormonal changes in the blood in secondary hyperthyroidism?
57. What are hormonal changes in the blood in primary hyperthyroidism?
58. What are hormonal changes in the blood in tertiary hypothyroidism?
59. What are hormonal changes in the blood in secondary hypothyroidism?
60. What are hormonal changes in the blood in primary hypothyroidism?
61. What are changes in energetic metabolism in hypothyroidism?
62. What are changes in energetic metabolism in hyperthyroidism?
63. How thermoregulation is changed in hypothyroidism?
64. How adaptability of body to ambient temperature is changed in hypothyroidism?
65. What are changes in lipid metabolism in hypothyroidism?
66. What are changes in carbohydrate metabolism in hypothyroidism?
67. What are cardiac manifestations in hypothyroidism?
68. How diuresis is changed in diabetes mellitus type I?
69. What is pathogeny of polyuria in diabetes mellitus type I?
70. What is the pathogeny of hyperstenuria diabetes mellitus type I?
71. What are the mechanisms of polydipsia in diabetes mellitus type I?
72. What is the mechanism of polyphagia in diabetes mellitus type I?
73. How body weight is changed in diabetes mellitus type I?
74. What are metabolic changes in absolute insulin deficiency?
75. How muscle mass is affected in diabetes mellitus type I?
76. What cells are equipped with GLUT- insulindependent receptors?
77. What conditions ensure glucose uptake by neurons in lack of insulin?
78. In what cells hexokinase is insulin-dependent?
79. What is pathogeny of hyperglycemia in absolute insulin deficiency?
80. What are mechanisms of hyperglycemia in relative insulin deficiency?
81. What is pathogenesis of muscle atrophy in absolute insulin deficiency?
82. What is pathogenesis of erectile dysfunction in males in absolute insulin deficiency?
83. What is pathogenesis of coronary insufficiency in absolute insulin deficiency?
84. What is pathogenesis of visual disturbances in absolute insulin deficiency?
85. What is pathogenesis of acute complication in absolute insulin deficiency?
86. What is the pathogenesis of predisposition of diabetic patients to pyogenic infection?
87. What is pathogenesis for reduced activity of phagocytic cells in absolute insulin deficiency?
88. What is pathogenesis of slow regeneration of wounds in absolute insulin deficiency?
89. What are changes in lipid spectrum in the blood in absolute insulin deficiency?
90. What are pH balance disturbances in absolute insulin deficiency?
91. What are pathogenetic mechanisms for pH-balance disorders in absolute insulin deficiency?
92. Accumulation of what acids lead to metabolic acidosis in absolute insulin deficiency?
93. What are protein metabolic changes in absolute insulin deficiency?
94. What is pathogenesis of negative nitrogen balance in absolute insulin deficiency?
95. What is pathogenesis of glucosuria in insulin deficiency?
96. At what level of glycemia develops glucosuria in absolute insulin deficiency?
97. What is pathogenesis of albuminuria in absolute insulin deficiency?
98. PATHOPHYSIOLOGY OF THE BLOOD
99. What are the parameters of the normocythemic normovolemia?
100. In what cases are found simple hypovolemia?
101. What are the parameters of the oligocythemic hypovolemia?
102. In what cases are found oligocythemic hypovolemia?
103. What are the parameters of the polycythemic hypovolemia?
104. In what cases are found polycythemic hypovolemia?
105. What are the parameters of the oligocythemic hypervolemia?
106. In what cases are found oligocythemic hypervolemia?
107. What are the parameters of the polycythemic hypervolemia?
108. In what cases are found polycythemic hypervolemia?
109. What signs are specific for disturbance of cellular differentiation in erythroblastic series?
110. What are changes of myelogram in hyperproliferation of red bone marrow?
111. What are changes of hemogram in hyperproliferation of red bone marrow?
112. What are signs of erythrocyte’s hypochromia?
113. What are signs of erythrocyte’s hyperchromia?
114. What are signs of erythrocyte’s macrocytosis?
115. What are signs of primary erythrocytosis (erythremia)?
116. In what cases are found primary erythrocytosis?
117. What are signs of secondary absolute erythrocytosis?
118. In what cases are found secondary absolute erythrocytosis?
119. What are signs of secondary relative erythrocytosis?
120. In what cases are found secondary relative erythrocytosis?
121. What processes are disturbed in hypo- aplastic anemia?
122. How does the hemogram change in hypo- aplastic anemia?
123. What does represent pancytopenia?
124. What processes are disturbed in hemolytic anemia?
125. What are signs of intracellular hemolysis?
126. What are signs of severe intravascular hemolysis?
127. What processes are disturbed in iron deficiency anemia?
128. How does the hemogram change in iron deficiency anemia?
129. In which type of anemia are found microcytosis?
130. What processes are disturbed in B12 - deficiency anemia?
131. How does the hemogram change in B12 - deficiency anemia?
132. In which type of anemia are found megaloblastic erythropoiesis type?
133. What are signs of absolute leukocytosis?
134. What are signs of relative leukocytosis?
135. Which leukocytosis could be considered physiological?
136. What are the causes of neutrophilia?
137. In what disease is found neutrophilia?
138. What does represent nuclear shift to the left?
139. In what cases is found hyperregenerative neutophilic leukocytosis?
140. In what cases is found eosinophilic leukocytosis?
141. In which disease could be found lymphocytosis?
142. In which cases could be found monocytosis?
143. What does represent agranulocytosis?
144. In what pathological condition is found agranulocytosis?
145. What processes are disturbed in erythroblastic leukosis?
146. What are the main hematological signs of subleukemic myeloid leucosis?
147. What are the main hematological signs of leukocytopenic myeloid leucosis?
148. What are the main hematological signs of aleukemic myeloid leucosis?

