

**Academic programme
component**

**31.05.01 General Medicine
programme**

**B1.0.19 Anatomy
discipline code**

ASSESSMENT MATERIALS

Discipline B1.0.19 Anatomy

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1. Criteria and assessment of competencies and their mastery indicators, formed by the discipline

Code and competence name	Code and indicator of competence mastery	Results of training in the discipline (module)			Current assessment	Interim assessment
		<i>To know</i>	<i>To be able to</i>	<i>To have</i>		
ОПК-5 Can analyze morphofunctional and physiological indicators as well as pathological processes in human body to achieve professional goals	ИД-3ОПК-5. Defines and analyzes morphological, functional, physiological conditions and pathological processes in the human body based on knowledge about the structure and topography of internal organs	<ul style="list-style-type: none"> - the normal structure and topography of the organs and systems of the body; - patterns of functioning of organs and systems, their regulation; - structure and functions of cells, their metabolism; development of tissues and their functions; - the chemical composition and properties of substances that make up living systems, their mutual transformations in the process of metabolism, as well as the role of metabolic processes in the functioning of various organs and tissues in normal and pathological conditions; - morphology, physiology of microorganisms, methods of their cultivation. 	evaluate and compare normal and altered morphofunctional indicators;	skills of an integrated approach to assessing the functions of body systems	<ul style="list-style-type: none"> - seminars; - tests; - case tasks 	examination card

2. Competencies mastery (indicators of their mastery) level assessment

Competencies mastery (their indicators) indices	Criteria and grading system of competencies mastery (indicators of their mastery) assessment			
	Insufficient («unsatisfactory»)	Sufficient («satisfactory»)	Above average («good»)	Advance («excellent»)
Extent of knowledge	Knowledge level is below the required. Major mistakes occurred.	Minimally allowed knowledge level. Minor mistakes occurred.	Knowledge level corresponds well to the educational programme. Minor errors occurred.	Knowledge level corresponds well to the educational programme.
Ability mastery	Basic abilities were not demonstrated during standard tasks completion. Major mistakes occurred.	Basic abilities were demonstrated. All tasks were completed, yet not in full (clarifications are absent, conclusions are incomplete)	All main abilities were demonstrated. All tasks were completed in full, yet with few errors.	All main abilities were demonstrated. All main and additional tasks were completed without mistakes or errors.
Skill mastery (having experience)	Basic skills were not demonstrated during standard tasks completion. Major mistakes occurred	Minimum set of skills for standard tasks completion with minor error, is acquired.	Basic skills were demonstrated in completing standard tasks, yet with few errors.	All main skills were demonstrated in completing main and additional tasks without mistakes or errors.
Competence mastery characteristics	Insufficient number of credit points as per the established range.	Competencies mastery is adequate. The acquired knowledge, abilities, and skills are mostly sufficient to complete professional tasks.	Competencies mastery mainly satisfies the requirements. The acquired knowledge, abilities, and skills are mainly sufficient to complete professional tasks.	Competencies mastery satisfies the requirements to the full extent. The acquired knowledge, abilities, and skills are fully sufficient to complete difficult professional tasks, including non-standard.

3. Criteria and grading system of the formative assessment tasks

3.1. Criteria and grading system of practical tasks

The list of practical tasks, task completion and presentation recommendations, requirements for results, structure, and contents of practical task report, etc., are presented in the methodological guidelines on mastering the discipline as well as in MAU LMS Moodle.

Grade/points	Assessment criteria
<i>Excellent</i>	The task is completed correctly and in full. The report is well-prepared and satisfies the requirements. Answers to the teacher's questions (during the presentation) are full.
<i>Good</i>	The task is completed in full, yet without sufficient justification or a minor error, which does not impact the argumentation sequence, occurred. All task completion requirements are satisfied.
<i>Satisfactory</i>	The task is completed partially, with mistakes. Adequate level of task completing practical tasks. Majority of task completion requirements are satisfied.
<i>Unsatisfactory</i>	The task is completed poorly, with a considerable number of mistakes. Majority of task completion requirements are not satisfied.

3.2. Criteria and grading system of tests

The list of test questions and tasks, as well as test procedure description are presented in the methodological guidelines on mastering the discipline as well as in MAU LMS Moodle.

