

**FEDERAL STATE BUDGET EDUCATIONAL  
HIGHER EDUCATION INSTITUTION  
"ROSTOV STATE MEDICAL UNIVERSITY"  
MINISTRY OF HEALTH OF THE RUSSIAN FEDERATION**

**FACULTY OF TREATMENT AND PREVENTION**

Appraisal Fund  
in the discipline "Anatomy"

Specialty 05/31/01 General Medicine

# 1. Interim certification form (test, exam).

## 2. Type of intermediate certification -interview, test control.

**Test** Semesters 1 and 2 are graded based on the results of the current control (17 theoretical quizzes and 3 control tests on topics studied in the semester). The credit is given upon receipt of an arithmetic average grade from 3 to 5 with 70% of the material passed and 75% of the classes attended.

If you score less than 3 points, no credit will be given and an academic certificate will be issued. In the 3rd semester, intermediate certification takes place in the form **exam**. In this case, the average value of points received over 3 semesters is determined. The exam involves testing on compliance tests (1 test - 1-5 points) and a theoretical survey on tickets for 4 sections of anatomy (1-5 points per answer). Then the points received for tests and answers are summed up and the arithmetic mean is calculated. The arithmetic mean of the points scored over 3 semesters and the points obtained in the exam determine the final number of points received, which corresponds to a certain assessment of knowledge of the discipline. If a student answers the exam and has a final rating of 3 points, but is not enough to receive a positive grade (satisfactory), then he can additionally solve a situational problem and get the necessary points. If the issue of assigning final grades "good" and "excellent" is decided, a student with an insufficient number of points for semesters of study can also additionally solve a situational problem and get the necessary points (in this case, the level of difficulty of the tasks is different: 1- to receive a grade of "satisfactory" ", 2 - "good", 3 - "excellent").

## 3. List of competencies formed by the discipline or in the formation of which the discipline participates

Code competencies	Content of competencies (results of mastering OOP)	Contents of competency elements, in the implementation of which he participates discipline
OPK-1	readiness to decide standard tasks, professional activities, informational, bibliographic, biomedical terminology, information and communication technologies and taking into account the main requirements information security	knowledge of medical-anatomical conceptual apparatus, ability to use Latin anatomical and medical terminology
OPK-4	ability to implement deontological professional activity	knowledge of ethical and deontological aspects of medical activities when working with cadaveric material
OPK-9	ability to solve professional problems	ability to states knowledge of anatomical-physiological, age-sex individual features development, structure and topography of organs).

#### 4. Stages of formation of competencies in the process of development educational program

Competence	Disciplines	Semester
OPK-1	Anatomy	1.2.3
	Medical informatics	
	General health and healthcare	
	Propaedeutics of internal diseases	5.6
	Introduction to the Language of Medicine	
OPK-4	Anatomy	1.2.3
	Bioethics	
	Human rights	
	Forensic medicine at the present stage of development of society	
	Forensic genetics	
OPK-9	Anatomy	1.2.3.
	Histology, embryology	2.3.
	Physiology	3.4
	Biochemistry	2.3.4.
	Topographical anatomy And surgical	
	Pathological anatomy	5.6.
	Clinical pathological anatomy	
	Microbiology	
	Immunology	
	Pharmacology	5.6
	Clinical pharmacology	
	Pathological physiology	5.6.
	Fundamental medicine	7.
	State final certification	12.

#### 5. Stages of developing competencies in process of mastering the discipline

Sections of the discipline	Codes generated competencies		
	OPK-1	OPK-4	OPK-9
Semester 1			
Section 1. Musculoskeletal system	+	+	+
Semester 2			
Section 2. Splanchnology	+	+	+
Section 3. Cardiovascular system	+	+	+
Semester 3			
Section 4. Central nervous system	+	+	+
Section 5. Peripheral nervous system	+	+	+
Section 6. Sense organs	+	+	+

#### 6. Forms of assessment tools, in accordance with the generated

## competencies

Code competencies	Forms of assessment tools	
	Current certification	Interim certification
OPK-1	Tests Situational tasks Practical skills Oral survey, interview Report, message	Tests Situational tasks Oral survey, interview
OPK - 4	Situational tasks Oral survey, interview Report, message	Oral survey, interview
OPK-9	Tests Situational tasks Practical skills Oral survey, interview Report, message	Tests Situational tasks Oral survey, interview

## 7. Current control

### 7.1. Test control

**List of typical test tasks for current control with standard answers:**

#### **Exercise 1**

*Question:* Insertion site of the lateral pterygoid muscle

*Choose 1 correct answer from 4 options:*

- 1) upper process of the lower jaw
- 2) angle of the lower jaw
- 3) articular disc
- 4) coronoid process of the mandible

#### **Task #2**

*Question:* Depressions of the peritoneum in the pelvic cavity in a man *Choose 1 correct answer from 4 options:*

- 1) rectouterina
- 2) intersigmoideus
- 3) rectovesicalis
- 4) vesicouterina

#### **Task #3**

*Question:* Branches of the subclavian artery after leaving the interscalene space

*Choose 1 correct answer from 4 options:*

- 1) a. thoracica interna
- 2) tr. costocervicalis
- 3) tr. thyrocervicalis
- 4) a. transversa colli

#### **Task #4**

*Question:* Nand the anterior surface of the pyramid of the temporal bone is located

*Choose 1 correct answer from 4 options:*

- 1) impressio trigeminalis
- 2) canalis musculotubarius
- 3) fossa jugularis

4) meatus acusticus internus

**Task #5**

*Question:*Holes in the corners of the bladder triangle

*Choose 1 correct answer from 4 options:*

- 1) ostium ureteris
- 2) ostium urethrae externum
- 3) ostium tubae uterirae
- 4) ostium uteri

**Task #6**

*Question:*In the epidural space of the spinal canal there is *Choose 1 correct answer from 4 options:*

- 1) cerebrospinal fluid
- 2) denticulate ligaments
- 3) spinal nerve roots
- 4) venous plexus

**Task #7**

*Question:*In contact with the anterior surface of the stomach *Choose 1 correct answer from 4 options:*

- 1) transverse colon
- 2) liver
- 3) left kidney
- 4) posterior abdominal wall

**Task #8**

*Question:*Cerebrospinal fluid flows into the subarachnoid space from *Choose 1 correct answer from 4 options:*

- 1) lateral ventricle
- 2) IV ventricle
- 3) cerebral aqueduct
- 4) III ventricle

**Task #9**

*Question:*An element of the bronchial tree that does not have cartilage in its walls *Choose 1 correct answer from 4 options:*

- 1) lobular bronchi
- 2) terminal bronchioles
- 3) lobar bronchi
- 4) segmental bronchi

**Task #10**

*Question:*At the upper (proximal) end of the fibula there is *Choose 1 correct answer from 4 options:*

- 1) condylus
- 2) apex capitis
- 3) collum
- 4) malleolus medialis

**Sample answers:**

1) 3	6) 4
2) 3	7) 2
3) 4	8) 2
4) 1	9) 2
5) 1	10) 2

**Test control grading scale:**

percentage of correct answers	Marks
-------------------------------	-------

100-91	Great
90-81	Fine
80-71	Satisfactorily
Less than 71	Unsatisfactory

## 7.2. Test survey (interview)

### List of questions for ongoing monitoring: 1st semester

#### 1. structure of the body bones

- 1) General principles of the structure and function of the spinal column, its sections.
- 2) Sections of the spinal column, the number of vertebrae in the cervical, thoracic, lumbar sections of the spinal column.
- 3) The structure of the vertebra.
- 4) Distinctive features of the structure of the cervical vertebrae.
- 5) The structure of the first cervical vertebra.
- 6) Distinctive features of the second cervical vertebra.
- 7) Distinctive features of the structure of the thoracic vertebrae.
- 8) Features of the structure of the I, X, XI and XII thoracic vertebrae.
- 9) Distinctive features of the lumbar vertebrae
- 10) Features of the structure of the sacrum and coccyx in connection with the function performed.
- 11) The sacrum, its parts, surfaces, ridges.
- 12) The structure of the coccyx.
- 13) Formation of the spinal canal.
- 14) The significance of the dorsal and pelvic sacral foramina.
- 15) General principles of the structure and function of the chest
- 16) The sternum, its parts, surfaces.
- 17) Number of ribs, their classification.
- 18) The structure of the rib.
- 19) Features of the structure of the I, II, XI and XII ribs.

#### 2. structure of the bones of the upper and lower limbs

- 1) Parts of the upper limb.
- 2) Bones forming the girdle of the upper limb.
- 3) Sections of the free upper limb.
- 4) Bones that make up the sections of the free upper limb.
- 5) Clavicle, its structure.
- 6) Scapula, its structure.
- 7) Humerus, structure
- 8) The structure and relative position of the bones of the forearm.
- 9) Radius bone, structure.
- 10) Ulna bone, structure.
- 11) Sections of the hand, bones included in their composition.
- 12) Bones of the proximal and distal rows of the wrist, their structure.
- 13) Metacarpal bones, structure.
- 14) Bones of the fingers (phalanxes), structure.
- 15) Parts of the lower limb.
- 16) Bones forming the girdle of the lower limb.
- 17) Sections of the free lower limb.
- 18) Bones that make up the sections of the free lower limb.
- 19) Pelvic bone, sections, structure.
- 20) Femur, structure
- 21) Patella, structural features.
- 22) The structure and relative position of the bones of the lower leg.