IV. PATHOPHYSIOLOGY SYSTEMIC CIRCULATION

1. In what pathologic situation develops heart overload with resistence?
2. In what pathologic condition develop overload of the heart with volume?
3. In what disorders develop dysmetabolic heart failure?
4. In what disorders develop hemodynamic heart failure?
5. In what disorders develop diastolic heart failure?
6. What are possible causes for right heart failure?
7. What are possible causes for left heart failure?
8. What are characteristic manifestations in left heart failure?
9. What are characteristic manifestations in right heart failure?
10. What are immediate cardiac compensatory reactions in heart failure?
11. What are late cardiac compensatory reactions in heart failure?
12. What are late extracardiac compensatory reactions in heart failure?
13. What are immediate extracardiac compensatory reactions in heart failure?
14. What is pathogenesis of homeometric heart hyperfunction?
15. What is pathogenesis of heterometric heart hyperfunction?
16. For what heart defects there is characteristic homeometric hyperfunction?
17. For what heart defects there is characteristic heterometric heart hyperfunction?
18. How myocardial structure is changed in hypertrophy?
19. What are mechanisms for functional exhaustion and cardiosclerosis in hypertrophied myocardium?
20. What are mechanisms for relative hypoxia in hypertrophied myocardium?
21. How are changed systolic volume and circulatory blood volume in heart failure?
22. What are mechanisms of hypervolemia in chronic heart failure?
23. What are consequences of venous stasis in circulatory failure?
24. In what anatomic regions develops venous stasis in left ventricular failure?
25. What are consequences of venous stasis in the liver?
26. What are causes of portal hypertension in hepatic cirrhosis?
27. What are consequences of portal hypertension?
28. In what pathologic conditions develops venous stasis in the liver?
29. In what conditions develop porto-caval anastomosis?
30. What are pathogenetic mechanisms in development of cardiac edema?
31. What is pathogenetic role of renal hypoperfusion in development of edema?
32. What is pathogenetic role of secondary hyperaldosteronism in circulatory failure?
33. What are metabolic changes in the myocardium in the first stage of hypertrophy?
34. How arterial pressure and central venous pressure are changed in heart failure?
35. How systolic volume and end-systolic volume are changed in heart failure?
36. What are manifestations of conductibility disorders in the heart?
37. For what disorders there is characteristic sinus bradycardia?
38. For what disorders is characteristic sinus tachycardia?
39. For what extrasystole is characteristic complete compensatory pause?
40. What is pathogenesis of excitability disorders in the heart?
41. What are manifestations of heart excitability disorders?
42. How manifest disorders of automatism in the heart?
43. What are pathogenetic mechanisms of renal hypertension in kidney disorders?
44. Hyperfunction of what heart compartment is attested in hypertensive disease?
45. In what endocrine disorders can develop arterial hypertension?
46. What are pathogenetic mechanisms of endocrine hypertension?