Assessment materials include a typical test variant:

<p>1. In relation to which planes it is generally accepted to determine the position of organs in the human body?</p> <ol style="list-style-type: none"> 1. Medial 2. Sagittal 3. Vertical 4. Horizontal 5. Coronal (frontal) 	<p>9. Which of the following correctly characterizes floating ribs?</p> <ol style="list-style-type: none"> 1. From the inside along the lower edge of the rib body there is a sulcus, to which the neurovascular bundle adheres 2. From the inside along the upper edge of the rib body there is a sulcus, to which the neurovascular bundle adheres 3. The costal cartilage connects directly to the sternum 4. The costal cartilage of a lower rib connects to the costal cartilage of an upper rib 5. The rib heads are placed freely in muscles
<p>2. What is the term for a structure located closer to the median plane?</p> <ol style="list-style-type: none"> 1. Median 2. Lateral 3. Medial 4. Anterior 5. Proximal 	<p>10. What anatomical formations are located at the proximal end of the femur?</p> <ol style="list-style-type: none"> 1. Greater trochanter 2. Lesser trochanter 3. Intercondylar fossa 4. Intertrochanteric line 5. Neck
<p>3. What is the term for the structure located closer to the head?</p> <ol style="list-style-type: none"> 1. Anterior 2. Median 3. Cranial 4. Superficial 5. Caudal 	<p>11. What anatomical formations are located on the distal epiphysis of the femur?</p> <ol style="list-style-type: none"> 1. Patellar surface 2. Linea aspera 3. Medial epicondyle 4. Lateral epicondyle 5. Intercondylar fossa

4. A "typical" vertebra has: 1. Arch 2. Articular processes 3. Spinous processes 4. Transverse processes 5. Coronal processes	12. Which bone does the medial malleolus belong to? 1. Calcaneus 2. Tibia 3. Fibula 4. Talus bone 5. Cuboid bone
5. Which vertebra has a carotid tubercle? 1. VI cervical 2. I cervical 3. V lumbar 4. VII cervical 5. I thoracic	13. Which of the bones are located in the distal row of the tarsus? 1. Talus bone 2. Medial cuneiform bone 3. Cuboid 4. Navicular bone 5. Lateral cuneiform bone
6. Which bones of the wrist make up its proximal row? 1. Capitate 2. Scaphoid 3. Lunate 4. Triquetrum 5. Pisiform	14. The frontal bone fuses from behind: 1. With sphenoid, parietal and ethmoid bones 2. With nasal and lacrimal bones 3. With sphenoid and occipital bones 4. With maxilla and vomer 5. With maxilla and occipital bones
7. Which bones have air-bearing sinuses? 1. Frontal 2. Parietal 3. Occipital 4. Sphenoid 5. Ethmoid	15. What anatomical formations belong to the ilium? 1. Sulcus obturatorius 2. Facies auricularis 3. Facies symphysialis 4. Ala
8. Which bones form the skeleton of the forearm? 1. Radius 2. Humerus 3. Fibula 4. Ulna	

Grade/points	Assessment criteria
<i>Excellent</i>	90-100% of correct answers
<i>Good</i>	70-89% of correct answers
<i>Satisfactory</i>	50-69% of correct answers
<i>Unsatisfactory</i>	49% or less of correct answers

3.3. Criteria and grading system of case tasks

Recommendations on case task solving are presented in the methodological guidelines on mastering the discipline and in MAU LMS Moodle.

Assessment materials include a typical case tasks:

1) Frontal, sphenoid, and ethmoid bones drastically differ from one another by their forms and constituent structures. However, they have identical formations that allow these bones to be attributed to a certain group of skull bones. How are the bones mentioned similar in structure and to which group of bones do they belong?

2) The anterior wall of this topographic formation of the skull is made by the maxillary tuberosity, the posterior wall is made by the pterygoid process of the sphenoid bone, the medial wall is made by the perpendicular plate of the palatine bone. What bone is it about?

3) When examining a newborn, the absence of physiological bends of the vertebral column, which has the appearance of a dorsally convex arch, is noted. Is this a pathology? Name the physiological curves of the vertebral column.

Grade/points	Assessment criteria
<i>Excellent</i>	The requirements are fully satisfied. Systemic and situational approaches are applied. Justified argumentation is given. Goals, tasks, case occurrence reasons are determined. Risks, difficulties in problem solving are identified. Action plan is devised.
<i>Good</i>	Goals, tasks, case occurrence reasons are determined correctly. Risks, difficulties in problem solving are identified. Action plan is devised, yet the algorithm of problem solving is not stated clearly and consecutively.
<i>Satisfactory</i>	Argumentation on the problem is given; goals, tasks, case occurrence reasons are determined. Possible connections of the problem with other problems are identified; action plan is partially devised.

4. Criteria and grading system of the discipline results during the interim assessment

4.1. Criteria and grading system for the discipline results

For the disciplines that are graded upon examination, the interim assessment result is comprised of points gained during the formative assessment and after the examination.