- 23) Tibia, structure.
- 24) Fibula, structure.
- 25) Sections of the foot.
- 26) Tarsal bones, structure.
- 27) Metatarsal bones, structure.
- 28) Bones of the toes (phalanx of the toes), structure.

### **3. structure of the skull bones**

- 1) Classification of the bones of the skull.
- 2) occipital bone, its parts.
- 3) The structure of the inner and outer surfaces of the squama of the occipital bone.
- 4) The structure of the lateral and basilar parts of the occipital bone.
- 5) Sphenoid bone, its parts.
- 6) The structure of the body and pterygoid processes of the sphenoid bone.
- 7) The structure of the large and small wings of the sphenoid bone.
- 8) Frontal bone, its parts.
- 9) The structure of the scales, orbital and nasal parts of the frontal bone.
- 10) Parietal bone, its structure, edges and angles.
- 11) Temporal bone, its parts, boundaries, functional significance.
- 12) Difference between the right and left temporal bones.
- 13) The structure of the squamosal and tympanic parts of the temporal bone.
- 14) The structure of the petrous part (pyramid) of the temporal bone, canals.
- 15) Facial canal, its topography, openings, functional significance.
- 16) Carotid canal, its openings, functional significance.
- 17) The myotubal canal, its semi-channels, openings, functional significance.
- 18) Ethmoid bone, its parts, boundaries, structural features, functional significance.
- 19) Classification of the bones of the facial skull.
- 20) Paired and unpaired bones of the face.
- 21) The upper jaw, its parts, boundaries, structural features, functional significance.
- 22) The lower jaw, its parts, boundaries, structural features, functional significance.
- 23) Palatine bone, its structure, parts, surfaces, processes.
- 24) Nasal and lacrimal bones, their structure.
- 25) Zygomatic bone, surfaces, processes, holes.
- 26) The inferior nasal concha, its processes.
- 27) Hyoid bone, its structure.
- 28) Bones containing air sinuses.

### **4. structure of the skull as a whole**

- 1) A conditional boundary separating the base of the skull from its vault (roof).
- 2) Conditional boundary separating the facial region from the skull
- 3) Bones that form the base of the skull.
- 4) Openings of the external and internal base of the skull.
- 5) Anterior, middle, posterior cranial fossae, their boundaries, openings, crevices and grooves in these fossae.
- 6) Gender and age characteristics of the skull.
- 7) Walls and communications of the orbit.
- 8) The nasal cavity, its walls, messages.
- 9) The oral cavity, its walls, communications.
- 10) Borders of the temporal, infratemporal fossa, communications.
- 11) Pterygoid - palatine fossa, its walls and communications.

### **5. general arthrology**

- 1) Types of bone joints.
- 2) Types of syndesmoses.
- 3) Types of synchondrosis.

- 4) Synovial joints (joints), definition.
- 5) Planes and axes of movement in the joints.
- 6) Classification of joints by shape, complexity and axes of movement.
- 7) Complex and combined joints, definition, examples, functional meaning.

#### **6. connection of the trunk bones**

- 1) Types of joints in the spinal column.
- 2) Ligaments of the spinal column.
- 3) Joints of the spine, their structure, movements.
- 4) Sacrococcygeal symphysis, its features. Structure, movement.
- 5) The spine as a whole. Curvatures of the spinal column. Age characteristics.
- 6) Costovertebral joints, their structure, movements.
- 7) The connection of the ribs with the sternum, their structure, movement.
- 8) The chest as a whole. Features of its shape and size in connection with body types and the nature of work activity.
- 9) Age-related features of the chest.

#### **7. connection of the skull bones**

- 1) Types of connections of the skull bones.
- 2) Median atlantoaxial joint, structure, movements.
- 3) Lateral atlantoaxial joint, structure, movements.
- 4) Atlanto-occipital joint, structure, movements.
- 5) Seams of the vault and facial skull, shape and names of individual seams.
- 6) Fontanas, their structure, topography, timing of closure
- 7) Permanent and temporary cartilaginous connections of the base of the skull.
- 8) Temporomandibular joint, morphofunctional features of structure, movements.

#### **8. connection of the bones of the upper limb**

- 1) The sternoclavicular joint, its structure and movements.
- 2) The acromioclavicular joint, its structure, movements.
- 3) The shoulder joint, its structure, movements, features.
- 4) Elbow joint, its structure, movements.
- 5) The wrist joint, its structure, movements.
- 6) Joints of the hand, their names.
- 7) Ligamentous apparatus of the hand.
- 8) Metacarpophalangeal joints, their structure, movements.
- 9) Interphalangeal joints, their structure, movements.

#### **9. connection of the bones of the lower limb**

- 1) Types of joints of the pelvic bones.
- 2) Pubic symphysis, structure and age characteristics.
- 3) The sacroiliac joint, its structure, movements.
- 4) The pelvis as a whole. The large and small pelvis, the boundaries between them.
- 5) Age and gender characteristics of the pelvis, the size of the female pelvis.
- 6) The hip joint, its structure, movements.
- 7) Knee joint, its structure, movements.
- 8) Connections of the leg bones to each other. The ankle joint, its structure, movements.
- 9) Connections of the bones of the foot.
- 10) Arches of the feet.

#### **10. structure and topography of the trunk muscles**

- 1) Superficial back muscles.
- 2) Deep back muscles.
- 3) Muscles of the occipital region
- 4) Fascia of the back
- 5) Muscles and fascia of the chest, their function.



- 6) Muscles and fascia of the abdomen, their function
- 7) Areas of the back and its sections.
- 8) Lumbar triangle (Petit), its boundaries and meaning.
- 9) Lumbar space (Grunfeld-Lesgaft), its boundaries and significance.
- 10) Chest triangles
- 11) The structure of the white line of the abdomen.
- 12) The structure of the sheath of the rectus abdominis muscle.
- 13) The structure of the inguinal canal.
- 14) Contents of the inguinal canal in men and women.

#### **11. structure and topography of the head muscles**

- 1) Development of chewing and facial muscles of the head.
- 2) Classification of head muscles
- 3) Characteristics of the masticatory muscles, topography, origin, attachment and function.
- 4) Characteristics, structural features of facial muscles.
- 5) Muscles of the cranial vault, their parts, location, origin and function.
- 6) Muscles of the eye circumference, their location, parts, origin and function.
- 7) Muscles of the mouth circumference, their location, origin and function.
- 8) Nasal muscles, their location, origin and function.
- 9) Fascia of the head.
- 10) Osteofascial spaces of the head, their contents.
- 11) Intermuscular spaces of the head, their contents.

#### **12. structure and topography of the neck muscles**

- 1) Classification of neck muscles.
- 2) Development of neck muscles.
- 3) Superficial muscles of the neck, their origin, attachment, function.
- 4) The muscles lying above the hyoid bone, their origin, attachment, function.
- 5) The muscles lying below the hyoid bone, their origin, attachment, function.
- 6) Deep muscles of the neck, their origin, attachment, function.
- 7) Fascia of the neck (according to V.N. Shevkunenko), their topography.
- 8) Areas and triangles of the neck, their boundaries, meaning.
- 9) Interfascial spaces, their boundaries, contents, meaning.
- 10) Intermuscular spaces, their boundaries, contents, meaning.

#### **13. structure of the muscles of the upper limb**

- 1) Muscles of the shoulder girdle, their topography, origin, attachment and function.
- 2) Shoulder muscles, their topography, origin, attachment and function.
- 3) Muscles of the forearm, their topography, origin, attachment and function.
- 4) Muscles of the hand, their topography, origin, attachment and function.

#### **14. topography of the muscles of the upper limb**

- 1) Synovial sheaths of the hand, their significance.
- 2) Osteofibrous canals of the hand, their significance.
- 3) The armpit, its walls.
- 4) Triangular and quadrangular holes, their boundaries and meaning.
- 5) The canal of the radial nerve, its topography, openings, functional significance.
- 6) The ulnar fossa, its borders.
- 7) The grooves of the anterior surface of the forearm, their boundaries, functional significance.

#### **15. muscle structure and topography of the lower limb**

- 1) Muscles of the pelvic girdle, their topography, origin, attachment and function.
- 2) Thigh muscles, their topography, origin, attachment and function.
- 3) The muscles of the lower leg, their topography, origin, attachment and function.
- 4) Muscles of the foot, their topography, origin, attachment and function.