V. PATHOPHYSIOLOGY OF RESPIRATORY SYSTEM

1. What is hyperpnoea?
2. What is polypnoea?
3. What is bradypnea?
4. What is hyperventilation?
5. What is hypoventilation?
6. What changes in the composition of alveolar air is found in hyperventilation?
7. What changes in the composition of alveolar air is found in hypoventilation?
8. What changes in the gaseous composition of arterial blood is found in hyperventilation?
9. What changes in the gaseous composition of arterial blood is found in hypoventilation?
10. What changes in acid-base balance is found in hyperventilation?
11. What changes in acid-base balance is found in hypoventilation?
12. What changes in ventilatory parameters of the lung is found in hyperventilation?
13. What changes in ventilatory parameters of the lung is found in hypoventilation?
14. How do the intrathoracic pressure and venous return change to the heart in deep and accelerated breathing?
15. How do the intrathoracic pressure and venous return change to the heart in shallow breathing?
16. What is characteristic of dyspnea?
17. What inspiratory dyspnea call?
18. What expiratory dyspnea call?
19. What physical parameters of alveolar air slow the gas diffusion through alveolar-capillary barrier?
20. What conditions reduce the gas diffusion through alveolar-capillary barrier?
21. What factors decrease the oxygen capacity of the blood?
22. What hemoglobin compounds decrease the oxygen capacity of the blood?
23. What physico-chemical parameters prevent the oxygen association with hemoglobin in small circulation?
24. What physico-chemical parameters prevent the oxygen association with hemoglobin in systemic circulation?
25. What processes determine extra parenchymal pulmonary restriction?
26. What is the intra parenchymal pulmonary restriction?
27. What is pulmonary obstruction?
28. What factors can cause the obstruction of upper airways?
29. What factors can cause the obstruction of lower airways?
30. In which cases may occur the deep and accelerated breathing?
31. In which cases may shallow breathing occur?
32. In which cases may the deep and rare breathing occur?
33. In which cases may expiratory dispnea occur?
34. What active biologically substances posses the broncho constrictor effect?
35. What active biologically substances posses the broncho dilator effect?
36. What biologically active substances increase the pressure in the lungs?
37. What biologically active substances decrease the pressure in the lungs?
38. What factors cause acute respiratory distress in adults?
39. What is pathogenesis of acute respiratory distress syndrome in adults?
40. What is pulmonary edema?
41. What is pulmonary emphysema?
42. What factors cause pulmonary edema?
43. What is the main pathogenetic link of emphysema?
44. What are the sources of proteolytic enzymes that damage the alveoli?
45. What are features of emphysema?