Assessment materials include the list of questions and tasks for the examination:

Questions for the interim assessment (exam) preparation:

“Anatomy” discipline (module)

Educational programme 31.05.01 “General Medicine”

General theoretical questions

1. Subject of anatomy and its content; its place in the system of training doctors. The main directions of anatomical science and their tasks.
2. Methods of anatomical examination (antemortem and postmortem).
3. Anatomy in the countries of the Ancient World (Hippocrates, Aristotle, Galen, etc.). The significance of Galen's works.
4. Anatomy in the Middle Ages and Renaissance (Ibn Sina, Leonardo da Vinci, Vesalius, Servetus, Harvey, Malpighi, etc.). The significance of the works of Vesalius and Harvey.

5. The history of anatomy in Russia of the XVIII and XIX centuries (Peter I, M.I. Shein, A.P. Protasov, A.M. Shumlyansky, I.V. Buyalsky, N.I. Pirogov, V.A. Betz, P.F. Lesgaft, M.N. Maksimovich-Ambodik, P.A. Zagorsky).
6. Outstanding Russian anatomists of the XX century (V.P. Vorobyov, V.N. Tonkov, V.N. Shevkunenko, G.M. Iosifov, D.A. Zhdanov, V.V. Kupriyanov).
7. Bone development. Classification of bones. The development of the bones of the trunk.

Anatomy of musculoskeletal system

8. Vertebrae (types and features of their structure, sacrum).
9. Vertebral joints. Atlanto-occipital and atlantoaxial joints (structure, types of movements, auxiliary elements). The vertebral column as a whole.
10. The outer and inner base of the skull (divisions, connections and their contents). Temporal and suspensory fossa.
11. Viscerocranium, its structure.
12. Neurocranium. Temporal bone, its canals.
13. Neurocranium. Frontal, occipital, parietal, sphenoid bones.
14. The orbit (walls, connections and its contents). Pterygopalatine fossa (walls, connections and its contents).
15. The bones of the shoulder girdle and the free part of the upper limb.
16. Ribs, sternum. Connections
17. The chest as a whole. The main respiratory muscles, their blood supply and innervation.
18. Classification of bone joints. Continuous connections (types, examples). Symphyses.
19. General information about the structure of the joint. Classification of joints. Types of movement in the joints.
20. Shoulder joint (structure, types of movements, auxiliary elements, blood supply and innervation).
21. Elbow joint (structure, types of movements, auxiliary elements, blood supply, lymph outflow and innervation).
22. Wrist joint and hand joints (structure and types of movements, auxiliary elements, blood supply, innervation).
23. Bones of the lower limb and pelvis.
24. Joints of the pelvic bones. The pelvis as a whole. The size of the female pelvis
25. Hip joint (structure, types of movements, auxiliary elements, blood supply, innervation).
26. Knee joint (structure, types of movements, auxiliary elements, bags, blood supply, innervation).
27. Bones of the shin and foot, their connections, joints, ligaments.

28. Chopart's joint and Lisfranc joint. The arches of the foot. The support points of the foot.
29. Ankle (structure, types of movements, auxiliary elements, blood supply, lymph outflow, innervation).
30. Auxiliary apparatus of skeletal muscles (fascia, synovial sheaths, mucous bags, sesamoid bones, blocks). Synovial vaginas of the palm.
31. Facial and mastication muscles (structure, functions, blood supply, lymph outflow, innervation).
32. Neck muscles, their function, blood supply, lymph outflow, innervation.
33. Topography of the neck (areas, fascia, interfacial spaces, triangles, gaps).
34. Muscles of the back and chest (classification, function, blood supply, lymph outflow, innervation).
35. Diaphragm (divisions, openings and their contents, weak points, blood supply, innervation, lymph outflow).
36. Abdominal muscles (topography, function, blood supply, lymph outflow and innervation). The rectus sheath. The white line of the abdomen.
37. Inguinal canal (walls, rings, contents). Other weak points of the anterior abdominal wall.
38. Muscles of the shoulder girdle and shoulder (groups, functions, blood supply, lymph outflow, innervation).
39. Axillary cavity (walls, three-sided and four-sided openings, triangles). The topography of the shoulder.
40. Forearm muscles (muscle groups and their composition, function). The topography of the forearm. Group innervation, blood supply, lymph outflow of forearm muscles.
41. Hand muscles (groups, functions, blood supply, lymph outflow, innervation). Canals and synovial sheath of the hand.
42. Pelvic muscles, their blood supply, lymph outflow, innervation. Topography of the pelvis and gluteal region.
43. The topography of the space under the umbilical bundle. Muscular and vascular lacunae. Femoral canal (walls, rings).
44. Thigh muscles (groups, composition, blood supply, lymph outflow and innervation). Topography of the thigh, sulci, adductor canal.
45. Muscles of the shin and foot (groups, composition, functions, blood supply, lymph outflow, innervation).