#### **16. muscle structure and topography of the lower limb**

- 1) Formation and maintenance of muscle and vascular lacunae.
- 2) Formation and maintenance of the supragiriform and infrapiriform foramina.
- 3) Femoral triangle and adductor canal.

- 4) Formation and significance of the femoral canal.
- 5) The popliteal fossa, its borders.
- 6) The ankle-popliteal canal, structure and significance.
- 7) Upper and lower musculofibular canals, structure and significance.
- 8) Medial and lateral plantar grooves, boundaries.

## **17. muscle work**

- 1) the work of muscles that carry out movements in various joints of the human body.

### **2nd semester**

## **1. structure of the digestive system organs**

- 1) List the organs of the digestive system.
- 2) Projection of organs onto the anterior abdominal wall.
- 3) The oral cavity, its sections, walls, communications, functions.
- 4) The vestibule of the mouth, its walls.
- 5) The walls of the oral cavity itself.
- 6) The tongue, its parts, structure of the mucous membrane, functions.
- 7) Muscles of the tongue and their functional significance.
- 8) Zev and its borders.
- 9) Palate, parts, muscles.
- 10) Glands of the oral cavity, topography, structure, functions.
- 11) Pharynx, topography, functions, wall structure
- 12) Sections of the pharynx and its communications
- 13) Lymphoepithelial ring of the pharynx
- 14) Tooth structure. Dental formulas.
- 15) Change of teeth, milk teeth and permanent teeth.
- 16) Types of dental occlusion.
- 17) Esophagus, its structure, length, function.
- 18) Topography and sections of the esophagus.
- 19) The structure of the walls of the esophagus.
- 20) Topography of the stomach.
- 21) Parts and sections of the stomach.
- 22) The structure of the stomach wall, relation to the peritoneum.
- 23) Sections of the small intestine.
- 24) Position, boundaries, and parts of the duodenum.
- 25) Features of the structure of the duodenum.
- 26) Signs of the small intestine.
- 27) The relationship of the small intestine to the peritoneum.
- 28) Sections of the large intestine.
- 29) Signs of the colon.
- 30) Parts of the colon.
- 31) Features of the structure of the cecum and vermiform appendix.
- 32) Features of the structure of the rectum, relation to the peritoneum.
- 33) Functions of the colon.
- 34) Topography of the liver.
- 35) Basic functions of the liver.
- 36) The structure of the liver, relation to the peritoneum.
- 37) Surfaces, edges, lobes, grooves of the liver.
- 38) Gates of the liver and their contents.
- 39) The structure of the liver lobule.
- 40) The gallbladder, its parts, relation to the peritoneum.
- 41) Topography of the pancreas.
- 42) The structure of the pancreas, relation to the peritoneum.
- 43) Excretory ducts of the pancreas.

## **2. structure of the peritoneum**

- 1) General principles of the structure and function of formations of the peritoneal cavity.

- 2) Abdominal and peritoneal cavities, layers of peritoneum.
- 3) The relationship of organs to the peritoneum.
- 4) Retroperitoneal space and its contents.
- 5) Large and small oil seals.
- 6) The walls of the upper floor bags, contents and opening.
- 7) Recesses of the small pelvis.
- 8) Mesenteries, peritoneal ligaments.
- 9) Pockets, sinuses, channels.

### **3. structure of the respiratory system**

- 1) General principles of the structure and function of the respiratory system.
- 2) The structure of the external nose and nasal cavity.
- 3) Paranasal sinuses of the nasal cavity.
- 4) Topography of the larynx, its sections.
- 5) Cartilages of the larynx, ligaments and joints of the larynx.
- 6) Muscles of the larynx, their classification and functions.
- 7) Structure of the trachea.
- 8) Main bronchi and bronchial tree.
- 9) The structure of the right and left lungs.
- 10) Surfaces, crevices and lobes of the lungs.
- 11) Gate and composition of the root of the lung.
- 12) Bronchopulmonary segment.
- 13) Acinus of the lung.
- 14) Pleura, its parts.
- 15) Pleural cavity.
- 16) Sinuses of the pleura.
- 17) Borders of the pleural sacs.
- 18) Boundaries of the lungs.
- 19) The structure of the diaphragm, its parts.
- 20) Diaphragm holes and their contents
- 21) Weak points of the diaphragm

### **4. structure of the organs of the urinary system**

- 1) General principles of the structure and function of the urinary system.
- 2) Topography of the kidneys.
- 3) The fixing apparatus and membranes of the kidneys, their relationship to the peritoneum.
- 4) External structure of the kidneys. Renal pedicle.
- 5) The internal structure of the kidneys.
- 6) Components of the nephron.
- 7) Features of the circulatory system of the kidneys.
- 8) The structure of the wall of the renal calyces and pelvis.
- 9) Topography of the ureter, its parts. The relationship of the ureter to the peritoneum.
- 10) The structure of the bladder, its relationship to the peritoneum.

### **5. the structure of the male genital organs.**

- 1) General principles of the structure and function of the male reproductive system.
- 2) The structure and topography of the male urethra, parts, narrowing and expansion, sphincters of the canal.
- 3) Topography of the testicle, its external and internal structure, epididymis.
- 4) Testicular membranes.
- 5) Topography, structure of the spermatic cord.
- 6) The process of lowering the testicle into the scrotum, options for the position of the testicle.
- 7) Ways of seed removal.
- 8) Seminal vesicles, prostate and bulbourethral glands.

### **6. structure of the female genital organs.**

- 1) General principles of the structure and function of the female reproductive system.
- 2) Ovary, topography, ligaments, structure, significance.

- 3) Fallopian tubes, topography, parts, relation to the peritoneum.
- 4) Uterus, topography, parts, ligamentous apparatus, relation to the peritoneum.
- 5) Vagina, topography, vaults.
- 6) Female urethra, openings.

#### **7. structure of the male and female perineum**

- 1) Borders of the perineum and its parts.
- 2) Muscles and fascia of the pelvic diaphragm.
- 3) Muscles and fascia of the urogenital diaphragm.
- 4) Features of the structure of the male perineum.
- 5) The difference in the structure of the female perineum.

#### **8. Anatomy of the endocrine glands**

- 1) Features of the endocrine glands.
- 2) Classification of endocrine glands
- 3) Structure, topography, hormones of the parathyroid glands.
- 4) Structure, topography, thyroid hormones.
- 5) Structure, topography, hormones of the pancreas.
- 6) Structure, topography, hormones of the thymus gland
- 7) Structure, topography, adrenal hormones.
- 8) Structure, topography, hormones of the testicle.
- 9) Structure, topography, ovarian hormones.

#### **9. structure of the heart and mediastinal organs**

- 1) Topography of the heart.
- 2) Topography and structure of the chambers of the heart.
- 3) The structure of the heart wall.
- 4) Heart valves, projection and auscultation points of the heart valves.
- 5) Conducting system of the heart.
- 6) Arteries and veins of the heart.
- 7) Cardiac circulation.
- 8) Pericardium.
- 9) Borders of the mediastinum and its division into parts.
- 10) Organs that make up the mediastinum of the superior mediastinum
- 11) Organs that make up the mediastinum of the anterior mediastinum
- 12) Organs that make up the mediastinum of the middle mediastinum
- 13) Organs that make up the mediastinum of the posterior mediastinum

#### **10. structure of the arteries of the head and blood supply to the brain**

- 1) Large (bodily) and small (pulmonary) circles of blood circulation.
- 2) Aorta, its topography, parts.
- 3) Branches of the aortic arch, areas of blood supply.
- 4) Common carotid artery, its topography
- 5) External carotid artery, its topography, main branches and areas of blood supply
- 6) Internal carotid artery, its topography, main branches and areas of blood supply
- 7) Anastomoses between the branches of the external and internal carotid arteries, their clinical significance
- 8) Topography and branches of the subclavian artery
- 9) Subclavian artery, its topography, parts, branches, areas of blood supply
- 10) Blood supply to the brain and spinal cord

#### **11. structure of the arteries of the upper limb**

- 1) Axillary artery, its topography, parts, branches, areas of blood supply.
- 2) Brachial artery, branches, areas of blood supply.
- 3) Arteries of the forearm, their branches.
- 4) Arteries of the hand, formation of the palmar arches.
- 5) Blood supply to the shoulder joint.
- 6) Blood supply to the elbow joint.
- 7) Blood supply to the wrist joint.

## **12. structure of the arteries of the body**

- 1) Parietal branches of the thoracic aorta, areas of blood supply.
- 2) Visceral branches of the thoracic aorta, areas of blood supply.
- 3) Parietal branches of the abdominal aorta, areas of blood supply.
- 4) Paired visceral branches of the abdominal aorta, areas of blood supply.
- 5) Unpaired visceral branches of the abdominal aorta, areas of blood supply

## **13. structure of the iliac arteries**

- 1) External iliac artery, its topography, branches, areas of blood supply.
- 2) Internal iliac artery, its topography, branches (parietal and visceral), areas of blood supply.
- 3) Anastomoses between the branches of the external and internal iliac arteries, their clinical significance

## **14. structure of the arteries of the lower limb**

- 1) Arteries of the thigh.
- 2) Arteries of the leg.
- 3) Arteries of the foot.
- 4) Blood supply to the hip joint.
- 5) Blood supply to the knee joint.
- 6) Blood supply to the ankle joint.

