EXAM QUESTIONS structure questions

1.Ischemic cell injury. The causes and pathogenesis. Reversible and irreversible injury.

- 2. Role of ionized intracellular calcium and lipid peroxidation in aggravation of this pathological condition.
- 3. The mediators of inflammation which are the metabolites of arachidonic acid. Their role in inflammation.
- 4. Acute inflammation. Definition. Clinical signs of inflammation and mechanisms of their appearance.
- 5. Vascular reactions in the site of an acute inflammation. The role of biological active substances in these processes.
- 6. Phagocytosis. Stages and the events characteristic of each stage. The most important chemoattractants and their origin. The role of the phagocytosis in course of inflammation.
- 7. Leukocytes emigration in acute inflammation. The stages and characteristic of each stage. Biological significance of the phenomena.
- 8. Cellular events in acute inflammation. Emigration of the leukocytes: stages and corresponding events in their dynamic.
- 9. Mediators of inflammation. The sources and mechanisms of their action in course of an acute inflammation.
- 10. Acute phase response. Definition and the main mechanisms of its realizing. The most important mediators which are involved in this defensive reaction.
- 11. The proteins of an acute phase response and their role in this condition.
- 12. Fever as a basic sign of an acute phase response. Classification, causes and clinical description of three steps of fever. The mechanism of elevation of body temperature. Positive and negative features of fever.
- 13. Primary immunodeficiencies. Classification and clinical variants. Bruton's type of agammaglobulinemia and Di Georgi syndrome. Immunopathogenesis and clinical symptoms.
- 14. Aquired immunodeficiency syndrome (AIDS). The causes, clinical stages and the symptoms. Pathogenesis and the most important causes of the death.
- 15. Classification of hypersensitivity reactions. Role of the mast cells and basophils in type I of hypersensitivity reactions.
- 16. Classification of hypersensitivity reactions. Atopic disorders. The clinical examples and common pathways of pathogenesis.
- 17. The clinical examples and common pathogenesis of hypersensitivity type II.
- 18. The 1st type of hypersensitivity. The causes and mechanism of patient sensitization to etiologic factors. The basic diagnostic methods and possible methods of treatment.
- 19. Type III of hypersensitivity reaction. Diseases belong to this type of hypersensitivity. The stages and their pathogenesis.

- 20. Type IV of hypersensitivity reaction. The most important clinical variants. Etiologic factors and pathogenesis. The mediators which are involved in this type of immunopathology.
- 21. Primary hemostasis. The factors which are involved in the thrombus formation. The diseases of primary hemostasis with their pathogenesis.
- 22. Secondary hemostasis. Two pathways of its activation and the diseases of secondary hemostasis. Appropriate diagnostic laboratory tests for their revealing.
- 23. Dissiminated intravascular coagulation syndrome (DIC). The most important causes, stages and pathogenesis in its dynamic. Clinical and laboratory signs. Principal methods of treatment.
- 24. Edema. Mechanisms of different types of edema. Exudate and transudate.
- 25. Hypohydration of an organism. The main causes. Clinical features and mechanisms of disturbances in water-salt and ABB balances. Possible methods of treatment.
- 26. Disturbances in carbohydrate metabolism. Hypoglycemia, hyperglycemia. Causes. Consequences.
- 27. Diabetus mellitus type II. The most important features of its pathogenesis. Clinical signs with their explanation. Early and late complications of the pathology.
- 28. Diabetus mellitus type I. Etiology. Pathogenesis. Clinical manifestations. Early complications of this form of diabetus mellitus. Principles of treatment.
- 29. General adaptation syndrome (GAS). The stages and Selye's triad of changes in special organs and systems. Adaptive hormones and their role in the defensive reactions realizing in course of stress.
- 30. Hypercortisolism. The main causes. Cushing's syndrome: clinical features and their mechanisms.
- 31. Primary aldosteronism. The main causes. Clinical syndromes and their pathogenesis.
- 32. Hypothyroidism. The main causes and specific syndromes. Characteristics of clinical features with their pathogenesis.
- 33. Hyperthyroidism. The main causes. Graves' disease. Pathogenesis, clinical symptoms with their mechanisms of development.
- 34. Hyperproduction of growth hormone. The most important clinical forms. Mechanisms of symptoms, that characterize these forms.
- 35. The main causes and pathogenesis of B-12(folate) deficiency anemia. Characteristic of clinical features, blood and bone marrow.
- 36. Congenital hemolytic anemia. The clinical variants. Hemoglobinopathies, their pathogenesis and main clinical features.
- 37. Aplastic anemia. The main causes and pathogenesis. Clinical symptoms, blood and bone marrow films. Possible methods of treatment
- 38. Fe-deficiency anemia. The main causes. Pathogenesis, clinical symptoms, blood picture and laboratory indexes. Possible methods of treatment.