Anatomy of internal organs

46. The oral cavity (walls and messages). The tongue (structure, mucous membrane, muscles, blood supply, innervation and lymph outflow).

47. Soft palate (structure, muscles, blood supply, innervation). The boundaries of the fauces.
48. Large salivary glands: parotid, sublingual, submandibular. Structure, topography of the excretory ducts, blood supply, lymph outflow, innervation.
49. Pharynx (departments, messages, topography, wall layers, muscles, blood supply, lymph outflow, innervation). Waldeyer's tonsillar ring.
50. Esophagus, its departments, appearance, wall structure, topography. Esophageal blood supply, innervation, regional lymph nodes
51. Stomach - appearance, covering with peritoneum, wall structure. Topography, blood supply, innervation, lymph outflow.
52. Duodenum (topography, divisions, layers of the wall, its relation to the peritoneum, connection with the ducts of the digestive glands, blood supply and innervation, lymph outflow).
53. Small intestine (divisions, topography, relation to the peritoneum, wall structure, blood supply, innervation, regional lymph nodes).
54. Colon (divisions, topography, relation to the peritoneum, wall structure, signs of the colon, blood supply, lymph outflow, regional lymph nodes, innervation).
55. Caecum (structure, topography, relation to the peritoneum, vermiform process and variants of its position, blood supply, lymph outflow, innervation).
56. Rectum (topography, divisions, wall structure, relation to the peritoneum, sphincters, blood supply, lymph outflow, innervation).
57. Liver (external structure, internal structure, topography, relation to the peritoneum, blood supply, lymph outflow, innervation). The gallbladder and bile duct.
58. Pancreas (structure, topography, ducts, blood supply, innervation and regional lymph nodes).
59. Peritoneum. Types of organ coating.
60. Nasal cavity (walls, nasal passages and their communications with the paranasal sinuses, blood supply and innervation).
61. Larynx (topography, cartilage, joints, muscles, laryngeal cavity, blood supply, innervation, lymph outflow and regional lymph nodes).
62. Trachea and bronchi (structure, topography, blood supply, lymph outflow, innervation).
Bronchial tree.
63. Lungs. The external structure, composition and topography of the lung roots, boundaries, structural units of the lung, alveolar tree. Blood supply, innervation, lymph outflow and regional lymph nodes.
64. Serous membranes and cavities (general characteristics). The serous membranes of the chest are the pleura and pericardium (structure and topography, blood supply and innervation). The boundaries of the pleura.

65. The concept of mediastinum: divisions, organs of the mediastinum, their topography.
66. Kidneys (external appearance and internal structure, topography, kidney membranes, fixation apparatus, blood supply, innervation, regional lymph nodes). Nephron
67. Ureters, bladder (appearance, wall structure, topography, blood supply, lymph outflow, innervation). The female urethra (topography, sphincters).
68. Retroperitoneal space (borders, contents, cellular spaces). Kidney shells and fixing apparatus.
69. The testicle and its appendage (appearance, internal structure, vas deferens, blood supply, lymph outflow, innervation). The membranes of the testicle, the spermatic cord.
70. The male urethra (divisions, messages, sphincters). Prostate gland and seminal vesicles (structure, places of duct opening). Male external genitalia.
71. Appendages of the uterus (structure, topography, relation to the peritoneum, blood supply, lymph outflow, innervation).
72. Uterus and vagina (appearance, position, structure of walls, cavities, topography, relation to the peritoneum, blood supply, innervation, regional lymph nodes). The fixing apparatus of the uterus.
73. External female genitalia (structure, blood supply, innervation).
74. Perineum (muscles, divisions, blood supply, lymph outflow, innervation).

Anatomy of the endocrine glands

75. Classification of secretion glands, Branchiogenic glands (structure, topography, blood supply, innervation).
76. Ecto- and mesodermal endocrine glands, (structure, topography, blood supply, innervation).
77. Neurogenic group and glands of the adrenal system (structure, topography, blood supply, innervation).

