EXAM QUESTIONS OF THE HUMAN ANATOMY
FOR THE STUDENTS OF THE MEDICAL FACULTY 2023- 2024

1. Cerebral skull. The bones that form it. Features of development (germ layer, ossification stages, types of ossification).
2. Joints of the skull bones.
3. Facial skull. The bones that form it. Features of development (germ layer, ossification stages, types of ossification).
4. Temporomandibular joint.
5. Calvaria (skullcap) bones. Features of the skull joints of a newborn (fontanells).
6. Individual, gender- and age-related features of the skull.
7. Openings and canals of the internal skull base, blood vessels and nerves passing through them.
8. Openings and canals of the external skull base, blood vessels and nerves passing through them.
9. Walls and connections of orbit. The vessels and nerves that pass through the upper and lower orbital fissure, the optic canal, the infraorbital canal, the ethmoid foramina.
10. Connections of nasal cavity with oral cavity, pterygopalatine fossa, and anterior cranial fossa. The vessels and nerves that pass through these connections.
11. Air-filled bones of skull. Paranasal sinuses and their connections with the nasal cavity.
12. Temporal fossa, its walls and contents.
13. Infratemporal fossa, its walls and contents. The vessels and nerves that pass through these connections.
14. Pterygopalatine fossa, its walls and contents. The vessels and nerves that pass through these connections.
15. Special features of cervical, thoracic, and lumbar vertebrae. Physiologic and pathologic curves of the spine.
16. Intervertebral joints.
17. Joint between atlas and skull.
18. Atlanto-axial joint.
19. Muscles that provide movements of the lumbar part of the vertebral column.
20. Joints of ribs with each other, with the sternum and the spine.
21. Thorax in general. Physiologic and pathologic types of thorax.
22. Constitutional types of human body.
23. Development of the upper limb bones. Anomalies of the upper limb bones.
24. Syndesmoses of the upper limb.
25. Hand in general, bones that form it.
26. Joints of the bones of the hand.
27. Joints of the pelvic bones.
28. Measurements of the female pelvis.
29. Development of the lower limb bones. Anomalies ofs the lower limb bones.
30. Foot in general, bones that form it.
31. Chopart's joint and Lisfranc joint. The notion of the foot arch.
32. Classification of bones. Structure of a bone.
33. Stages of bones' development. Primary and secondary bones. Types of ossification.
34. Classification continuous joints.
35. Characteristics of main and supplementary joint elements.
36. The anatomical and biomechanical classifications of joints.
37. The muscles that provide movements in the temporal-mandibular joint.
38. The shoulder joint (features of main and accessory elements, type, shape, movements).
39. The muscles that provide movements the shoulder joint.
40. The elbow joint (features of main and accessory elements, type, shape, movements).
41. Arterial blood supply (arterial network) of the elbow joint.
42. Muscles that provide movements in the elbow joint.
43. The wrist joint (features of main and accessory elements, type, shape, movements).
44. Muscles that provide movements in the wrist joint.
45. The hip joint (features of main and accessory elements, type, shape, movements).
46. Muscles that provide movements in the hip joint.
47. The knee joint (features of main and accessory elements, type, shape, movements).
48. Blood supply of the knee joint.
49. Muscles that provide movements in the knee joint.

