

**Questions for the oral exam in pathological physiology – dental medicine**  
**2025/2026**

**I. General pathophysiology**

1. Disease and its course
2. Terminal states, death
3. Etiology of diseases
4. Intrinsic etiological factors of diseases
5. Autosomal hereditary diseases
6. Gonosomal hereditary diseases
7. Biological effects of radiation
8. Effects of electric current on the organism
9. Biological etiological factors
10. Chemical etiological factors
11. Effects of changes of pressure of the environment on the organism
12. General and local effects of high temperature on the organism
13. General and local effects of low temperature on the organism
14. Fever
15. Pathophysiology of thermoregulation
16. Inflammation
17. Systemic inflammatory response, sepsis
18. Autoimmunity
19. Immune deficiency
20. Allergy
21. Acid-base balance disorders
22. Pathophysiology of the body fluid volume and osmolality, edema
23. Disorders of the growth and development, ageing
24. Pathophysiology of tumors
25. Stress
26. Pathophysiology of wound healing

**II. Pathophysiology of organ systems 1**

1. Mechanisms of circulatory disorders, inborn heart defects, valve defects
2. Arterial hypertension
3. Arrhythmias
4. Heart insufficiency and failure
5. Ischemic heart disease, myocardial infarction and its complications, atherosclerosis
6. Peripheral disorders of blood perfusion
7. Thromboembolic disease
8. Circulatory shock
9. Disorders of the peripheral nerves
10. Pathophysiology of the spinal cord
11. Pathophysiology of the brain-stem and reticular formation
12. Pathophysiology of the hypothalamus
13. Pathophysiology of the basal ganglia, extrapyramidal disorders, cramps
14. Pathophysiology vegetative nervous system
15. Disorders of neurotransmitters, synaptic transmission and neuromuscular transmission
16. Pathophysiology of learning and memory, disorders of symbolic functions

17. Neurodegenerative and demyelinating diseases
18. Epilepsy
19. Palsy
20. Pathophysiology of the cerebellum and ataxias
21. Pathophysiology of the sleep and biorhythms
22. Intracranial hypertension, brain edema
23. Pathophysiology of the somatosensory system, dissociation of the sensation
24. Pain and its mechanisms, processes of nociception, pain types
25. Painful syndromes, endogenous pain modulation, principles of pain treatment
26. Pain perception disorders, neuropathic pain

### **III. Pathophysiology of organ systems 2**

1. Hemorrhagic diatheses - disorders of haemocoagulation
2. Hemorrhagic diatheses - pathophysiology of the thrombocytes
3. Hemorrhagic diatheses – vasculopathies
4. Pathophysiology of the leukocytes
5. Disorders of proliferation of blood elements
6. Changes of erythrocyte number, anemias, anemic syndrome, hemorrhage
7. Hypoxia
8. Respiratory insufficiency, disorders of breathing control, acute respiratory distress syndrome
9. Disorders of the lung ventilation, diffusion and perfusion
10. Pathophysiology of kidneys (acute and chronic renal failure, uremia)
11. Mechanisms of endocrine disorders
12. Pathophysiology of the suprarenal glands
13. Pathophysiology of the thyroid gland, goiter
14. Pathophysiology of the adenohypophysis
15. Pathophysiology of the neurohypophysis
16. Diabetes mellitus
17. Disturbances of glycaemia regulation
18. Disturbances of calcium metabolism
19. Disorders of protein and aminoacid metabolism, changes of nitrogen balance
20. Disorders of carbohydrate and lipid metabolism
21. Pathophysiology of the liver, portal hypertension, ascites, icterus
22. Pathophysiology of the pancreas
23. Disorders of nutrition
24. Lipid soluble vitamins
25. Water soluble vitamins
26. Pathophysiology of trace elements
27. Disorders of food processing in the oral cavity, pathophysiology of the stomach
28. Pathophysiology of the intestine, diarrhea, constipation