Anatomy of the central nervous system

78. General information on the structure of the nervous system (neuron, their types, nuclei, ganglia, nerves, their internal structure). Reflex arcs of somatic and vegetative reflexes
79. Spinal cord (appearance, concept of spinal cord segment, function, topography of gray and white matter, blood supply). The membranes of the spinal cord, the intervertebral spaces.
80. The medulla oblongata (external structure, topography of gray and white matter). The medial lemniscus and its composition.
81. The metencephalon (divisions, their external structure, function, topography of gray and white matter).
82. The hindbrain. Rhomboid fossa (borders, projection of cranial nerve nuclei).
83. IV ventricle of the brain (walls, connections).
84. Sources and ways of outflow of cerebrospinal fluid

85. The midbrain (external structure, function, topography of gray and white matter). The lateral lemniscus.
86. Brainstem (composition, topography of gray and white matter). Reticular formation (structure, localization, connections, function).
87. The diencephalon (divisions and their composition). Functional characteristics. The ventricle, its walls, connections.
88. Basal ganglia (the concept of the striopallidum system). Functional characteristics of the basal nuclei.
89. The white matter of the hemispheres (commissural, associative and projection fibers). The inner capsule and the topography of the paths of its components.
90. The main sulci and gyri of the cerebral hemispheres. Localization of the centers of the first and second signaling systems.
91. Rhinencephalon (central and peripheral divisions). The concept of the limbic system.
92. Lateral ventricles of the brain (walls, connections). Sources and ways of outflow of cerebrospinal fluid.
93. Conscious motor pathways (pyramidal system).
94. Extrapyramidal system
95. Pathways of proprioceptive sensitivity (conscious and unconscious).
96. Conductive pathways of extrareceptive sensitivity (pain, temperature, tactile).
97. The membranes of the brain. The inter-shell spaces. Sinuses of the dura mater, ways of outflow of venous blood from the cranial cavity. Circulation of cerebrospinal fluid.

Anatomy of sensory organs

98. The outer and middle ear (structure, blood supply and innervation).
99. The inner ear (labyrinth, its divisions, perilymphatic and endolymphatic space).
100. The organ of vision (the membranes of the eyeball, refractive media). The chambers of the eye and the circulation of watery moisture.
101. Auxiliary apparatus of the eyeball (muscles, eyelids, lacrimal apparatus, conjunctiva. Their blood supply and innervation).

Anatomy of the peripheral nervous system

102. The spinal nerve and its branches. Formation of plexuses. The posterior branches of the spinal nerves and their distribution areas.
103. Cervical plexus (addition, topography, branches and areas of innervation). Thoracic spinal nerves (branches and areas of innervation).
104. The supraclavicular part of the brachial plexus (short branches, their innervation zones).
105. Median and musculocutaneous nerves. Innervation of the skin of the upper limb.

106. Radial and ulnar nerves (topography, branches and areas of innervation).
107. Lumbar plexus (sources of formation, branches and areas of innervation).
108. Sacral plexus (addition, topography, branches, areas of innervation).
109. Sciatic nerve (course, branches, areas of innervation). Group innervation of the muscles of the shin and foot.
110. Tibial and common peroneal nerves (topography, branches, areas of innervation).
111. I pair of cranial nerves. The olfactory pathway.
112. II pair of cranial nerves. The visual pathway. The arc of the pupillary reflex.
113. III, IV, VI pairs of cranial nerves (oculomotor function).
114. V pair of cranial nerves (nuclei, functional composition of fibers, topography, addition, branches and areas of innervation).
115. VII pair of cranial nerves (facial and intermediate nerves, functional composition of conductors, nuclei, topography of branches, areas of innervation).
116. VIII pair of cranial nerves. The auditory pathway.
117. IX pair of cranial nerves (nuclei, functional composition, topography, branches, areas of innervation).
118. X pair of cranial nerves (nuclei, functional composition of fibers, topography, divisions, branches and areas of innervation).
119. XI and XII pairs of cranial nerves (nuclei, functional composition, topography, branches, areas of innervation).
120. The vegetative part of the nervous system, its division and characteristics of departments, higher vegetative centers. The reflex arc of the vegetative reflex.
121. Parasympathetic division of the autonomic nervous system (centers, peripheral part). Connection with cranial and spinal nerves.
122. The sympathetic division of the autonomic nervous system (centers, peripheral part). Connection with spinal nerves, principles of sympathetic innervation of the organs of the neck, chest, abdominal cavity.
123. Sympathetic trunk, topography, nodes, branches, areas of innervation.
124. Vegetative plexus of the abdominal aorta (sources of formation, nodes, divisions, branches and innervation zones).

Anatomy of blood and lymphatic vessels

125. The general plan of the structure of the arterial bed, the patterns of the course and distribution of blood vessels, branching options. Intra- and intersystem anastomoses and the concept of collateral blood flow, microcirculatory bed.