VI. PATHOPHYSIOLOGY OF GASTROINTESTINAL SYSTEM AND LIVER

1. What pathological processes disturb the digestion in oral cavity?
2. What are the digestive disturbances in absence of salivary amylase?
3. What are the causes of pathological hypersalivation?
4. What are the possible consequences of the sialorrhea?
5. What are the causes of the pathological hyposalivation?
6. What exogenous factors provoke gastric hypersecretion?
7. What endogenous factors provoke gastric hypersecretion?
8. How does the evacuatory function of the stomach change in case of hypersecretion with hyperacidity?
9. How does the intestinal transit change in case of hypersecretion with hyperacidity?
10. What causes of achlorhydria could be?
11. What are the consequences of HCl deficiency in gastric juice?
12. What could be the consequences of incoercible vomiting?
13. What are the causes of the pancreatic exocrine secretion insufficiency?
14. What are the digestive consequences of pancreatic secretion insufficiency?
15. What does represent steatorrhea?
16. What are the causes of the steatorrhea?
17. What does represent acholia?
18. What factors provoke intestinal maldigestion?
19. What consequences could be in maldigestion of disaccharides?
20. What consequences could be in maldigestion of proteins?
21. What consequences could be in maldigestion of lipids?
22. What causes of intestinal autointoxication could be?
23. What are the manifestations of intestinal autointoxication?
24. How does change the tonus and motility of the stomach in hypochlorhydria?
25. How does change the tonus and motility of the stomach in hyperchlorhydria?
26. What changes in gastric digestion are found in hypochlorhydria?
27. What changes in gastric digestion are found in hyperchlorhydria?
28. What digestive changes are found in exocrine insufficiency of the pancreas?
29. What digestive changes are found in bile secretion insufficiency?
30. What digestive changes are found in small bowel mucosal disease?
31. Absorption of what nutritive substances are disturbed in small bowel mucosal disease?
32. What processes are disturbed in large intestine diseases?
33. Absorption of what nutritive substances are disturbed in large intestine diseases?
34. How does carbohydrate metabolism change in hepatic failure?
35. How does protein metabolism change in hepatic failure?
36. How does lipid metabolism change in hepatic failure?
37. How does the blood biochemistry change in hepatic failure?
38. How does the blood biochemistry change in cholestasis?
39. What are the consequences of choledoc duct obstruction?
40. What are the consequences of hepatic duct obstruction?
41. What processes of the bilirubin metabolism are disturbed in premicrozomial hepatic jaundice?
42. What processes of the bilirubin metabolism are disturbed in microzomial hepatic jaundice?
43. What processes of the bilirubin metabolism are disturbed in postmicrozomial hepatic jaundice?
44. What processes of the bilirubin metabolism are disturbed in mechanical hepatic jaundice?

VII. PATHOPHYSIOLOGY OF KIDNEYS

1. What is pathogenesis of glomerular hematuria?
2. In what disorders can be attested leucocyturia?
3. In what disorders can be attested lipiduria?
4. What factors lead to reduced water reabsorbtion in proximal renal tubes?
5. What factors lead to reduced water reabsorbtion in distal and collector renal tubes?
6. What factors lead to reduced sodium reabsorbtion in proximal renal tubes?
7. What factors lead to reduced sodium reabsorbtion in distal renal tubes?
8. In what disorders develop tubular proteinuria?
9. What pathogenetic factors lead to reduced glucose reabsorbtion in the kidneys?
10. What disorders lead to aminoaciduria?
11. In what disorders can be attested hyposthenuria?
12. In what disorders can be found hyperstenuria?
13. In what condition can be found isosthenuria?
14. What are criteria of nephrotic syndrome?
15. What are criteria of nephritic syndrome?
16. What disorders lead to proximal canalicular acidosis?
17. What disorders lead to distal canalicular acidosis?
18. What factors stimulate renin synthesis?
19. What are endocrine functions of the kidneys?
20. What are causes of acute renal failure?
21. What are pre-renal factors in development of acute renal failure?
22. What are postrenal factors in acute renal failure?
23. What are main syndromes in acute renal failure?
24. What are manifestations of urinary syndrome in acute renal failure?
25. What are manifestations of humoral syndrome in acute renal failure?
26. What are manifestations of clinical syndrome in acute renal failure?
27. What are causes of chronic renal failure?
28. What is pathogenesis of chronic renal failure?
29. What is consecutively in evolution of acute renal failure?