

Questions for final course examination
Subject - Human anatomy

1. Subject and contents of Human Anatomy. Significance of Human Anatomy for the medicobiological and clinical disciplines studying. Methods of research in Anatomy.
2. Axes and planes in anatomy. Topographical lines on the body surface, their significance for projection of organs on body surfaces.
3. Vertebrae: development, structure in various parts of the spine, variants and anomalies; junctions between vertebrae.
4. Ribs and sternum: structure, variants and anomalies.
5. Frontal, parietal, occipital bones.
6. Sphenoid bone: parts, foramina and their significance.
7. Temporal bone: parts, foramina, canals and their significance.
8. Bones of facial skull.
9. External surface of the base of the skull. Foramina and their significance.
10. External basis of skull. Osseous basis of bony palate.
11. Nasal cavity, structure of its walls.
12. Orbit: structure of walls, foramina and their significance.
13. Anterior cranial fossa: walls and boundaries. Foramina and their significance.
14. Middle cranial fossa: walls and boundaries. Foramina and their significance.
15. Posterior cranial fossa: walls and boundaries. Foramina and their significance.
16. Anatomy and topography of temporal and infratemporal fossae.
17. Pterygopalatine fossa: walls, foramina and their significance.
18. Bones of the shoulder girdle.
19. Bones of free part of upper girdle: humerus. Forearm bones.
20. Bones of the pelvis.
21. Pelvis as a whole. Age and sex features.
22. Bones of free part of lower limb: femur. Bones of leg.
23. Bones of leg and foot: their joints. Passive and active «tightening» of foot arches, mechanism of their effect on foot.
24. Structure of joint. Anatomical and biomechanical classification of joints. Classification of joints according to the shape of articular surfaces, number of axes and function.
25. Joints of the skull, kinds of sutures. Temporomandibular joint: structure, shape, movements, muscles acting on this joint, their blood supply and innervation.
26. Atlanto-occipital joint, movements in this joint, muscles acting on this joint, their blood supply and innervation.
27. Atlantoaxial joint, its structure and function. Muscles, taking part in producing movements in this joint, their function, blood and nerve supply.
28. Joints of ribs with vertebrae and sternum. Movements of ribs, muscles performing these movements, their blood supply and innervation.
29. Shoulder joint: structure, shape, biomechanics; muscles acting on shoulder joint, their blood supply and innervation.
30. Elbow joint: structure, shape, biomechanics. Muscles acting on elbow joint, their innervation and blood supply.
31. Radiocarpal joint, its structure and function. Muscles, taking part in producing movements in the joint, their function, blood and nerve supply.
32. Joints of the pelvis. Joints of pelvic girdle, pubic symphysis, sacroiliac joint.
33. Hip joint: structure, shape, movements; muscles involved in hip movements, their blood supply and innervation.

34. Knee joint, its structure and function. Muscles, taking part in producing movements in this joint, their function, blood and nerve supply.
35. The ankle joint, its structure and function. Muscles, taking part in producing movements in the joint, their function, blood and nerve supply.
36. Superficial muscles of back, their embryonal development, function, blood and nerve supply.
37. Deep muscles of back, suboccipital muscles, their development, function, topography, blood and nerve supply.
38. Muscles and fascias of the thorax: their topography, structure, function, blood supply and innervation.
39. Diaphragm: parts, topography function; blood supply, innervation.
40. Muscles of the abdomen: their topography, function, blood supply and innervation. Rectus sheath. Linea alba.
41. Inguinal canal: its walls, deep and superficial rings; contents of canal. Weak spots (sites of weakness) of anterior abdominal wall.
42. Facial muscles: development, anatomy, topography, function, blood supply and innervation.
43. Masticatory muscles: anatomy, topography, function, blood supply and innervation. Fascias of masticatory muscles.
44. Muscles of the neck: their function, blood supply and innervation. Topography of muscles and fascias of the neck.
45. Regions of the neck, their boundaries. Triangles of the neck, their practical significance.
46. Muscles and fascias of the upper arm: anatomy, topography, function, blood supply and innervation.
47. Muscles and fascias of the forearm: anatomy, topography, function, blood supply and innervation.
48. Muscles and fascias of the hand: anatomy, topography, function, blood supply and innervation.
49. Fibrous canals and synovial vaginas of the hand.
50. Axillary fossa: its walls, foramina, their significance. Canal of radial nerve.
51. Muscles and fascias of thigh: topography, function, blood supply and innervation. Muscular and vascular spaces.
52. Muscles and fascias of leg: topography, function, blood supply and innervation.
53. Muscles and fascias of the foot: anatomy, topography, function, blood supply and innervation.
54. Oral cavity: lips, vestibule of mouth, hard and soft palate. Their structure, function, blood supply and innervation.
55. Deciduous and permanent teeth, their structure, replacement. A tooth row, formula of deciduous and permanent teeth. Blood supply and innervation of the teeth.
56. Tongue (muscles of tongue, papillae): structure, function, blood supply, innervation, regional lymph nodes.
57. Parotid, sublingual and submandibular glands: topography, structure, ducts, blood supply, innervation.
58. Pharynx: topography, structure, blood supply and innervation, regional lymph nodes. Pharyngeal lymphoid ring.
59. Esophagus: topography, structure, blood supply and innervation, regional lymph nodes.
60. Stomach: anatomy, topography, blood supply and innervation, regional lymph nodes.
61. Small intestine: parts, their topography, relation to peritoneum, structure of wall, blood supply, innervation.
62. Duodenum: parts, structure, topography, relation to peritoneum, blood supply, innervation, regional lymph nodes.
63. Mesenteric part of small intestine (jejunum and ileum), structure of wall, blood supply, innervation, regional lymph nodes.