126. Blood circulation. The heart (appearance, topography). Blood supply and innervation of the heart.
127. Chambers and partitions of the heart, their structure. Valve apparatus.
128. Layers of the heart wall. Features of the structure of the myocardium of the atria and ventricles. The conductive system of the heart. Arteries and veins of the heart.
129. The aorta and its divisions. Branches of the aortic arch and its thoracic region.
130. Parietal and visceral branches of the abdominal aorta, their blood supply zones, anastomoses.
131. Common, external and internal iliac arteries (topography, branches, blood supply zones, anastomoses).
132. External carotid artery (branches and areas of blood supply, anastomoses).
133. Internal carotid artery, topography, its branches and areas of blood supply. Blood supply to the brain (circle of Willis).
134. Subclavian artery (topography, branches, areas of blood supply, anastomoses).
135. Axillary and brachial arteries (divisions, branches, blood supply zones, anastomoses). Blood supply to the shoulder joint.
136. Radial and ulnar arteries. Blood supply to the elbow and wrist joints. The arterial system of the hand (palmar arches, sources of formation and branches).
137. Femoral artery (topography, branches, areas of blood supply). Blood supply to the hip joint.
138. Popliteal artery, arteries of the shin and foot (topography, branches, areas of blood supply). Blood supply to the knee joint.
139. The system of the superior vena cava (addition, tributaries and drainage areas). Azygos and hemiazygos veins.
140. The system of the inferior vena cava (addition, tributaries, drainage areas). Cavocaval anastomoses.
141. Portal vein (sources of formation). Portacaval anastomoses.
142. Venous sinuses of the dura mater. Diploic veins. Emissary veins. The internal jugular vein and other large veins of the neck, their tributaries and anastomoses.
143. Veins of the upper and lower extremities (superficial and deep).
144. General outline of the structure of the lymphatic system (capillaries, vessels, collectors, trunks, ducts, lymph nodes). Lymph outflow from the breast.
145. Thoracic and right lymphatic ducts (addition, topography, tributaries, drainage areas).
146. The lymphatic system (vessels and nodes) of the upper and lower extremities.

Organs of the lymphoid system

147. Classification of organs of the lymphoid system. Primary organs of the lymphoid system (bone marrow, thymus gland), their structure, development, blood supply.
148. Peripheral organs of the lymphoid system (composition, structure, topography).
149. Spleen (structure, topography, blood supply and innervation).

Typical examination card variant

<p>MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION FEDERAL STATE AUTONOMOUS EDUCATIONAL INSTITUTION OF HIGHER EDUCATION “MURMANSK ARCTIC UNIVERSITY” EXAMINATION CARD № 1</p> <p style="text-align: center;">on the discipline “Anatomy”</p> <p>Question 1. Subject of anatomy and its content; its place in the system of training doctors. The main directions of anatomical science and their tasks. Question 2. Ribs, sternum. Connections. Question 3 The concept of mediastinum: divisions, organs of the mediastinum, their topography. Question 4. Internal carotid artery, topography, its branches and areas of blood supply. Blood supply to the brain (circle of Willis). Question 5. III, IV, VI pairs of cranial nerves (oculomotor function).</p> <p>The examination cards were reviewed and approved at the department meeting dated « ____ » _____ 2024, record no. _____</p> <p>Head of the Clinical Medicine Department _____ Krivenko O.G</p>
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Grade	Answer assessment criteria
<i>Excellent</i>	Student understands the material thoroughly; reproduces it fully, clearly and logically; applies theory to practice; has no inhibitions in answering an altered question. Uses specific terminology; demonstrates extensive knowledge in the subject; provides references to specialized resources, including online-resources, while answering the questions.
<i>Good</i>	Student understands the material thoroughly; reproduces it logically and to the point, without major errors in answering the question; uses specific terminology well; may experience some difficulties in answering clarifying questions on the subject; generally demonstrates extensive knowledge in the subject
<i>Satisfactory</i>	Student understands only basic material without details; makes mistakes and not fully correct wording; is poorly familiar with specific terminology; makes significant mistakes in answering; poorly uses special information resources.
<i>Unsatisfactory</i>	Student does not understand a major part of the material, makes significant mistakes, violations of the logical sequence in presenting the material, does not know special terminology, does not use special information resources. No answer to the posed question was given.

The grade, earned at the examination, is then converted into points (“5/excellent” – 20 points; “4/good” – 15 points; “3/satisfactory” – 10 points) and is added to the points, earned during the formative assessment.

Final grade	Total sum of points	Assessment criteria
<i>Excellent</i>	91 - 100	All milestones of the formative assessment have been completed at a high level. The exam is passed.
<i>Good</i>	81-90	All milestones of the formative assessment have been completed. The exam is passed.
<i>Satisfactory</i>	70- 80	The milestones of the formative assessment have been completed partially. The exam is passed.