50. The ankle joint (features of main and accessory elements, type, shape, movements).
51. Muscles that provide movements in the ankle joint.
52. General anatomy of muscles: classifications, structure of a muscle as an organ.
53. Development of the skeletal muscles.
54. Superficial muscles of the back, their origin, insertion, function, and innervation.
55. Deep muscles of the back, their origin, insertion, function, and innervation.
56. Superficial chest muscles, their origin, insertion, function, and innervation.
57. Deep chest muscles, their origin, insertion, function, and innervation.
58. The diaphragm, its structure. Weak areas of the diaphragm (openings, triangles, hiatuses).
59. Innervation and blood supply of the diaphragm.
60. Anatomy of the abdominal muscles, their classification, origin, insertion, and function.
61. Innervation and blood supply of the abdominal muscles.
62. Rectus abdominis muscle vagina (sheath).
63. Linea alba of the abdomen, umbilical ring. The folds and fossas of the anterior abdominal wall.
64. Inguinal canal, its contents, walls, and rings.
65. Superficial neck muscles, their origin, insertion, function, and innervation.
66. Deep muscles of the neck, their origin, insertion, function, innervation and blood supply.
67. Fascias of the neck. Interfascial spaces of the neck.
68. Triangles of neck, their borders and projections of anatomical structures.
69. Muscles of expression, their development, function, innervation. The differences between facial and skeletal muscles.
70. Masseteric (chewing) muscles, their development, origin, insertion, function, innervation and blood supply.
71. Muscles of the shoulder girdle, their origin, insertion, function, and innervation.
72. Brachial (shoulder) muscles, their origin, insertion, function, and innervation.
73. Group characteristics of the forearm muscles, their innervation.
74. Anterior group of forearm muscles, their origin, insertion, function, innervation, and blood supply.
75. The posterior group of muscles of the forearm, their function, innervation, and blood supply.
76. Group characteristics, innervation, and blood supply of the hand muscles.
77. The axillary fossa. The axillary cavity, its walls and contents.
78. The triangles of the anterior wall of the axillary cavity and anatomical structures that are projected on them.
79. The openings of the posterior wall of the axillary cavity and anatomical structures that pass through them.
80. Brachial groves and channels, vessel-nerve bundles that are located in them.
81. Cubital fossa, its contents.
82. Grooves of the forearm. Vessel-nerve bundles that are located in them.
83. Bony and fibrous canals formed under the retinaculum flexorum; their contents.
84. Retinaculum extensorum. Bone and fibrous channels that are formed under it; their contents.
85. Muscle of the pelvic girdle, their classification, origin, insertion, function, and innervation.
86. The femoral muscles, classification, origin, insertion, function, and innervation.
87. Muscles of the lower leg (shin and calf), their group characteristic, function, innervation and blood supply.
88. Muscles of the foot, their group characteristics and functions.
89. Grooves of the foot.
90. Blood supply and innervation of the foot muscles.
91. The anatomy of the gluteal region: muscles, blood vessels, and nerves.
92. The femoral triangle, its borders and contents.
93. The femoral ring (annulus femoralis) and hiuatus saphenus. Femoral canal.
94. Lacuna vasorum, lacuna musculorum: their walls and contents.
95. Adductor (Hunter's) canal, its walls and contents. Popliteal fossa.
96. Lower leg canals, their walls and contents.
97. Retinaculi of fle[jrs, extensors and fibular muscles of the lower leg. Bone and fibrous canals formed beneath them, their contents.
98. Development of oral cavity.
99. Developmental anomalies of oral cavity and face.