64. Large intestine: parts, their topography, relation to peritoneum; structure of wall, blood supply and innervation, regional lymph nodes.
65. Caecum: structure, relation to peritoneum, topography of vermiform appendix; blood supply and innervation.
66. Rectum: topography, relation to peritoneum, structure of wall, blood supply and innervation, regional lymph nodes.
67. Liver: structure, topography. Blood supply and innervation of liver, regional lymph nodes.
68. Gallbladder: structure, topography. Ducts of gallbladder and liver. Blood supply and innervation, regional lymph nodes.
69. Pancreas: topography, structure, ducts, blood supply, innervation, regional lymph nodes.
70. Peritoneum, its division into parietal and visceral layers. Peritoneal cavity, topography of peritoneum in male and female pelvis.
71. Topography of peritoneum. Greater and lesser omentum, «recesses» and mesenteric sinuses.
72. Topography of peritoneum in upper, middle and lower compartments of peritoneal cavity; lesser omentum, omental, hepatic, pregastric recesses (bursae), their walls.
73. Nose, its function. External nose. Nasal cavity, structure of the walls, olfactory and respiratory regions, nasal ways, paranasal sinuses. Blood and nerve supply of the nose.
74. Larynx: topography, cartilages, their joints. Relief of the internal surface of laryngeal mucous membrane.
75. Muscles of the larynx: their classification, function, innervation and blood supply.
76. Trachea and bronchi: structure, topography, regional lymph nodes, blood supply and innervation.
77. Lungs: function, structure, borders, blood and nerve supply, topography, regional lymph nodes. Segmental structure of lungs. Structure of the acinus.
78. Pleura: parts, borders; pleural cavity, pleural sinuses.
79. Mediastinum: compartments, their topography; organs of the mediastinum.
80. Kidney, its function, topography, structure, blood and nerve supply, regional lymph nodes. Fixation of the kidney.
81. Kidney: nephron, renal calices, renal pelvis.
82. Ureters and bladder: structure, topography, regional lymph nodes, blood supply and innervation.
83. Male and female urethra: topography, parts, sphincters.
84. Ovaries: topography, structure, relation to peritoneum; blood supply, innervation, regional lymph nodes.
85. Uterine tube: structure, topography, relation to peritoneum; blood supply and innervation.
86. Uterus: parts, topography, ligaments, relation to peritoneum; blood supply, innervation, regional lymph nodes.
87. Vagina: structure, topography, blood supply, innervation, relation to peritoneum, regional lymph nodes.
88. Female external genital organs: structure, blood supply, innervation.
89. The penis, structure, blood and nerve supply. Male urethra, its topography, structure, its bends, constrictions and widenings, their clinical importance.
90. Scrotum. Coverings of the testis. Spermatic cord.
91. Testis, its function, structure, coverings, blood and nerve supply. The process of testis descending to the scrotum.
92. Ductus deferens, its function, parts, structure. Seminal glands, their function, structure.
93. Prostate, seminal vesicles, bulbo-urethral glands: anatomy, topography, relation to urethra, blood supply, innervation, regional lymph nodes.
94. Perineum (male and female). Muscles, fascia and topography of perineum. Their blood supply and innervation.