<i>Unsatisfactory</i>	69 or less	The milestones of the formative have not been completed or the exam is not passed
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5. Diagnostic tasks for the assessment of the educational results in the discipline (module) within the framework of internal and external independent assessment of the quality of education

Assessment materials contain tasks for assessing knowledge, skills and abilities that demonstrate the level of competence mastery and indicators of their mastery.

The set of tasks is designed so as to assess each competence in written form.

The set of tasks includes: test, mini-case tasks, situational tasks, practice-oriented tasks.

ОПК-5 Can analyze morphofunctional and physiological indicators as well as pathological processes in human body to achieve professional goals

Set of tasks for diagnostics

Variant 1

Question 1. Which pairs of ribs are called floating

- a) 1-7
- b) 8-10
- c) 11-12**
- d) 8-12.

Question 2. Match the intestinal division to the anatomical formation.

A) large intestine B) small intestine	1. Veniform process 2. Circular folds 3. Haustra 4. Microvilli on mucous membrane epithelium 5. Is in a loop-like form 6. Intestinal villi
<p>Answer: A – 2,4,5,6; B – 1,3</p>	

Question 3. Syntopia is

- a) The position of anatomical formations in relation to each other in the area under consideration**
- b) The relation of anatomical formations to the body and its regions
- c) The study of the relationship of atomic formations to the norm
- d) Sequential dissection of tissues from the surface to the depth

Question 4. Translate into Russian:

- 1. Vertebrae cervicalis – шейные позвонки
- 2. Processus mamillaris – сосцевидный отросток

3. Facies externa – наружная поверхность
4. Apertura piriformis – грушевидная апертура
5. Glandula parotidea – околоушная железа

Question 5. The mixed and largest nerve of the cervical plexus is:

- a) the transverse cervical nerve;
- b) **the frenic nerve;**
- c) the great auricular nerve;
- d) small occipital nerve

Variant 2

Question 1 Which of the listed bones of the skull are connected by a serrate suture:

- A. **frontal, parietal and occipital bones,**
- B. temporal bone and parietal bones,
- B. temporal and sphenoid bones,
- G. right and left halves of the maxilla.

Question 2. Choose the numbers of the correct statements:

1. The apex of the heart is formed by the right ventricle;
2. The coronal sulcus divides the ventricles of the heart;
3. *Pulmonary veins bring arterial blood to the heart*
4. *The sinoatrial node of the conduction system lies in the wall of the right atrium.*

Question 3. Specify the vessels of the external carotid artery belonging to the group

- | | |
|--------------------------------|-----------------------|
| 1) lingual artery | 1) anterior branches |
| 2) ascending pharyngeal artery | 2) medial branches |
| 3) occipital artery | 3) posterior branches |
| 4) facial artery | |
| 5) posterior auricular artery | |

Answer: 1=1, 2=2, 3=3, 4=1, 5=3

Question 4. Translate into Russian:

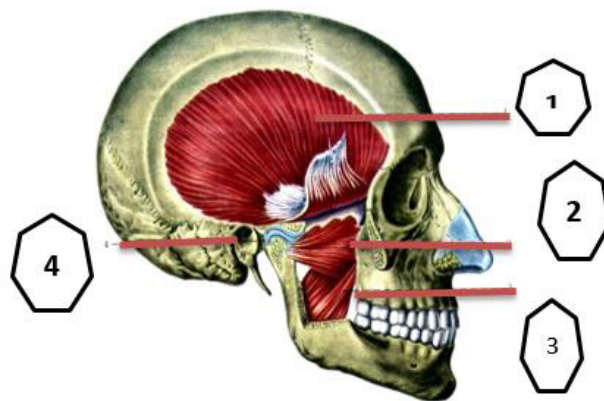
1. Canalis pyloricus – канал привратника
2. Lig. falciforme – серповидная связка
3. Epiglottis – надгортанник
4. Lobus inferior – нижняя доля
5. Pars pelvica – тазовая часть

Question 5. Pyramidal tract?

- a) begin from giant pyramidal Betz cells in the postcentral gyrus;
- b) pass through the pyramids of the medulla oblongata;**
- c) c is crossed mainly in the medulla oblongata;**
- d) are ascending;
- e) provide involuntary contractions of skeletal muscles

Variant 3

Question 1. Indicate the numbers shown in the figure



Question 2. Specify the components of the root of the lung, the differences between the root of the right and left lung.

Answer: At the root of the right lung, the uppermost position is occupied by the main bronchus, and below and anteriorly from it is the pulmonary artery, below the artery is the pulmonary vein.