100. Vestibule of the mouth.
101. Layers of the oral cavity floor.
102. Palate, its structure, innervation and blood supply.
103. Forms of teeth. External structure of a tooth.
104. Dental tissues.
105. Dental tissues.
106. Dental formulas of deciduous and permanent teeth.
107. Teething timeline for deciduous and permanent teeth.
108. Physiologic and pathologic bite types.
109. Tooth organ, parodont.
110. Periodont.
111. Development of teeth.
112. Development of the tongue, its developmental anomalies.
113. Structure and function of the tongue.
114. Innervation of the tongue (sensory, taste, motor, sympathetic, parasympathetic).
115. Blood supply of the tongue.
116. Parotid gland, its topography, structure, innervation, blood supply.
117. Submandibular salivary gland, its topography, structure, innervation, blood supply.
118. Sublingual salivary gland, its topography, structure, excretory ducts, innervation, blood supply.
119. Parts, topography and connections of the throat (pharynx).
120. Structure of the throat (pharyngeal) wall.
121. The Pirogov – Valdeyyer lympho-epithelial ring.
122. Innervation and blood supply of the throat (pharynx).
123. Parts, topography, and narrowings of the esophagus.
124. The esophagus wall structure. Blood supply to the esophagus; superior porto-caval anastomosis.
125. Blood supply to the esophagus; superior porto-caval anastomosis.
126. Innervation of the esophagus.
127. Development, parts and topography of the stomach.
128. The structure of the stomach wall; position of stomach in terms of relation to the peritoneum; ligaments.
129. Innervation and blood supply of the stomach.
130. Duodenum parts and topography.
131. The structure of the duodenum wall, position of duodenum in terms of relation to the peritoneum.
132. The innervation and blood supply of the duodenum.
133. The small intestine, its development, divisions, structure of the wall, position in terms of relation to the peritoneum, function.
134. Innervation and blood supply of the small intestine.
135. The colon, its development, divisions, their topography, flexures, position in terms of relation to the peritoneum.
136. Structure of wall and function of the colon.
137. Innervation and blood supply of the colon.
138. Appendix; topography, variants of position, and structure.
139. Rectum parts, topography, flexures, wall structure.
140. Innervation and blood supply of the rectum; inferior porto-caval anastomosis.
141. Development, topography, and functions of liver.
142. External structure of liver, lobes and segments.
143. Gallbladder. Excretory ducts of liver and gallbladder. I
144. Innervation and blood supply of the liver.
145. Internal structure of the liver. Liver triads. Bile production and ways of excretion.
146. The “wonderful” venous net of liver (rete mirabile). Portal and caval venous systems of liver.
147. Pancreas, its development, topography, structure. Excretory ducts. Endocrine part of the pancreas.
148. Innervation and blood supply of the pancreas.
149. General characteristics of the peritoneum. Omentums, ligaments, and mesenteries.
150. Abdominal and pelvic organs positions in terms of relation to the peritoneum.
151. Omental, hepatic and pregastric bursas of the peritoneum, their walls and connections.
152. Canals and sinus the middle floor of the peritoneum. Recesses.
153. The external nose: structure, blood supply, and innervation.

154. Paranasal sinuses, their function and peculiarities of mucosa structure.
155. Innervation and blood supply of the nasal cavity.
156. Topography, external structure and functions of larynx.
157. Innervation and blood supply of the larynx.
158. Laryngeal cartilages and muscles, their function.
159. Development, topography and structure of trachea and bronchi.
160. Innervation and blood supply of trachea and bronchi.
161. The lungs, their development (periods of development) and developmental anomalies.
162. Topography of lungs.
163. External structure of lungs. Hilum and root of each lung (contents and topography).
164. Anatomical units of lungs: lobes, segments, primary and secondary pulmonary lobuli, acinus. Bronchial and alveolar pulmonary tree.
165. Innervation and blood supply of the lungs.
166. Development and layers of pleura, pleural cavity, pleural recesses.
167. Pleural borders.
168. Mediastinum, its borders and divisions. Organs of upper mediastinum, their topography.
169. Mediastinum, its borders and divisions. Organs of lower mediastinum, their topography.
170. Topography and external structure of kidneys. Renal capsule. Fixing apparatus of the kidney.
171. Development and developmental anomalies of the kidney.
172. Internal structure of kidney (anatomical units, the nephrone structure) and function.
173. Innervation of kidney.
174. Blood supply of the kidney; the “wonderful” arterial net of the kidney (rete mirabile).
175. Renal sinus, renal peduncle, hilum of kidney. The structure of small and large calyces, fornical apparatus of kidney.
176. Topography and structure of the urinary bladder, its position in terms of relation to the peritoneum.
177. Innervation and blood supply of the urinary bladder.
178. The testis, its external and internal structure. Sperm production and excretion.
179. Coverings of testis.
180. Innervation and blood supply of the testis.
181. Development of testis. The process of descending of the testis into the scrotum. Anomalies of testis development and position.