- 39. Acute leukemia. Classification. Acute lymphocytic leukemia. Theories of etiology and pathogenesis. Blood and bone marrow. Clinical features and diagnostic laboratory methods.
- 40. Acute myeloleukemia. Theories of etiology. Characteristic of clinical and blood signs. Laboratory investigations used for final diagnosis of the disease.
- 41. Chronic lymphocytic leukemia. Clinical features. Blood and bone marrow pictures.
- 42. Chronic myelocytic leukemia. Etiopathogenesis.blood and bone marrow picture. Typical symptoms and their mechanisms.
- 43. Classifications of heart insufficiency. The causes of heart pre- and postload forms (overload by volume and by pressure). Cardiac and extracardiac hemodynamic indexes characteristic of heart insufficiency.
- 44. Acute and chronic left-sided heart insufficiency. The causes, main symptoms, consequences of chronic heart failure.
- 45. Right-sided heart insufficiency. The causes of acute and chronic forms. The main clinical symptoms and their pathogenesis.
- 46. The mechanism of the development of secondary aldosteronism in course of chronic heart insufficiency.
- 47. Myocardial infarction. The causes. Clinical features and laboratory investigations. The principles of therapy.
- 48. Early and late complications of myocardial infarction. Biochemical blood indexes and the hemodynamic disturbances which characterize the myocardial infarction. Possible methods of therapy.
- 49. ECG in myocardial infarction. ECG characteristic of each of three zones of completely formed myocardial infarction. ECG pattern evolution and their picture at the different stages .
- 50. Secondary hypertensions. Clinical variants and mechanisms of their development.
- 51. Bronchial asthma. Classification. The mechanisms of the main clinical manifestations. Clinical complications in the patients with bronchial asthma.
- 52. Obstructive lung diseases. The clinical examples. The most important clinical symptoms and ventilation indexes that are characteristic of these diseases.
- 53. Restrictive lung diseases. Pathogenesis. Indexes of ventilation in this pathology.
- 54. Pathogenesis of impaired ventilation. The causes and specific spirogramm indexes which characterize restrictive disturbance of ventilation.
- 55. Lung edema. The most important causes and the mechanism of outstanding. Acute complications and methods of treatment.
- 56. Acute respiratory syndrome in the adults and newborns. The main causes and mechanism of development.
- 57. Peptic ulcer disease. The most important factors which are involved in this pathology and life-threatening complications. Methods of therapy.
- 58. Acute liver insufficiency. Clinical symptoms and their pathogenesis.
- 59. The main syndromes which characteristic of chronic hepatic failure.

Portal-to systemic shunting: clinical signs with their corresponding mechanisms.

- 60. Three types of jundice. Intrahepatic form. The main causes and mechanism of this type of jaundice. Clinical and laboratory manifestations.
- 61. The forms of an acute renal failure. Intrarenal form: the causes, stages, and symptoms with their explanation. The role of RAAS system activation as vicious circle in this type of pathology
- 62. Chronic renal failure (chronic renal disease). The main causes. Stages, clinical characteristic and laboratory signs of uremia.
- 63. The causes and symptoms of upper and lower motoneurons injury.
- 64. Neurotransmission disorders in the peripheral cholinergic synapses on the examples of such diseases as botulism, myasthenia gravis and poisoning with cholinesterase blockers.
- 65. General characteristics of movement disorders associated with basal ganglia impairment (Parkinsonism and Hantington's disease).
- 66. Pain receptors and substances, which can activate them. Two kinds of pain. The central pathways of pain transmission. Endogeneous antinociceptive mechanisms of pain suppression.