## **15. structure of the venous system**

- 1) Features of the structure of venous vessels, their function.
- 2) Topography of the superior vena cava, its roots, tributaries.
- 3) Venous vessels forming the external jugular vein, places of confluence.
- 4) Internal jugular vein, topography, tributaries, places of confluence.
- 5) Veins of the face, their features, drainage zones.
- 6) Venous sinuses of the dura mater.
- 7) Anterior jugular vein, topography, places of confluence.
- 8) Superficial and deep veins of the upper limb, their topography.
- 9) Veins of the thoracic cavity, their topography.
- 10) Topography of the inferior vena cava, its roots, tributaries.
- 11) Superficial and deep veins of the lower limb, their topography.
- 12) Veins of the pelvis, their topography.
- 13) Caval-caval anastomoses, their localization.
- 14) Topography of the portal vein, its roots, tributaries.
- 15) Define "porto-caval anastomosis" and list them.
- 16) Localization of porto-caval anastomoses, venous vessels forming them.
- 17) Features of fetal blood circulation.

## **16. structure of the organs of the lymphatic, immune systems and hematopoiesis.**

- 1) The main anatomical formations of the lymphatic system.
- 2) The structure of the lymph node.
- 3) Topography and sources of formation of the right lymphatic duct.
- 4) Topography and sources of formation of the thoracic duct.
- 5) The main groups of lymph nodes in the head and neck area, topography, drainage zones.
- 6) Lymph nodes and vessels of the abdominal and thoracic cavities.
- 7) Lymphatic vessels and nodes of the upper limb.
- 8) Lymphatic vessels and nodes of the lower limb and pelvis.
- 9) Outflow of lymph from the lungs.
- 10) Outflow of lymph from the mammary gland.
- 11) Outflow of lymph from the stomach.
- 12) Outflow of lymph from the uterus.
- 13) Outflow of lymph from the rectum.
- 14) General principles of the structure and function of the organs of the immune system.
- 15) General principles of the structure and function of the hematopoietic organs.

- 16) Structure, topography of the thymus gland.
- 17) Structure, topography and significance of bone marrow.
- 18) Structure, topography and functional significance of the spleen.

**17. blood supply to organs, venous and lymphatic drainage from organs, joints.**

**3rd semester**

**1. structure of the spinal cord**

- 1) The structure of the somatic reflex arc.
- 2) Topography of the spinal cord.
- 3) The external structure of the spinal cord.
- 4) The concept of a segment of the spinal cord.
- 5) Formation of spinal nerves, composition and patterns of exit from the spinal canal.
- 6) Features of the structure of the anterior, lateral and posterior cords of the spinal cord.
- 7) Features of the structure of the anterior, posterior and lateral horns of the spinal cord.
- 8) Shells and intershell spaces of the spinal cord and their significance.

**2. structure of brain regions derived from the rhombencephalon**

- 1) Classification of the brain into sections according to genesis.
- 2) Medulla oblongata, composition, external and internal structure, nuclei, centers.
- 3) Hindbrain, composition. External and internal structure of the bridge, core.
- 4) Cerebellum, composition, external and internal structure, nuclei, peduncles.
- 5) The isthmus of the rhombencephalon, its composition, topography, structure.
- 6) Fourth ventricle, structure and communications.
- 7) Projection of the nuclei of the cranial nerves onto the rhomboid fossa.

**3. structure of brain regions - middle and intermediate**

- 1) Composition of the midbrain.
- 2) External structure of the midbrain.
- 3) Internal structure of the midbrain.
- 4) Composition of the diencephalon.
- 5) Thalamic brain, composition, internal structure and significance.
- 6) Hypothalamic region, its composition, internal structure and significance.
- 7) Third ventricle, structure and communications.

**4. structure of the telencephalon and localization of functions in the cerebral cortex**

- 1) Telencephalon, composition.
- 2) Lobes, surfaces of the hemispheres
- 3) Furrows and convolutions of the cerebral cortex. Localization of functions in the cerebral cortex (sensitive, motor centers, 2nd signaling system).
- 4) Corpus callosum, parts, meaning.

**5. structure of the telencephalon hemispheres 1)**

Internal structure of the cerebral hemispheres.

- 1) Topography of white and gray matter
- 2) Basal ganglia, composition and significance.
- 3) Olfactory brain, sections, functional significance.
- 4) Lateral ventricles, sections, structure, communications.

**6. membranes of the brain.**

- 1) Meninges of the brain, intermeningeal spaces.
- 2) Processes and sinuses of the dura mater.
- 3) Cisterns of the subarachnoid space.
- 4) Circulation of cerebrospinal fluid.

**7. brain pathways**

- 1) Classification of pathways.
- 2) Functions of various pathways.
- 3) Exteroceptive pathways(definition, functions, links, features).

- 4) Proprioceptive pathways (definition, functions, topography of links, features).
- 5) Pyramidal pathways (definition, functions, topography of links, features).
- 6) Extrapyramidal pathways (definition, functions, topography of links, features).

#### **8.9. structure of sense organs.**

- 1) Topography and structure of the eyeball.
- 2) Inner nucleus of the eyeball.
- 3) Accessory organs of the eye.
- 4) Aqueous humor of the eye, formation and circulation.
- 5) Accommodative apparatus of the eye.
- 6) The conductive path of the visual analyzer.
- 7) Topography and structure of the external ear.
- 8) Topography and structure of the middle ear.
- 9) Inner ear, structure and topography.
- 10) The mechanism of perception and the path of sound.
- 11) Conducting pathways of the organs of hearing and balance.
- 12) Olfactory area of the nasal mucosa.
- 13) Conducting path of the olfactory analyzer.
- 14) Structure and functions of the skin.
- 15) Leather derivatives.
- 16) Conducting paths of the skin analyzer.
- 17) The structure of the mammary glands.
- 18) Taste buds of the tongue, their topography.
- 19) Conductive path of the taste analyzer.

#### **10.11. structure of cranial nerves and areas of innervation.**

- 1) Places where cranial nerves exit the brain and skull.
- 2) Localization of the cranial nerve nuclei at the bottom of the rhomboid fossa.
- 3) Branches and area of innervation of the III, IV, VI cranial nerves.
- 4) Trigeminal nerve, nuclei, ganglion, exit points from the brain and skull.
- 5) Ophthalmic nerve, topography, branches, zones of innervation.
- 6) Maxillary nerve, topography, branches, zones of innervation.
- 7) Mandibular nerve, topography, branches, zones of innervation.
- 8) Facial nerve, nuclei, nodes, places of exit from the brain and skull.
- 9) Branches of the facial nerve inside the canal of the pyramid of the temporal bone.
- 10) Branches extending from the facial nerve before entering the parotid gland.
- 11) Branches of the plexus of the facial nerve in the thickness of the parotid gland.
- 12) Topography and zones of innervation of the branches of the facial nerve.
- 13) Glossopharyngeal nerve, nuclei, exit points from the brain and skull.
- 14) Glossopharyngeal nerve, its topography, branches, zones of innervation.
- 15) Glossopharyngeal nerve nodes, topography.
- 16) Vagus nerve, nuclei, exit points from the brain and skull.
- 17) Vagus nerve nodes, topography.
- 18) Branches of the vagus nerve, topography, zones of innervation.
- 19) Recurrent laryngeal nerve, topography, zones of innervation.
- 20) Accessory nerve, nuclei, places of exit from the brain and skull, zones of innervation.
- 21) Hypoglossal nerve, nuclei, exit points from the brain and skull.

#### **12.13. structure of the cervical and brachial plexuses of the spinal nerves.**

- 1) Formation of the spinal nerve and its branches.
- 2) Branches and zones of innervation of the posterior branches of the spinal nerves.
- 3) Cervical plexus, formation, branches, zones of nerve innervation.
- 4) The phrenic nerve, its topography and zones of innervation.
- 5) Brachial plexus, formation, branches, zones of nerve innervation.

- 6) Musculocutaneous nerve, topography and zones of innervation.
- 7) Median nerve, topography and zones of innervation.
- 8) Radial nerve, topography and zones of innervation.
- 9) Ulnar nerve, topography and zones of innervation.
- 10) Intercostal nerves, formation, branches, zones of innervation.

**14.15. structure of the lumbar and sacral plexuses of the spinal nerves.**

- 1) Lumbar plexus, formation, branches, zones of nerve innervation.
- 2) Femoral nerve, topography and zones of innervation.
- 3) Obturator nerve, topography and zones of innervation.
- 4) Sacral plexus, formation, branches, zones of nerve innervation.
- 5) Sciatic nerve, topography and zones of innervation.
- 6) Tibial nerve, topography and zones of innervation.
- 7) Common, superficial and deep peroneal nerves, their topography and zones of innervation.
- 8) Coccygeal plexus, formation, branches, zones of nerve innervation.