182. Epididymis, spermatic cord and its components
183. Seminal vesicles, prostate, bulbs of urethra (Cooper’s) glands, their excretory ducts.
184. Structure of male urethra.
185. Urethra: structure, topography, differences between male and female urethra
186. External male genitalia. Their structure, blood supply, innervation.
187. Development and developmental anomalies of external male genitalia.
188. Ovary, its external and internal structure, topography.
189. Blood supply and innervation of the ovary.
190. The uterus, its topography andexternal structure. Variants of uterus position. Uterine ligaments.
191. Blood supply and innervation of the uterus.
192. Internal structure of the uterus.
193. Development and developmental anomalies of the uterus.
194. Uterine tube, its development, topography, position in relation to the peritoneum, parts, structure of wall.
195. Blood supply and innervation of the uterine tube.
196. The external female genitalia.
197. Perineum, its definition, muscles and fascias.
198. Innervation and blood supply of the perineum.
199. Mammary gland.
200. Classification of the endocrine glands (according to development and topography).
201. Branhiogenic endocrine glands: thyroid, parathyroid. Their development, structure, topography, functions. Signs of hyper- and hypofunction.
202. Blood supply and innervation of the thyroid.
203. The group of endocrine glands of the adrenal system; adrenal glands, their development, topography, structure, functions.

204. Blood supply and innervation of the adrenal gland.
205. Neurogenic endocrine glands: pituitary, pineal gland, adrenal medulla, paraganglia, their development, topography, structure and function. Signs of hyper- and hypofunction.
206. Endocrine parts of the gonads, their development, topography, structure, function.
207. Structure and function of red bone marrow and thymus.
208. Structure and function of spleen.
209. Structure and functions of lymph nodes.
210. Development and developmental anomalies of heart.
211. Topography of heart.
212. External structure of heart. Structure of heart chambers.
213. The heart: openings, valves, their structure and function. The valvular apparatus of the heart.
214. Structure of the heart wall.
215. Conduction system of the heart.
216. Pericardium.
217. Blood supply and innervation of the heart.
218. Development of the central nervous system (brain vesicles and their derivatives).
219. Topographic and functional classifications of the nervous system. Central nervous system divisions.
220. The structural unit of the nervous system. Types of neurons and their topography.
221. Types of nerve endings.
222. The functional unit of the nervous system. Simple and complex reflectory arches.
223. External structure of the spinal cord, topography of the spinal cord segments.
224. Morphologic and functional characteristics of the grey matter of the spinal cord.
225. Topography of conducting pathways in the spinal cord fascicles.
226. Meninges of the spinal cord. Intermeningeal spaces. Cerebrospinal fluid outflow.
227. Meninges of the brain. Intermeningeal spaces. Formation, circulation and outflow of the cerebrospinal fluid.
228. The brainstem, its parts and their development.
229. Characteristics of the cranial nerve nuclei located in the brain stem.
230. Medulla oblongata, its external and internal structure.
231. Pons, its external and internal structure.
232. Cerebellum, its external and internal structure.
233. Ancient, old and new cerebellum.
234. Peduncles of the cerebellum.
235. Psrojection of cranial nerves nuclei onto the rhomboid fossa.
236. Rhomboid fossa. Projection of cranial nerves nuclei onto the rhomboid fossa.
237. IV ventricle, its walls and connections.
238. Midbrain, its external structure, the tectum of the midbrain.
239. Internal structure of the peduncles of the midbrain.
240. Parts and external structure of diencephalon.
241. Internal structure of diencephalon. Sensory,and vegetative subcortical centers.
242. Epithalamus.
243. The walls of the third ventricle, its connections.
244. The white matter of the cerebral hemispheres.
245. Brain commissures.
246. The lateral ventricles of the brain, their parts, walls, and connection with the third ventricle.
247. Basal nuclei of the brain hemispheres. Strio-pallidal system.
248. Olfactory brain. Limbic system.
249. Limbic system.
250. The brain meninges. Sinuses of the dura mater.
251. Production, circulation and outflow of the cerebrospinal fluid.
252. Primary, secondary and tertiary sensory and motor centersof the cerebral hemispheres cortex.
253. Cortical centers of language.
254. Relief of the medial and inferior surfaces of the cerebral hemispheres. Localization of the cortical ends of analyzers.
