

Questions for the oral exam in pathophysiology – general medicine

I. General pathophysiology

1. Disease and its course
2. Terminal states, death
3. Ageing
4. Aetiology of diseases
5. Intrinsic aetiological factors of diseases
6. Autosomal hereditary diseases
7. Gonosomal hereditary diseases
8. Biological effects of radiation
9. Effects of electric current on the organism
10. Biological etiological factors
11. Chemical etiological factors
12. Effects of changes of pressure of the environment on the organism
13. General and local effects of high temperature on the organism
14. General and local effects of low temperature on the organism
15. Fever
16. Pathophysiology of thermoregulation
17. Inflammation
18. Systemic inflammatory response, sepsis
19. Autoimmunity
20. Immune deficiency
21. Allergy
22. Transplantation
23. Oedema
24. Growth disorders
25. Disorders of the development
26. Pathophysiology of tumours
27. Aetiology of tumours
28. Stress
29. Psychosomatic diseases
30. Pathophysiology of wound healing

II. Pathophysiology of organ systems 1

1. Mechanisms of circulatory disorders
2. Inborn heart defects
3. Valvular defects
4. Arterial hypertension
5. Arrhythmias – aetiology, pathogenesis, classification
6. Disorders of impulse transfer in the heart
7. Disorders of origin of the heart impulse
8. Heart insufficiency and failure
9. Ischemic heart disease
10. Myocardial infarction and its complications
11. Atherosclerosis
12. Peripheral disorders of blood perfusion
13. Circulatory shock

14. Thromboembolic disease
15. Pulmonary hypertension
16. Haemorrhagic diatheses - disorders of haemocoagulation
17. Haemorrhagic diatheses - pathophysiology of the thrombocytes
18. Haemorrhagic diatheses – vasculopathies
19. Pathophysiology of the leukocytes
20. Disorders of proliferation of blood elements
21. Changes of erythrocyte number, classification of anaemias, anaemic syndrome
22. Anaemias caused by insufficient erythrocyte production
23. Anaemias caused by blood loss
24. Haemolytic anaemias
25. Hypoxia
26. Respiratory insufficiency, disorders of breathing control
27. Acute respiratory distress syndrome
28. Disorders of the lung ventilation, diffusion and perfusion
29. Asthma bronchiale
30. Acute renal failure
31. Chronic renal failure
32. Uraemia, substitution of renal function
33. Disorders of the urinary efferent pathways
34. Pathophysiology of the muscle

III. Pathophysiology of organ systems 2

1. Mechanisms of endocrine disorders
2. Pathophysiology of the adrenal medulla
3. Hypofunction of the adrenal cortex
4. Hyperfunction of the adrenal cortex
5. Pathophysiology of the thyroid gland, goitre
6. Pathophysiology of the parathyroid gland
7. Pathophysiology of the endocrine pancreatic function
8. Pathophysiology of the adenohypophysis
9. Pathophysiology of the neurohypophysis
10. Pathophysiology of the male gonads
11. Pathophysiology of the female gonads
12. Disorders of reproduction
13. Diabetes mellitus
14. Diabetic coma
15. Chronic complications of diabetes mellitus
16. Metabolic (Reaven's) syndrome
17. Disturbances of glycaemia regulation
18. Acid-base balance disorders
19. Pathophysiology of the body fluid volume and osmolality
20. Disturbances of calcium metabolism
21. Disturbances of sodium and potassium metabolism
22. Disorders of lipid metabolism
23. Disorders of carbohydrate metabolism
24. Disorders of protein and aminoacid metabolism
25. Disturbances of nutrition and energy metabolism, obesity

26. Lipid soluble vitamins
27. Water soluble vitamins
28. Pathophysiology of trace elements
29. Pathophysiology of the liver
30. Portal hypertension, ascites
31. Icterus
32. Pathophysiology of the exocrine pancreas
33. Pathophysiology of the stomach and oesophagus
34. Pathophysiology of the intestine
35. Diarrhoea, constipation

IV. Nervous system

1. General principles, causes and mechanisms of nervous system disorders
2. Disorders of the peripheral nerves
3. Pathophysiology of the spinal cord
4. Pathophysiology of the brain-stem and reticular formation
5. Pathophysiology of the cerebellum
6. Pathophysiology of the thalamus and hypothalamus
7. Pathophysiology of the basal ganglia
8. Pathophysiology vegetative nervous system
9. Pathophysiology of the neuromuscular transmission
10. Disorders of neurotransmitters and synaptic transmission
11. Disorders of the behaviour and affectivity
12. Pathophysiology of learning and memory
13. Disorders of symbolic functions
14. Developmental, congenital and hereditary disorders of the nervous system
15. Vascular disorders of the nervous system
16. Pathophysiology of nervous system trauma
17. Neurodegenerative and demyelinating diseases
18. Alzheimer's disease
19. Epilepsy
20. Palsy
21. Ataxia
22. Extrapyrmidal disorders, hypo- and hyperkinetic symptoms, muscle tone disorders
23. Disorders of consciousness
24. Pathophysiology of the sleep and biorhythms
25. Intracranial hypertension, brain oedema
26. Pathophysiology of the visual pathways
27. Pathophysiology of the eye
28. Pathophysiology of the somesthesia, dissociation of the sensation
29. Pathophysiology of the vestibular system
30. Pathophysiology of hearing
31. Pain and its mechanisms, processes of nociception, pain types
32. Painful syndromes, endogenous pain modulation, principles of pain treatment
33. Pain perception disorders, neuropathic pain