**16,17. structure of the autonomic nervous system and innervation of organs.**

- 1) Autonomic nervous system, meaning, parts.
- 2) Centers of the sympathetic nervous system.
- 3) Centers of the parasympathetic nervous system.
- 4) Features of the autonomic reflex arc.
- 5) Sympathetic trunk, sections, nodes, nerves extending from the nodes.
- 6) Nodes of the sympathetic plexuses of the abdominal cavity and pelvis.
- 7) Autonomic innervation of the thoracic cavity organs.
- 8) Autonomic innervation of the abdominal organs.
- 9) Autonomic innervation of the pelvis.
- 10) Autonomic innervation of the head organs.
- 11) Autonomic innervation of the neck organs.
- 12) Autonomic innervation of blood vessels.
- 13) Autonomic innervation of the heart.
- 14) Autonomic innervation of the stomach.
- 15) Autonomic innervation of the lungs.
- 16) Autonomic innervation of the uterus.
- 17) Autonomic innervation of the lacrimal gland
- 18) Autonomic innervation of the salivary glands.

**Interview assessment criteria:**

Mark	Description
"GREAT"	The mark "EXCELLENT" is given to an answer that shows an excellent understanding of the subject, a comprehensive knowledge of anatomy, and is distinguished by the depth and completeness of the topic; knowledge of anatomical terminology; the ability to give reasoned answers and give examples; fluency in monologue speech, logic and consistency of response.



"FINE"	The mark "GOOD" is used to evaluate an answer that shows a complete understanding of the subject, comprehensive knowledge of anatomy, and is distinguished by the depth and completeness of the topic; knowledge of anatomical terminology; the ability to give reasoned answers and give examples; fluency in monologue speech, logic and consistency of response. However, one or two inaccuracies in the answer are allowed.
"SATISFACTORILY"	The mark "SATISFACTORY" evaluates an answer that indicates knowledge of the subject at a minimum level, characterized by insufficient depth and completeness of the topic; insufficient ability to give reasoned answers and give examples; insufficient fluency in monologue speech, logic and consistency of response. There may be several errors in the content of the answer.
"UNSATISFACTORY"	The mark "UNSATISFACTORY" evaluates an answer indicating ignorance of the subject, characterized by a shallow discussion of the topic; ignorance of the basic questions of theory, inability to give reasoned answers, poor command of monologue speech, lack of logic and consistency. Serious errors in the content of the answer are allowed.

### 7.3. Situational tasks

1. The victim requires a tracheotomy, through which interfascial space of the neck and where can blood get during tracheotomy?
2. The patient has an inflammatory process in the area of the nail phalanx of the first finger of the right hand. How can the inflammatory process spread to the hands?
3. The patient cannot clench his jaw. What muscles don't work?

#### Standards of answers for situational problems

- 1) along the previsceral interfascial space of the neck into the anterior mediastinum
- 2) along the synovial sheath of the thumb to the palmar part of the hand and wrist joint
- 3) chewing muscles

#### Criteria for assessing situational tasks:

Mark	Descriptors			
	understanding Problems	analysis situations	solution skills situations	professional thinking
Great	complete implication problems. All requirements, submitted to	high benefit analyze situation, do conclusions	high ability select method solutions to the problem true skills solutions to the situation	high level professional thoughts

	adania, completed			
Fine	complete implication problems. All requirements, submitted to adania, completed	benefit analyze situation, do <small>conclusions</small>	ability to choose solution method problems true skills <small>solutions to the situation</small>	residual level professional thoughts. drops one or two precision in the answer
satisfy strictly	astastic implication problems. majority requirements declared to adania, completed	satisfactory 1st ability analyze situation, do <small>conclusions</small>	satisfactory solution skills situation	residual level professional thoughts. falls more <small>a bunch of inaccuracies in reply</small>
unsatisfactory emphatically	misunderstanding problems. legs requirements, submitted to I hope not completed. No Tveta. Did not have experiments to solve hello	izkaya benefit analyze situation	insufficient solution skills situation	missing

## 7.4. Topics of reports.

### Semester No. 1:

1. Ethics and deontology in the study of anatomy.
2. Bone as an organ, development, structure, bone growth. Classification of bones.
3. Development of the skull in phylo- and ontogenesis. Atavistic variants and developmental anomalies skull bones.
4. Age, gender and individual characteristics of the skull.
5. Types of connections between bones.
6. Development and structure of the joint.
7. Development and structure of the skeleton of the upper limb. Variants and anomalies of development.
8. Comparative characteristics of the structure of the upper and lower extremities in connection with functions performed.
9. Development and structure of the skeleton of the lower limb. Variants and anomalies of development.
10. General anatomy of muscles. Development of skeletal muscles, their classification. Muscle like an organ.
- eleven. Auxiliary apparatus of muscles. P.F. Lesgaft's views on relationships between the work and structure of muscles and bones, muscles are synergists and antagonists.
12. Diaphragm, development, parts, openings, innervation, blood supply.

**Semester No. 2:**

1. Development of the digestive system, main developmental anomalies.
2. Development of the peritoneum, main developmental anomalies.
3. Facial development, main developmental anomalies.
4. Development of the respiratory system, main developmental anomalies.
5. Development of the urinary system, main developmental anomalies.
6. Development of the male reproductive system, main developmental anomalies.
7. Development of the female reproductive system, main developmental anomalies.
8. Classification of endocrine glands by genesis. Features of the structure of the glands

internal secretion.

9. Development of arteries, main variants and anomalies of development of large arteries.

10. Development of veins, main variants and anomalies of development of large veins.

eleven. General anatomy of blood vessels, distribution patterns

blood vessels according to P.F. Lesgaft, anastomoses, collaterals, hemomicrocirculatory bed.

12. Heart development, main developmental anomalies.

13. Development of the lymphatic system, main developmental anomalies.

14. Organs of the immune system and hematopoiesis.

**Semester No. 3:**

1. Phylo- and ontogenesis of the nervous system.
2. Brain vesicles and their derivatives.
3. Anomalies in the development of the spinal cord and brain.
4. The concept of analyzers. Classification of sense organs.
5. Development of the organ of vision, main developmental anomalies.
6. Development of the organ of hearing and balance, main developmental anomalies.
7. Development of the taste organ, main developmental anomalies.
8. Development of the olfactory organ, main developmental anomalies.
9. Skin development, main developmental anomalies.

**Presentation/report evaluation criteria**

Mark	Descriptors			
	Disclosure Problems	Performance	Decor	Answers to questions
Great	Problem revealed fully. Analysis carried out	Represented information systematized consistent and	Wide used informational technologies.	Answers to complete questions haunted examples and/or

	problems with involving additional literature. conclusions justified.	logically connected. Used more than 5 professional terms.	None errors in represented information.	explanations.
Fine	Problem revealed. Analysis carried out no problems attracting additional literature. Not all conclusions made and/or justified.	Represented information systematized and consistent. Used more than 2 professional terms.	Used informational technologies. No more than 2 errors in represented information	Answers to complete questions and/or partially full
Satisfactorily	Problem not disclosed fully. The conclusions are not made and/or conclusions are not justified.	Represented no information systematized and/or not consistent. Used 1-2 professional term.	Used informational technologies partially. 3-4 errors per represented information.	Only answers on elementary questions.
Unsatisfactory	The problem is not revealed. None conclusions.	Represented information logically not connected. Not used	Not used informational technologies. More than 4 errors	No answers to questions.

## Evaluation criteria for the test

Mark in the record book	Descriptors
passed	The mark "PASSED" is used to evaluate an answer that shows a complete understanding of the subject, comprehensive knowledge of anatomy, and is distinguished by the depth and completeness of the topic; knowledge of anatomical terminology; the ability to give reasoned answers and give examples; fluency in monologue speech, logic and consistency of response. However, one or two inaccuracies in the answer are allowed.
not accepted	Mark "NOT PASSED" is estimated answer, indicating ignorance of the subject, characterized by a shallow discussion of the topic; ignorance of the basic questions of theory, inability to give reasoned answers, poor command of monologue speech, lack of logic and consistency. Serious errors in the content of the answer are allowed.