95. General structure of endocrine glands. Thyroid and parathyroid glands, topography, structure, blood and nerve supply.
96. General structure of endocrine glands. Suprarenal gland, its function, topography, structure, nerve and blood supply.
97. General structure of endocrine glands. Hypophysis, its function, topography, structure, blood supply.
98. General structure of endocrine glands. Endocrine part of pancreas, genital glands, their topography, structure, blood and nerve supply.
99. Heart: external structure, topography, projection of borders and valves on anterior thoracic wall.
100. Chambers of heart, their anatomy, relief of internal surface. Papillary muscles.
101. Valves of the heart, their structure, mechanism of regulation of blood inside heart.
102. Structure of the heart walls.
103. Arteries of heart.
104. Veins of heart.
105. Conducting system of heart.
106. Pericardium: structure, topography; pericardial sinuses.
107. Vessels of greater circle of blood flow (general characteristics). Vessels of lesser (pulmonary) circle of blood flow: arteries and veins.
108. Aorta and its parts. Branches of aortic arch: their anatomy, topography, regions of branching (blood supply).
109. Anterior branches of external carotid artery: topography, branches and supplied areas.
110. Posterior, middle and terminal branches of external carotid artery: topography, branches and supplied areas.
111. Internal carotid artery: topography, branches and supplied areas.
112. Vertebral and basilar arteries: topography, branches and supplied areas.
113. Arteries of the brain, sources of blood supply. Greater arterial (Willis) circle of brain.
114. Subclavian artery, topography, branches and supplied areas.
115. Axillary artery: topography, branches and supplied areas.
116. Brachial artery: topography, branches and supplied areas.
117. Arteries of forearm. Radial artery: topography, branches and supplied areas. Blood supply of elbow joint.
118. Arteries of forearm. Ulnar artery: topography, branches and supplied areas. Blood supply of elbow joint.
119. Arteries of the hand. Arterial palmar arcs and their branches.
120. Branches of the thoracic aorta (parietal and visceral): their topography and supplied areas.
121. Parietal and paired visceral branches of abdominal aorta.
122. Unpaired visceral branches of abdominal aorta.
123. Common, external and internal iliac arteries, their branches, supplied areas.
124. Femoral artery: topography, branches and supplied areas.
125. Popliteal artery: topography, branches and supplied areas. Blood supply of knee joint.
126. Arteries of leg: topography, branches and supplied areas.
127. Arteries of the foot: topography, branches and areas of supply.
128. Portal vein: tributaries, their topography; branching of portal vein in the liver. Anastomoses of portal vein and its tributaries.
129. Superior vena cava: sources of derivation and topography. Azygos and hemiazygos veins, tributaries and anastomoses.
130. Internal jugular vein, its topography, main intracranial and extracranial tributaries.
131. Veins of the brain. Venous sinuses of dura mater. Venous emissaries and diploic veins.

132. Inferior vena cava: sources of derivation and topography. Tributaries of inferior vena cava and their anastomoses.
133. Common, external and internal iliac veins: sources of derivation, topography, tributaries.
134. Inter- and intrasystemic venous anastomoses (cava-caval, cava-cava-portal, porto-caval), structure, topography.
135. Superficial and deep veins of the upper extremities: their anatomy, topography.
136. Superficial and deep veins of the lower extremities: their anatomy, topography.
137. Features of blood circulation in fetus and changes of cardiovascular system after birth.
138. Lymphatic system, its function and general structure.
139. Thoracic duct: formation, structure, topography, variants of inflow to venous bed. Right lymphatic duct, formation, topography, site of inflow into venous bed.
140. Anatomy and topography of lymphatic vessels and regional lymph nodes of abdominal cavity.
141. Anatomy and topography of lymphatic vessels and regional lymph nodes of thoracic cavity.
142. Anatomy and topography of vessels and regional lymph nodes of the head and neck.
143. Anatomy and topography of lymphatic vessels and regional lymph nodes of the upper and lower extremities.
144. Anatomy and topography of the spinal cord; external and internal structure.
145. Anatomy and topography of the medulla oblongata; external and internal structure.
146. Anatomy and topography of the pons; parts, external and internal structure.
147. Rhomboid fossa: its borders, structure, projection of the cranial nerves nuclei to the surface.
148. Anatomy and topography of the cerebellum; parts, external and internal structure.
149. Structure of the fourth ventricle, its walls and connections. Cerebrospinal fluid: formation and the outflow pathways.
150. Anatomy and topography of the midbrain; parts, external and internal structure.
151. Anatomy and topography of the diencephalon; parts, external and internal structure.
152. Structure of the third ventricle, its walls and connections.
153. Cerebral hemispheres: their surfaces, lobes, sulci and gyri.
154. Internal structure of the cerebral hemisphere. Basal nuclei and white matter of the telencephalon.
155. Structure of the lateral ventricles, their walls and connections.
156. Localization of functions in the cerebral cortex, nuclei of the cortical ends of analyzers.
157. Meninges of brain, their structure. Subdural and subarachnoid spaces.
158. Motor pyramidal conductive tracts. Localization in different parts of the brain and spinal cord.
159. Extraparamidal conductive tracts. Localization in different parts of brain and spinal cord.
160. Conductive tracts of proprioceptive sensitivity of cortical direction. Localization in different parts of brain and spinal cord.
161. Conductive tracts of proprioceptive sensitivity of cerebellar direction. Localization in different parts of the brain and spinal cord.
162. Conductive tracts of exteroceptive sensitivity (tactile, pain and temperature sensitivity). Localization in different parts of brain and spinal cord.
163. Organ of vision: general plan of structure. Eyeball: coats, structure and functions.
164. Organ of vision: general plan of structure. Eyeball: inner nucleus, structure and functions.
165. Auxiliary apparatus of eyeball. Extraocular muscles: structure, functions, blood and nerve supply.
166. Auxiliary apparatus of eyeball. Eyelids, lacrimal apparatus, conjunctiva: structure, functions, blood and nerve supply.
167. Organ of hearing and balance: general plan of structure and functional features. External ear, its parts, function and structure.