At the root of the left lung, the pulmonary artery occupies the uppermost position, below and posteriorly from it is the main bronchus, below is the pulmonary vein

Question 3. Specify the divisions of the mediastinum in which the thymus is located

- 1) upper mediastinum**
- 2) anterior inferior mediastinum**
- 3) the middle lower mediastinum
- 4) posterior inferior mediastinum

Question 4. Translate into Russian:

- 1. Venae profundae – глубокие вены
- 2. Ostium sinus coronarii – отверстие венечного синуса
- 3. Sinus sphenoidalis - клиновидная пазуха

4. R. cutaneus – кожная ветвь
5. Margo superior – верхний край

Question 5. The pons is connected to the cerebellum by which peduncles:

1. Superior.
- 2. Middle**
3. Inferior

Variant 4

Question 1 The characteristics of the temporomandibular joint include the following statements:

- A. simple,
- B. complex,**
- V. combined,**
- G. biaxial,**
- D. uniaxial,
- E. ellipsoid (condyle),**
- J. ginglymus

Question 2 The liver has several lobes. Moreover, a different number of them can be seen from the visceral and diaphragmatic surfaces. What lobes of the liver are visible on these surfaces?

Answer: the upper surface is right and left (two lobes); the visceral surface is right, left, square, caudate (four lobes).

Question 3. The unpaired cartilages of the larynx include:

Answer: thyroid, cricoid and epiglottis.

Question 4. Translate into Russian:

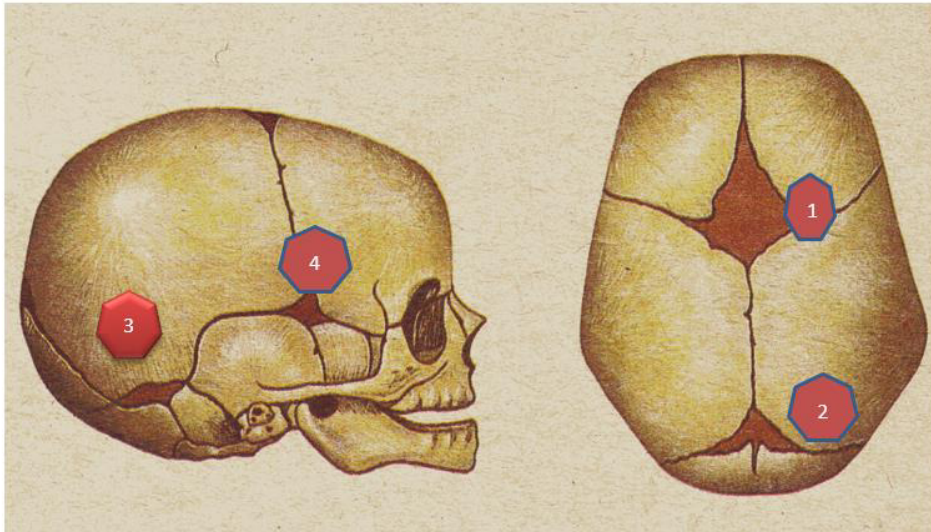
1. Facies visceralis – висцеральная поверхность
2. Septum interatriale – межпредсердная перегородка
3. Arcus aortae – дуга аорты
4. Angulus sterni – угол грудины
5. Pulpa splenica – пульпа селезенки

Question 5. After surgery in the area of the parotid salivary gland, the patient developed a complication in the form of impaired innervation of the facial muscles on the operated side. What caused this complication?

Answer: Damage to the VII pair of cranial nerves – facial nerve.

Variant 5

Question 1. Indicate the numbers shown in the figure



Answer: Fontanelles 1. Large, frontal, 2. Posterior – occipital, 3. Lateral – mastoid, 4. Lateral – sphenoidal, 1,2 – unpaired, 3,4 – paired

Question 2. During the examination, a blood clot was found in the mouth of the right coronary artery of the heart. In which parts of the heart will a blood supply disorder develop?

Answer: It supplies blood to the right atrium, part of the anterior wall and the entire posterior wall of the right ventricle, a small section of the posterior wall of the left ventricle, the atrial septum, the posterior third of the interventricular septum, the papillary muscles of the right ventricle and the posterior papillary muscle of the left ventricle.

Question 3. In the duodenum, the superior, _____, _____ and _____ parts are distinguished.

Answer: superior, descending, ascending, horizontal (inferior) parts.

Question 4. Translate into Russian:

1. Hilum – ворота
2. Vestibulum – преддверие
3. Crus anterior – передняя ножка

4. Papillae foliatae – листовидные сосочки

5. Dura mater encephali (cranialis) – твердая оболочка головного мозга

Question 5 What are the constituent elements of the peripheral nervous system?

a) the sympathetic trunk;

b) the medulla oblongata;

c) the cauda equina;

d) nerve plexuses;

e) cranial nerves.