## 8. FUND FOR INTERMEDIATE CERTIFICATION ASSESSMENT TOOLS

**Exam form:**the exam takes the form of test control and oral questioning - interviews.

### 8.1. Test control (compliance tests)

(insert)

## Response standards.

No. 1

- 1.transverse ligament of the atlas
2. pterygoid ligament
- 3.upper longitudinal beam
- 4.atlanto-occipital joint
- 5.lateral atlantoaxial joint

No. 2

- 1.posterior cruciate ligament
- 2.anterior cruciate ligament
- 3.medial meniscus
- 4.patellar ligament
5. tibiofibular joint

No. 3

- 1.occipitofrontal muscle
- 2nd century part of the orbicularis oculi muscle
- 3.orbital part of the orbicularis oculi muscle
- 4.zygomaticus major muscle
5. orbicularis oris muscle

No. 4

1. deltoid muscle
2. pectoralis major muscle
3. serratus anterior muscle
4. pectoralis minor muscle
5. rectus abdominis muscle

No. 5

- 1.pharyngeal opening of the auditory tube
- 2.pharyngeal tonsil
- 3.soft palate
- 4.choana

5. pharynx

No. 6

1. mucous membrane of the esophagus
- 2.gastric folds
- 3.pyloric sphincter
4. pyloric hole
5. mucous membrane of the duodenum

No. 7

- 1.ileo-cecal valve (Bauginian valve)
2. frenulum of the ileocecal valve
- 3.ileum
4. semilunar folds
5. vermiform appendix

No. 8

- 1.thyroid cartilage
2. cricoid cartilage
- 3.trachea
- 4.left main bronchus

## 5. right main bronchus

No. 9a

1. upper pole of the kidney
2. renal artery
3. renal vein
4. ureter
5. lower pole of the kidney

No. 9b

1. upper pole of the kidney
2. medulla (pyramid)
3. large kidney cup
4. renal pelvis
5. lesser renal calyx

No. 10

1. coronary sinus
2. great vein
3. middle vein of the heart
4. small vein of the heart
5. posterior vein of the left ventricle of the heart

No. 11

1. medulla oblongata
2. hindbrain
3. midbrain
4. diencephalon
5. telencephalon

No. 12

1. clavicle
2. neck of the rib
3. sternal end of the rib
4. lung root shadow
5. left ventricle of the heart

No. 13

1. cecum
2. ascending colon
3. transverse colon
4. descending colon
5. sigmoid colon

No. 14 Bronchogram

1. trachea
2. right main bronchus
3. right upper lobar bronchus
4. middle lobe bronchus
5. right lower lobar bronchus

No. 15

1. incisors
2. fangs
3. small molars
4. large molars
5. pantomogram

No. 16

1. bladder

2. rectum
3. pubic symphysis
4. vagina
5. uterus

## **Test evaluation criteria**

1 correct answer is equal to 1 point

### **8.2. Interview.**

#### **List of questions for intermediate certification: Anatomy of the musculoskeletal system**

1. Bone as an organ, development, structure, bone growth. Classification of bones.
2. Development of the skull in phylo- and ontogenesis. Age, gender and individual characteristics of the skull.
3. Temporal, infratemporal, pterygopalatine fossa, their walls and communications.
4. Types of connections between bones.
5. Development and structure of the joint.
6. Classification of joints according to the shape of the articular surfaces, the number of axes of motion and complexity.
7. Development and structure of the skeleton of the upper and lower extremities. Variants and anomalies of development. Comparative characteristics of the structure of the upper and lower extremities in connection with the functions performed.
8. Vertebrae, development, developmental anomalies, features of their structure in various parts of the spine.
9. The spinal column, its development, the formation of bends, the connection of the vertebrae with each other, movements.
10. The connection of the skull with 1 cervical vertebra (atlanto-occipital joint), its structure, shape, movements.
11. Connection of 1st and 2nd cervical vertebrae (atlanto-axial joints), structure, shape, movements.
12. Ribs and sternum: development, anomalies, structure. Connection of the ribs to the vertebrae and sternum. The chest as a whole, features of its shape in connection with body types.
13. Temporal bone, parts, canals, their meaning.
14. Sphenoid bone, parts, holes, their meaning.
15. Upper and lower jaws. Features of their structure.
16. Orbit and nasal cavity, their walls and communications.
17. Vault, external and internal base of the skull. Connection of the skull bones, types of sutures.
18. Temporomandibular joint, structure, shape, movements.
19. Skeleton of the upper limb, sections, bones.
20. Bones of the shoulder girdle, their connections.
21. Shoulder joint, structure, shape, movements.
22. Elbow joint, structure, shape, movements.
23. Wrist joint, structure, shape, movements.
24. Skeleton, sections and joints of the hand, structure, shape, movements.
25. Skeleton of the lower limb, its parts, bones.
26. Pelvic bones. The pelvis as a whole. Age and gender characteristics. Dimensions of the female pelvis.
27. Hip joint, structure, shape, movements.
28. Knee joint, structure, shape, movements.
29. Ankle joint, structure, shape, movements.
30. Skeleton, parts and joints of the foot. Foot arches and strengthening apparatus.
31. General anatomy of muscles. Development of skeletal muscles, their classification. Muscle as an organ. Auxiliary apparatus of muscles. P.F. Lesgaff's views on the relationship between the work and structure of muscles and bones, muscles are synergists and antagonists.

32. Superficial back muscles, topography, functions, fascia, innervation, blood supply. Lumbar quadrangle and triangle, topography, practical significance.
33. Deep back muscles, topography, functions, fascia, innervation, blood supply. Lumbar quadrangle and triangle, topography, practical significance.
34. Sheath of the rectus abdominis muscle, linea alba and umbilical ring, practical significance.
35. Inguinal canal, structure and practical significance.
36. Chewing muscles, topography, functions, innervation, blood supply.
37. Facial muscles, topography, functions, innervation, blood supply.
38. Neck muscles, topography, functions, innervation, blood supply. Neck triangles, practical significance.
39. Fascia and interfascial spaces of the neck, practical significance.
40. Chest muscles, topography, functions, innervation, blood supply.
41. Abdominal muscles, topography, functions, innervation, blood supply.
42. Muscles of the shoulder girdle, topography, functions, fascia, innervation, blood supply. Axillary fossa, walls and contents.
43. Shoulder muscles, topography, functions, fascia, innervation, blood supply. Radial nerve canal.
44. Muscles of the forearm, topography, functions, fascia, innervation, blood supply. Osteofibrous canals of the hand.
45. Muscles of the hand, topography, functions, fascia, innervation, blood supply. Synovial sheaths of the hand.
46. Pelvic muscles, topography, functions, fascia, innervation, blood supply.
47. Thigh muscles, topography, functions, fascia, innervation, blood supply. Femoral triangle, adductor canal.
48. Muscular and vascular lacunae, femoral canal, structure and practical significance.
49. Muscles of the lower leg, topography, functions, fascia, innervation, blood supply. Popliteal fossa, intermuscular and musculoskeletal canals of the leg.
50. Foot muscles, topography, functions, fascia, innervation, blood supply. Osteofibrous canals and synovial tendon sheaths on the foot.

### **Anatomy of internal organs**

1. Issues of deontology and ethics in the study of anatomy.
2. Oral cavity, sections, walls, communications.
3. Soft palate. Zev, its borders.
4. Glands of the oral cavity, topography, structure, function, innervation and blood supply.
5. Tongue, parts, papillae, lingual tonsil, tongue muscles, innervation and blood supply. The role of language in articulate speech.
6. Teeth, structure, functions.
7. Timing of teeth eruption and change. Dental formulas.
8. Pharynx, topography, structure, functions, openings (pharyngeal communications), innervation and blood supply. Lymphoepithelial ring.
9. Esophagus, topography, parts, structure, functions, innervation and blood supply.
10. Stomach, topography, structure, functions, relationship to the peritoneum, innervation and blood supply.
11. Small intestine, topography, parts, structural features, functions, relationship to the peritoneum, innervation and blood supply.
12. Large intestine, topography, parts, structure, functions, relation to the peritoneum, innervation and blood supply.
13. Cecum and vermiform appendix, topography, structure, variants of position, functions, relation to the peritoneum, innervation and blood supply.
14. Rectum, topography, parts, structural features, functions, relationship to the peritoneum, innervation and blood supply.