168. Organ of hearing and balance: general plan of structure and functional features. Middle ear, its parts, function and structure.
169. Organ of hearing and balance: general plan of structure and functional features. Internal ear, its parts, function and structure.
170. Organs of taste and smell: structure, topography, innervation, conductive pathways of gustatory and olfactory analyzers.
171. Olfactory nerves: their anatomy and topography. Conductive tract of the olfactory analyzer
172. Optic nerve: its anatomy and topography. Conductive tract of the visual analyzer.
173. Oculomotor, trochlear and abducent nerves: their formation, topography, branches and the innervation areas.
174. Trigeminal nerve: its formation, topography, branches and the innervation areas. The first branch of trigeminal nerve.
175. Trigeminal nerve: its formation, topography, branches and the innervation areas. The second branch of trigeminal nerve.
176. Trigeminal nerve: its formation, topography, branches and the innervation areas. The third branch of trigeminal nerve.
177. Facial nerve: its formation, topography, branches and the innervation areas.
178. Vestibulocochlear nerve: its formation, topography, branches and the innervation areas. Conductive pathways of the vestibular and auditory analyzers.
179. Glossopharyngeal nerve: its formation, topography, branches and the innervation areas.
180. Vagus nerve: its formation, topography, branches and the innervation areas.
181. Accessory and hypoglossal nerves: their formation, topography, branches and the innervation areas.
182. Spinal nerve: formation, branches. Posterior branches of the spinal nerves, areas of their distribution. Formation of plexuses of the spinal nerves.
183. Cervical plexus: topography, nerves, area of innervation.
184. Brachial plexus: its formation, topography, the supra- and subclavial parts. Short branches of brachial plexus, areas of innervation.
185. Brachial plexus: its formation, topography, the supra- and subclavial parts. Long branches of brachial plexus, areas of innervation.
186. Intercostal nerves: their formation, topography, branches and the innervation areas.
187. Lumbar plexus: its formation, topography, nerves, areas of innervation.
188. Sacral plexus: its formation, topography. Short branches of the sacral plexus, the innervation areas.
189. Sacral plexus: its formation, topography. Long branches of the sacral plexus, the innervation areas.
190. Sympathetic part of autonomic nervous system, general characteristic; centers and peripheral part (ganglia, distribution of branches).
191. Sympathetic trunk: formation, structure, topography. Cervical part of sympathetic trunk: topography, ganglia, branches, areas of innervation.
192. Sympathetic trunk: formation, structure, topography. Thoracic part of sympathetic trunk: topography, ganglia, branches, areas of innervation.
193. Sympathetic trunk: formation, structure, topography. Lumbar and sacral parts of the sympathetic trunk: topography, ganglia, branches, areas of innervation.
194. Coeliac plexus, its formation, ganglia, branches and the innervation areas.
195. Superior and inferior mesenteric plexus, their formation, ganglia, branches and the innervation areas.
196. Superior and inferior hypogastric plexuses, their formation, ganglia, branches and the innervation areas.

197. Parasympathetic part of autonomic nervous system, general characteristics; centers and peripheral part. Cranial part: parasympathetic portions of III, VII, IX, X pairs of cranial nerves.

198. Parasympathetic part of autonomic nervous system, general characteristics; centers and peripheral part. Sacral part of parasympathetic nervous system