255. Localization of cortical ends of analyzers in the cortex of the parietal lobe.
256. Localization of cortical ends of analyzers in the cortex of the temporal lobe.

257. Localization of cortical ends of analyzers in the cortex of the frontal lobe.
258. Classification and general characteristics of conducting pathways.
259. Propioceptive pathways of the cerebellar direction: anterior and posterior spinal-cerebellar pathways (Flexig's and Gowers's tracts).
260. Propioceptive pathways of the cortical direction (tract of Burdach and Gaulle).
261. The pathways of touch and pressure, pain and temperature sensitivity (Edinger tract).
262. General sensory pathways from the head and neck.
263. Anterior and lateral cortical-spinal pyramidal pathways.
264. Cortical-nuclear pathway (name all motor nuclei of cranial nerves that contain the second neuron of the pathway).
265. The 7-neurons extrapyramidal pathway.
266. The 6-neurons extrapyramidal pathway.
267. The middle longitudinal fasciculus.
268. Development of eye and optic nerve.
269. Blood supply and innervation of the eyeball.
270. Eyeball coats (layers).
271. The accommodation apparatus of the eye.
272. Refractive components of the eye: the cornea, the eye chamber fluid (production, circulation, outflow), the lens, the vitreous body.
273. Skeletal muscles of the eye, their innervation and blood supply.
274. The lacrimal apparatus.
275. Structure of retina.
276. Conducting pathways of the visual analyzer.
277. The external ear. Anatomy of the middle ear: tympanic cavity walls, openings, auditory bones, their connections, auditory tube.
278. Blood supply of the middle ear.
279. Blood supply and innervation of the external ear.
280. Bony labyrinth, its parts and structure.
281. Membranous labyrinth, its parts and structure. The spiral organ (organ of Corti).
282. Conducting pathways of the auditory analyzer.
283. Conducting pathways of the vestibular analyzer.
284. The organ of taste. Conducting pathway of the taste analyzer.
285. Skin and its derivatives. Mammary gland.
286. The organ of smell. I pair of cranial nerves. The conducting pathways of the olfactory analyzer.
287. Cranial nerves - III, IV, VI pairs, areas of innervation.
288. The 1st branch of the V pair of cranial nerves, branches, regions of innervation
289. The 2nd branch of the V pair of cranial nerves, branches, regions of innervation.
290. The 3rd branch of the V pair of cranial nerves, branches, regions of innervation.
291. Nervus petrosus major.
292. Chorda tympani, composition of fibers and regions of innervation.
293. Facial nerve, regions of innervetion.
294. Vegetative ganglia of the head, their topography, nerves, that are interrupted in them, postganglionic fibers.
295. IX pair of the cranial nerves, composition of fibers, ganglions, and regions of innervation.
296. Branches of the X pair of cranial nerves on the head and neck, regions of innervation.
297. Thoracic and abdominal branches of the X pair of the cranial nerves, regions of innervation.
298. XI and XII pairs of the cranial nerves, regions of innervation.
299. Large and small circulation circles. Placental (fetal) circulation.
300. General anatomy of blood vessels. Magistral, extraorganic and intraorganic blood vessels.
301. Microvasculature network.
302. Lymphatic system, its eneral characteristics.
303. The thoracic duct, its roots, topography, the place of confluence into the venous system.
304. Right lymphatic duct.
305. Lymph nodes and vessels of head and neck.
306. Lymphatic vessels and nodes of thoracic cavity.
307. Lymphatic vessels and nodes of abdominal and pelvic cavities.

308. Lymphatic vessels and nodes of the upper limb.
309. Lymphatic vessels and nodes of the lower limb.
310. Aorta, its parts. The branches of the aortic arch.
311. Aortic arches of an embryo and their derivatives.
312. Internal carotid artery, regions of its branching. Differences between external and internal carotid artery in the neck region.