15. Liver, topography, external structure, functions, relationship to the peritoneum, innervation, features of the vascular system.
16. Liver, internal structure (concept of segment, hepatic lobule), functions.
17. Gallbladder. Excretory ducts of the liver and gallbladder (pathways for the outflow of bile).
18. Pancreas, topography, parts, structure, functions, relation to the peritoneum, innervation and blood supply.
19. Spleen, topography, structure, functions, relationship to the peritoneum, innervation and blood supply.
20. Peritoneum, its parietal and visceral layers, their topography. Peritoneal ligaments, mesentery. Peritoneal cavity.
21. Greater and lesser omentum, contents of the lesser omentum. Bursae of the upper floor of the abdominal cavity, recesses.
22. General characteristics of serous membranes and serous cavities. Location of organs in relation to the peritoneum.
23. External nose, nasal cavity, parts, structure, functions, nasal passages and their communications.
24. Larynx, topography, parts, structure, functions, innervation and blood supply.
25. Laryngeal cartilages, joints, laryngeal muscles. Theories of voice formation.
26. Trachea and bronchi, topography, parts, structure, function, innervation and blood supply.
27. Lungs, topography, structure, functions, innervation and blood supply. Concept of segment, structural and functional unit of the lung.
28. Pleura, parts, topography, cavity and sinuses of the pleura, innervation, blood supply.
29. Mediastinum, boundaries, departments. Organs of the upper, anterior, middle and posterior mediastinum.
30. Diaphragm, parts, openings, innervation, blood supply.
31. Kidney, development, anomalies, topography, external structure, functions. Fixing apparatus of the kidney, relation to the peritoneum, innervation and blood supply.
32. The internal structure of the kidney and features of its circulatory system. Structural and functional unit of the kidney.
33. Urinary tract (renal calyces, pelvis, ureter), topography, structure, function. The relationship of the ureter to the peritoneum, innervation and blood supply.
34. Bladder, topography, parts, structure, functions, relationship to the peritoneum, innervation and blood supply.
35. Male urethra, functions.
36. Testicle and its epididymis, topography, structure, functions.
37. The membranes of the testicle and spermatic cord. The process of lowering the testicle into the scrotum, variations in the position of the testicle.
38. Prostate and bulbourethral glands, seminal vesicles, topography, structure, functions.
39. Male genital organs, classification. The structure of the external genitalia.
40. Testicle, structure, functions. Ways of seed removal.
41. Ovary, topography, structure, functions, innervation and blood supply.
42. Uterus and vagina, topography, parts, structure, functions, relation to the peritoneum, innervation and blood supply.
43. Fallopian tube, topography, parts, structure, function, relationship to the peritoneum, innervation and blood supply.
44. Female genital organs, classification. The structure of the external genitalia.
45. Muscles and fascia of the male perineum, functions of the genitourinary and pelvic diaphragms, innervation and blood supply.
46. Muscles and fascia of the female perineum, functions of the genitourinary and pelvic diaphragms, innervation and blood supply.
47. Classification of endocrine glands by genesis. Features of the structure of the endocrine glands.
48. Pituitary gland, pineal gland, topography, structure, hormones, innervation and blood supply.

49. Adrenal glands, topography, structure, hormones, innervation and blood supply.
50. Thyroid and parathyroid glands, topography, structure, hormones, innervation and blood supply.

#### **Anatomy of the heart and blood vessels**

1. Development of the heart, main developmental anomalies.
2. Heart, topography, structure.
3. The structure of the heart wall. Pericardium.
4. Valvular apparatus of the heart. Contribution of scientists from the Rostov anatomical school. Places for listening to valves.
5. Types of blood supply to the heart. Contribution of scientists from the Rostov anatomical school.
6. Conducting system of the heart. Contribution of scientists from the Rostov anatomical school.
7. Aorta, development, sections, branches of the aortic arch. Main developmental anomalies.
8. Aorta, its sections. Paired visceral and parietal branches of the thoracic aorta.
9. Vessels of the pulmonary (pulmonary) and systemic circulation and their functional significance. Discovery of blood circulation by W. Harvey and M. Servet.
10. Unpaired visceral branches of the abdominal aorta (celiac trunk), topography, blood supply zones.
11. Blood supply to the stomach.
12. Unpaired visceral branches of the abdominal aorta (superior mesenteric artery), topography, areas of blood supply.
13. Unpaired visceral branches of the abdominal aorta (inferior mesenteric artery), topography, blood supply zones.
14. Paired visceral and parietal branches of the abdominal aorta, topography, areas of blood supply.
15. Common and external carotid arteries, topography, branches, areas of blood supply.
16. Internal carotid artery, topography, branches, areas of blood supply.
17. Blood supply to the brain.
18. Subclavian artery, topography, branches, areas of blood supply.
19. Axillary artery, topography, branches, areas of blood supply.
20. Brachial artery, topography, branches, areas of blood supply.
21. Arteries of the forearm, topography, branches, areas of blood supply.
22. Arteries of the hand, formation and topography of arterial arches and their branches.
23. Common, internal and external iliac arteries, topography, branches, areas of blood supply.
24. Femoral artery, topography, branches, areas of blood supply.
25. Popliteal artery, topography, branches, areas of blood supply.
26. Arteries of the leg, topography, branches, areas of blood supply.
27. Arteries of the foot, topography of arterial arches and their branches, areas of blood supply.
28. Patterns of distribution of blood vessels according to P.F. Lesgaft, anastomoses, collaterals, hemomicrocirculatory bed.
29. Superior vena cava, development, sources of its formation, topography.
30. Superficial and deep veins of the head and neck.
31. Veins of the heart.
32. Veins of the brain. Venous sinuses of the dura mater.
33. Superficial and deep veins of the upper limb.
34. Inferior vena cava, development, sources of its formation, topography.
35. Superficial and deep veins of the lower limb.
36. Veins of the pelvis.
37. Portal vein, development, its roots, topography, functional significance.
38. Venous plexuses. Caval-caval anastomoses.
39. Venous plexuses. Porto-caval, porto-cava-caval anastomoses.
40. Features of fetal blood circulation.

41. Lymphatic system (development, function, structure). Patterns of location of lymphatic vessels and nodes.
42. Thoracic and right lymphatic ducts, their formation, structure, topography, places of confluence.
43. Lymphatic vessels and regional lymph nodes of the head and neck.
44. Lymphatic vessels and regional lymph nodes of organs and walls of the chest cavity.
45. Pathways for lymph outflow from the mammary gland.
46. Lymphatic vessels and regional lymph nodes of organs and walls of the abdominal cavity.
47. Lymphatic vessels and regional lymph nodes of organs and walls of the pelvis.
48. Lymphatic vessels and regional lymph nodes of the upper limb.
49. Lymphatic vessels and regional lymph nodes of the lower limb.
50. Organs of the immune system, their classification, topography, functions.

### **Anatomy of the nervous system and sensory organs**

1. Nervous system, functions, significance for the body. Classification of the animal and autonomic nervous systems.
2. Phylo- and ontogenesis of the nervous system. Brain vesicles and their derivatives.
3. Shells of the spinal cord and brain, intershell spaces.
4. Conducting pathways of the brain and spinal cord, their classification.
5. Formation of the spinal nerve and its branches. Formation of plexuses.
6. Concept of analyzers. Classification of sense organs.
7. Reflex arc of the animal nervous system.
8. Spinal cord. Skeletotopy, external structure. The concept of a segment.
9. Internal structure of the spinal cord.
10. Medulla oblongata, composition, external and internal structure, nuclei, centers.
11. Hindbrain, composition, external and internal structure of the pons and cerebellum, nucleus.
12. The fourth ventricle, its structure and communications. The isthmus of the rhombencephalon, its composition, topography.
13. Rhomboid fossa, its boundaries, projection of the nuclei of the cranial nerves.
14. Midbrain, composition, topography, external and internal structure.
15. Diencephalon, composition, external and internal structure. Third ventricle.
16. Telencephalon. Lateral ventricles, their sections, structure, communications.
17. Furrows and convolutions of the cerebral hemispheres. Localization of functions in the cerebral cortex.
18. Internal structure of the cerebral hemispheres. Topography of white matter. Conducting pathways of the internal capsule.
19. Internal structure of the cerebral hemispheres. Topography of gray matter. Basal ganglia.
20. Olfactory brain, its parts, structure, functional significance.
21. Oculomotor, trochlear, abducens nerves, their nuclei, topography, innervation zones.
22. Trigeminal nerve, nuclei, branches, their topography, zones of innervation.
23. Facial and intermediate nerves, nuclei, branches, their topography, zones of innervation.
24. Glossopharyngeal nerve, nuclei, branches, their topography, zones of innervation.
25. Vagus nerve, nuclei, branches, their topography, zones of innervation.
26. Accessory and hypoglossal nerves, nuclei, branches, their topography, zones of innervation.
27. Cervical plexus, its formation, topography, nerves, innervation zones.
28. Brachial plexus, its formation, topography, nerves, innervation zones.
29. Intercostal nerves, topography, innervation zones.
30. Lumbar plexus, its formation, topography, nerves, innervation zones.
31. Sacral plexus, its formation, topography, nerves, innervation zones.
32. Sciatic nerve, topography, branches, zones of innervation.

33. General cover, its development, structure, functions, derivatives. Conducting pathways of the skin analyzer (tactile, temperature and pain sensitivity).
34. The organ of smell, its development, structure, function. Conducting pathways of the olfactory analyzer.
35. Organ of taste, its development, structure, function. Conducting pathways of the taste analyzer.
36. Organ of vision. Development of the eyeball, its structure, function. Pathways for the outflow of aqueous humor.
37. Muscles of the eyeball, topography, functions, innervation. Eyelids and conjunctiva, lacrimal apparatus of the eye.
38. Paths of light rays and conducting paths of the visual analyzer.
39. Vestibulocochlear organ. Development, structure, functional significance of the external and middle ear.
40. Vestibulocochlear organ. Development, structure, functional significance of the inner ear.
41. Pathways of sound and conduction paths of the auditory analyzer.
42. Organ of balance. Conducting pathways of the vestibular (statokinetic) analyzer.
43. Reflex arc of the autonomic nervous system.
44. General principles of the structure of the autonomic nervous system, parts, centers.
45. Sympathetic division of the autonomic nervous system (general characteristics).
46. Parasympathetic division of the autonomic nervous system (general characteristics).
47. Autonomic (sympathetic and parasympathetic) innervation of glands.
48. Autonomic (sympathetic and parasympathetic) innervation of the thoracic cavity organs.
49. Autonomic (sympathetic and parasympathetic) innervation of the abdominal organs.
50. Autonomic (sympathetic and parasympathetic) innervation of the pelvic organs.

