

The list of tasks for independent (individual) work of students of the dental faculty

"General histology"

№	Subject	Number of hours
1.	Microscopic instruments. Phase - contrast, dark field, interference microscopy. Histological technique. Basic principles of preparation of preparations for electron microscopy. Quantitative research methods.	2
2.	Cytology. General organization of cells. Surface complex. The structure of the cytoplasm. The nuclear apparatus of the cell. Cell division. Aging and death of cells.	2
3.	Working with slides	2
4.	The concept of tissue. Patterns of tissue origin and evolution, theory of parallelism and divergent evolution. The concept of cell populations. Stem cells, their properties. Determination and differentiation of cells, their molecular.	2
5.	Blood and lymph. Age-related changes in blood composition. Theories of hematopoiesis. A hematopoietic stem cell. Mono- and lymphopoiesis. The concept of blasttransformation. Lymph.	2
6.	Connective tissues. The connective tissue system as the internal environment of the body. The concept of the macrophage system of the body.	1
7.	Cartilage and bone tissue. Bone remodeling as the body grows. Factors affecting bone growth. Connection of bones. Classification. Structure of joints, articular cartilage, articular capsule, its structure.	2
8.	Muscle tissue. Red and white muscle fibers. Muscle structure as an organ. Regeneration of different types of muscle tissue.	2
9.	Nerve tissue. Processes of transport of substances in a neuron. The concept of neurotransmitters. Secretory neurons. De- and regeneration of nerve fibers. Morphological substrate of the reflex activity of the nervous system (the concept of simple and complex reflex arcs). Neural theory.	2
10.	Central nervous system. Nerve centers. The most important associative nuclei. The blood-brain barrier, structure, value. Features of the reaction of nerve trunks to damage, recovery processes. General morphofunctional characteristics of the autonomic nervous system. The nuclei of the central parts of the autonomic nervous system. The ganglia structure of the autonomic nervous system. Pre-node and post-node nerve fibers.	2
11.	Sensory organs Classification of sensory organs by origin and structure	2

	of receptor cells. The optic nerve. Hematophthalmic barrier. Auxiliary apparatus of the eye. Age changes. The sense of smell. Vomero-nasal organ. The organ of taste.	
12.	Covering apparatus. Glands of skin, hair, nails.	2
13.	Work with slides	2
Total		25

Special histology section

№	Theme	Number of hours
1.	Endocrine system. The concept of hormones and their meaning for the body. Whole cells and hormone receptors. The mechanism of action of hormones. The principle of feedback. Role of adrenal cortex hormones in the development of general adaptation syndrome. Single hormone-producing cells of nonendocrine organs. APUD cells - systems, localization, hormones and their action. 2	2
2.	Cardiovascular system. Lymphatic vessels. Classification, structure of lymphatic vessels of different types. Features of structure of lymphatic capillaries and postcapillaries, participation in microcirculation. 2	2
3.	Organs of hematopoiesis and immune protection. Interaction of stromal and hematopoietic elements. Thymic-lymphatic status. Hemolymph nodes. The only immune system is the mucous membranes of the organs.	2
4.	The digestive system. General morphofunctional characteristics. Division into development, structure and function departments. Organs of the oral cavity. Features of structures of mucous membrane of different parts of the mouth. Age changes, regeneration. The Digestive System. Pharynx. innervation and vascularization of the digestive tube. The concept of gastroenteropancreatic endocrine system, its meaning for the body. Age changes, regeneration. The Digestive System. The gallbladder and biliary tract. Regenerative potency of the digestive system. Age changes.	8
5.	Working with slides, topics of subsection 4.	2
6.	Respiratory system. Histophysiology of the upper respiratory tract: nasal cavity, pharynx, larynx. The concept of broncho-associated lymphoid tissue, its meaning for the body. Pleura.	1
7.	Urinary system. Age changes, regenerative potencies of the kidney. Urinary tract, structure of renal bowls, cups, ureter, bladder, urethra. Development of the urogenital system.	2
8.	Male reproductive system. Age changes. The penis, its structure, vascularization and innervation.	1
9.	Female reproductive system. Remodeling of the uterus during pregnancy and after childbirth. Age changes. Vagina. The structure of the wall, the change of structure in connection with the menstrual cycle. Mammary gland.	2
10.	Early human embryogenesis. Stem cells, their use in practical medicine. In vitro fertilization.	1
11.	Working with slides, topics of subsection 5.	2
Total 25		
Total for the year 50		