313. External carotid artery, its topography, the anterior group of branches, areas of blood supply.
314. External carotid artery, its topography, middle and posterior groups of branches, areas of blood supply.
315. Maxillary artery.
316. Superficial temporal artery.
317. Internal carotid artery, its topography and branches.
318. Blood supply of the brain.
319. Subclavian artery, its topography, branches, regions of branching.
320. Blood supply of the spinal cord.
321. The thoracic aorta, its branches and areas of blood supply.
322. Abdominal aorta, its parietal and paired visceral branches.
323. Unpaired visceral branches of the abdominal aorta.
324. Axillary artery, its topography, branches, regions of branching.
325. Brachial artery, its topography, branches, regions of branching.
326. Ulnar artery.
327. Radial artery.
328. Arterial net of the elbow.
329. Arterial net of the wrist.
330. Arterial arches of the hand.
331. Common, external and internal iliac arteries, regions of their branching.
332. Femoral artery, its topography and branches.
333. Popliteal artery, its topography and branches.
334. Blood supply of the knee joint.
335. Anterior tibial artery: topography, branches, regions of supply.
336. Bosterior tibial artery: topography, branches, regions of supply.
337. Arteria dorsalis pedis: topography, branches, regions of supply.
338. Plantar arteries: topography, branches, regions of supply.
339. Superior vena cava, its formation, topography, and tributaries.
340. Main stages of magistral veins development.
341. Internal jugular vein, its topography, and extracranial tributaries.
342. The internal jugular vein, its topography, and intracranial tributaries.
343. External and anterior jugular veins, their opography, and tributaries. Jugular venous arch.
344. Venous anastomoses of head.
345. Azygos and hemiazygos veins.
346. Veins of the upper limb.
347. The veins of the lower limb.
348. Inferior vena cava, its formation, topography, and tributaries.
349. Pelvic veins.
350. Portal vein, its formation, topography, and tributaries.
351. Porto-caval anastomoses.
352. Cava-caval anastomoses.
353. Posterior branches of the spinal nerves, their characteristics and areas of innervation.
354. Formation of the somatic plexuses. Thoracic nerves.
355. Cervical plexus; its formation, topography, areas of innervation.
356. Short branches of the brachial plexus, theitareas of innervation.
357. Long branches of the brachial plexus, theitareas of innervation.
358. Lumbar plexus; formation, topography, branches, areas of innervation.
359. Short branches of the sacral plexus, areas of innervation.
360. Long branches of the sacral plexus, areas of innervation.
361. The general scheme of the structure and function of the autonomous (vegetative) nervous system.
362. Central and peripheral divisions of the sympathetic nervous system.

363. Central and peripheral divisions of the parasympathetic nervous system.
364. Differences in the structure of peripheral parts of the sympathetic and parasympathetic nervous systems. Peculiarities of autonomic reflectory arches.
365. Cervical part of the sympathetic trunk, its topography, nodes, and branches.
366. Thoracic part of the sympathetic trunk, its topography, nodes, and branches.
367. Lumbar part of the sympathetic trunk, its topography, nodes, and branches.
368. Sacral part of the sympathetic trunk, its topography, nodes, and branches.
369. Autonomous (vegetative) nervous plexuses of the abdominal cavity. Abdominal (solar) plexus.
370. Superior and inferior mesenteric plexuses.
371. Superior and inferior hypogastric plexuses.