### **8.3. Situational tasks:**

1. During ventricular systole, the patient's mitral valve does not close completely. In which direction will the blood flow in this situation?
2. The patient developed thrombosis of the superior mesenteric artery. Which organs can suffer as a result of this, even to the point of necrotic changes (tissue death)?
3. After a severe viral infection, the patient developed paralysis of facial and chewing muscles. Which motor pathway is damaged?
4. A woman asked a pediatric dentist to examine her child. She believed that the child does not have enough teeth. The doctor determined that a 3-year-old child has 20 teeth. Does the number of teeth correspond to the child's age?
5. The patient has impaired sensory innervation of the skin of the palmar surface of the 5th finger. Which nerve is affected?

### **Sample answers for situational problems:**

1. During ventricular systole, blood will flow into the aorta and left atrium.
2. Jejunum and ileum, parts of the colon and duodenum, pancreas gland.
3. Tr. corticonuclearis
4. The child has 3 years old should have 20 teeth
5. Ulnar nerve

## 9. Description of indicators and criteria for assessing competencies at stages their formation, description of rating scales\*

Criteria	Levels of competency development		
	<i>Threshold</i>	<i>Sufficient</i>	<i>High</i>
	Competence formed. Demonstrated threshold, satisfactory sustainable level practical skill	Competence formed. Demonstrated enough level independence, sustainable practical skill	Competence formed. Demonstrated high level independence, high adaptability practical skill

\*elements of competencies in the implementation of which the discipline participates

### Competency assessment indicators and rating scales

Grade "unsatisfactory" "no" (not counted) or lack formation competencies	Grade "satisfactorily" (passed) or satisfactory (threshold) level of development competencies	Rated "good" (passed) or sufficient level development competencies	Excellent rating (passed) or high level development competencies
student demonstrates ignorance of the subject, inability to give reasoned answers, weak possession monologue speech, absence logic and sequence And. Allowed serious mistakes in content answer. Absence confirmation availability formation competencies indicates negative	student demonstrates knowledge subject to minimum level, insufficient skill give reasoned answers and provide examples; not enough Fluency monologue speech, logic and sequence answer. Allowed several errors in content of the answer. In this case it should think that competence formed on satisfactory	student demonstrates full understanding subject, comprehensive knowledge anatomy, possession anatomical terminology; ability to give reasoned answers, drive examples; free possession monologue speech, logic and subsequence answer. However, it is allowed one - two inaccuracies in the answer. Wherein	student demonstrates the difference new understanding subject, comprehensive knowledge anatomy, possession anatomical terminology; skill give reasoned answers, drive examples; free possession monologue speech, logic and subsequence answer, while should count competence formed on high level.

results mastering educational disciplines	level.	confirmed Availability formed competencies for quite high level.	
---	--------	---	--

### Criteria for evaluating forms of control:

#### Interviews:

Mark	Descriptors
Great	The mark "EXCELLENT" is given to an answer that shows an excellent understanding of the subject, a comprehensive knowledge of anatomy, and is distinguished by the depth and completeness of the topic; knowledge of anatomical terminology; the ability to give reasoned answers and give examples; fluency in monologue speech, logic and consistency of response.
Fine	The mark "GOOD" is used to evaluate an answer that shows a complete understanding of the subject, comprehensive knowledge of anatomy, and is distinguished by the depth and completeness of the topic; knowledge of anatomical terminology; the ability to give reasoned answers and give examples; fluency in monologue speech, logic and consistency of response. However, one or two inaccuracies in the answer are allowed.
satisfactorily	The mark "SATISFACTORY" evaluates an answer that indicates knowledge of the subject at a minimum level, characterized by insufficient depth and completeness of the topic; insufficient ability to give reasoned answers and give examples; insufficient fluency in monologue speech, logic and consistency of response. There may be several errors in the content of the answer.
unsatisfactory	The mark "UNSATISFACTORY" evaluates an answer indicating ignorance of the subject, characterized by a shallow discussion of the topic; ignorance of the basic questions of theory, inability to give reasoned answers, poor command of monologue speech, lack of logic and consistency. Serious errors in the content of the answer are allowed.

### Criteria for assessing situational tasks:

Mark	Descriptors			
	understanding Problems	analysis of the situation	solution skills situations	professional thinking
Great	complete implication problems. All requirements, submitted to adania, completed	high benefit analyze situation, do  conclusions	high ability select method solutions to the problem true skills  solutions to the situation	high level professional thoughts

Fine	complete implication problems. All requirements, submitted to adania, completed	benefit analyze situation, do conclusions	ability to choose solution method problems true skills solutions to the situation	residual level professional thoughts. drops one or two precision in the answer
satisfied specifically	astatic implication problems. majority requirements declared to adania, completed	satisfactory ability analyze situation, do conclusions	satisfactory solution skills situation	residual level professional thoughts. falls more a bunch of inaccuracies in reply
unsatisfactory emphatically	misunderstanding problems. legs requirements, submitted to I hope not completed. No Tveta. Did not have experiments to solve hello	poor ability analyze situation	insufficient solution skills situation	missing

When students develop academic debt for 1.2 semesters in accordance with the Regulations "On ongoing monitoring of progress and intermediate certification of students in educational programs of higher education" and in accordance with the work schedule, he is given the opportunity to gain points first on the 1st retake, and then receive credit on the 2nd commission retake, with the participation of representatives of the dean's office in accordance with the checklist.

### CHECKLIST FOR EXAMINATION PROCEDURE

(the study of the discipline ends with an exam)

No.	Examination event	Points	Evaluation criteria
1	Compliance tests	1-5 points	- Excellent understanding of the subject, student showed comprehensive knowledge and mastery of anatomical terminology. Excellent knowledge of drugs "5"
2	Theoretical survey: musculoskeletal system	3-5b.	- The student demonstrated a complete understanding of the subject and mastery of anatomical terminology. Good knowledge of drugs - "4"
3	Splanchnology	3-5b.	- The student demonstrated understanding of the educational material at a minimum level of mastery. Confused about drug descriptions - "3"
4	The cardiovascular system	3-5b.	- The student's answer does not meet the minimum requirements. Doesn't recognize medications - "0"
5	Nervous system and sensory organs	3-5b.	
Total average number of points for the examination procedure:		3-5b.	

## CHECKLIST FOR EXAMINATION PROCEDURE (1 semester)

(checklist for the second (commission) retake of the test)

No.	Examination event	Points	Evaluation criteria
1	test survey: - structure of the bones of the torso and skull	3-5b.	- Excellent understanding of the subject, student showed comprehensive knowledge, excellent command of anatomical terminology. Excellent knowledge of drugs <b>"5"</b> - The student demonstrated a complete understanding of the subject, good knowledge, proficiency in anatomical terminology. Good knowledge of drugs <b>"4"</b> - The student demonstrated understanding of the educational material at a minimum level of mastery. Confused about drug descriptions <b>"3"</b> - The student's answer does not meet the minimum requirements. Doesn't recognize medications <b>"0"</b>
2	- structure of limb bones	3-5b.	
3	- arthrosyndesmology	3-5b.	
4	- muscles and topography of the torso, head and neck	3-5b.	
5	- muscles and topography of the limbs	3-5b.	
Total average number of points for the examination procedure:		3-5b.	

## CHECKLIST FOR EXAMINATION PROCEDURE (2nd semester)

(checklist for the second (commission) retake of the test)

No.	Examination event	Points	Evaluation criteria
1	test survey: - digestive and respiratory systems, peritoneum	3-5b.	- Excellent understanding of the subject, the student has demonstrated comprehensive knowledge, excellent knowledge of anatomical terminology.. Excellent knowledge of drugs <b>"5"</b> - The student demonstrated a complete understanding of the subject, good knowledge, proficiency in anatomical terminology.. Good knowledge of drugs <b>"4"</b> - The student demonstrated understanding of the educational material at a minimum level of mastery. Confused about drug descriptions <b>"3"</b> - The student's answer does not meet the minimum requirements. Doesn't recognize medications <b>"0"</b>
2	- genitourinary system, perineum, endocrine glands	3-5b.	
3	- anatomy of the heart and blood circulation	3-5b.	
4	- arterial system	3-5b.	
5	- venous, lymphatic and immune systems	3-5b.	
Total average number of points for the examination procedure:		3-5b.	