Questions for final test for students 3 courses of English-speaking groups for specialty 7-07-0911-01 «General Medicine»

1. What is nature of x-rays?
2. What is nature of gamma rays?
3. Which of the following descriptions of electromagnetic radiation photons will be the most penetrating?
4. The wavelength of an x-ray photon is commonly expressed in units of angstroms. An angstrom is equivalent to
5. Ionization of matter occurs at the structural level of the
6. Which of following is a factor that differs between X-ray and gamma rays?
7. What is the direction of the flow of electrons in a x-ray tube?
8. Which unit of measurement would be most appropriate for stating the quantity of radiation exposure as measured by an ionization chamber?
9. Which of the following are considered types of ionizing radiation?
10. The unit of radiation exposure known as the rad expresses the
11. What is the SI (International System of Units) equivalency for radiation absorbed dose?
12. The unit of radiation measurement used to indicate dose equivalent is
13. What is the SI equivalency for dose equivalence?
14. The monitoring and measuring of a person's exposure to radiation is termed
15. Which of the following may be used as personnel radiation monitoring devices?
16. The advantages of the film badge type of radiation monitor include:
17. The amount of radiation exposure received by a film badge is indicated by the measurement of
18. The cardinal rules of radiation protection recommend the use of
19. What is the material used to express shielding equivalents?
20. For a given examination, dose to which anatomic structure will be the greatest?
21. The radiation protection philosophy that promotes the use of the least amount of radiation possible for medical imaging is termed
22. Which type of cell is most sensitive to irradiation?
23. The primary purpose for using personnel monitors is
24. The majority of the radiation survey devices, such as the G-M counter, detect radiation based on the ability of x-rays to cause
25. Which area of radiation dose measurement is most frequently used when

referring to a patient's dose?

26. By nature ultrasound is
27. Ultrasound is sound the frequency of which not less than
28. The physical basis of generating ultrasonic waves is
29. Physical basis for registration of ultrasound waves is
30. The average speed of propagation of ultrasound in soft tissues is
31. Ultrasound propagation speed depends mainly
32. Medical ultrasound systems typically use frequency
33. Direct piezoelectric effect
34. The reverse piezoelectric effect is
35. The echo-free structure in the human body when scanning in the B-mode can be
36. The echo-positive structure (echo-producing echogenic, hyperechogenicity) in the human body when scanning in the B-mode is
37. Specify the patient's preparation for the ultrasound of the abdomen and pelvis minor is
38. What is a contraindication for ultrasound diagnostics
39. For examination of the abdomen and pelvis in adults is used transducer with a frequency of
40. Standard for examination of the abdomen and pelvic adult uses an electronic multielement transducer
41. To examination the thyroid uses a transducer with a frequency
42. Standard for heart examination uses a transducer
43. For a standard examination of the thyroid gland in adults uses a transducer
44. Ultrasonography has high diagnostic efficiency in the study:
45. US has significant limitations in the study
46. A-mode signal registration is
47. B-mode signal registration is
48. M-mode signal registration is
49. Color Doppler is
50. Resolution ultrasonic device increases
51. Scanning depth ultrasonic device increases
52. The Doppler effect is
53. Specify ultrasound signs of liver cysts
54. Under standard conditions chololith rendered as:
55. The echogenicity of the thyroid tissue normally have

56. Where most often visualized by ultrasound esophagus?
57. Structure intact liver parenchyma by ultrasound is represented as
58. By ultrasound thickness measurement correctly methodically adult right lobe of the liver is
59. By ultrasound thickness measurement correctly methodically adult left lobe of the liver is
60. CT is the basis of the method
61. Advantages of CT (CT vs. radiography) are
62. MRI is the basis of the method
63. In accordance with the scale in CT Hounsfield units (HU) air has a density
64. In accordance with the scale in CT Hounsfield units (HU) a cortical bone has a density
65. In accordance with the scale in CT Hounsfield units (HU) water has a density
66. The magnetic field strength measured in units
67. 32-slice CT scanner is characterized by
68. Radiation exposure during CT is
69. Radiation exposure during MRI is
70. When T1-WI (MRI) adipose tissue is the signal
71. When T2-WI (MRI) adipose tissue is the signal
72. When T1-WI (MRI) water is the signal
73. When T2-WI (MRI) water is the signal
74. Absolute contraindications for MRI are
75. Relative contraindications for MRI are
76. Advantages of MRI (MRI vs. CT) are
77. Disadvantages of MRI (MRI vs. CT) are
78. Advantages of CT (CT vs. MRI) are
79. Disadvantages of CT (CT vs. MRI) are
80. Absolute contraindications for radiotherapy of non-neoplastic diseases include:
81. Absolute contraindications to radiation therapy of malignant diseases include:
82. Biological methods to protect the surrounding tissue are:
83. Cells having the greatest radiosensitivity are:
84. Cells having the highest radioresistance are:
85. Chronic dermatoses and some other skin diseases are include:
86. Degenerative diseases of the osteoarticular system are include:
87. Endocrine diseases are include:

88. General principles of radiotherapy of malignant tumors are:
89. Hyperplastic inflammatory diseases of the nervous system are include:
90. Indications for radiotherapy are:
91. Indications for radiotherapy of non-neoplastic diseases include:
92. On examination held prior radiotherapy, reveal:
93. Physical methods of protecting the surrounding tissue are:
94. Principles of radiation therapy of non-neoplastic diseases include:
95. Radiation therapy is the treatment of choice for diseases such as:
96. Radiosensitivity of tumor depends on:
97. Relative contraindications to radiation therapy of malignant diseases include:
98. Relative contraindications to radiation therapy of non-neoplastic diseases include:
99. The combined treatment is
100. The complex treatment is
101. The concomitant treatment is
102. The purpose of palliative course of radiotherapy is:
103. The purpose of radical course of radiotherapy is:
104. The purulent surgical pathological processes are included:
105. T umors with high radiosensitivity are:
106. Tumors with low radiosensitivity are:
107. Tumors with moderate radiosensitivity are:
108. What is radiotherapy interval?
109. What kind of radiations are usedin the contactradiotherapytechniques?
110. What kind of radiations are usedin the long distance radiotherapy techniques?
111. Which factors contribute to an increase in the radiotherapy interval?
112. Features of X-rays are:
113. In what year Wilhelm Conrad Roentgen discovered a new form of radiation (x-rays):
114. In which areas of specialty imaging is fluoroscopy (roentgenoscopy) commonly employed?
115. Method computed tomography (CT) is a mode of imaging in which:
116. Method magnetic resonance imaging (MRI) is a mode of imaging in which:
117. Method of conventional tomography is a mode of imaging in which:
118. Method of ultrasound diagnostic is a mode of imaging in which:

119. The factors influencing on the ability of X-rays to penetrate object:

120. The material of choice for the construction of a long-lasting filament is:

121. The technique allows to obtain a dynamic image anatomical structures is:

122. The wavelength of an x-ray photon is commonly expressed in units of angstroms. An angstrom is equivalent to:

123. What is advantage of the rotating target disk over the stationary target?

124. List the main components of the x-ray

125. What is the direction of the flow of electrons in the x-ray tube?

126. What is the nature of x-rays?

127. Which imaging technique allows the part of interest to be viewed in sections?

128. Which imaging technique does not use ionizing radiation?

129. Which imaging technique is the basic method of X-ray diagnostic:

130. Which imaging technique is the special method of X-ray diagnostic:

131. Which of following is a factor that differs between X-ray and gamma rays?

132. Wich of the following descriptions of electromagnetic radiation photons will be the most penetrating?

133. X-ray film consists of:

134. Define the method of irrigoscopy

135. Select the contrast agentsfor carotid angiography examination

136. Select the contrast agentsfor excretory urography research

137. Select the contrast agentsfor fistulography

138. Selectall groups and all types of contrast agents which can be used for bronchography research:

139. Select all groups and all types of contrast agents which can be used for bronchography research:

140. Select all groups and types of contrast agents which can be used for carotid angiography:

141. Select all groups and types of contrast agents which can be used for excretory urography research:

142. Select all groups and types of contrast agents which can be used for fistulography:

143. Select oil-soluble radiographic contrast agents

144. Select radiographic contrast agents with the high atomic weight

145. Select radiographic contrast agents with the low atomic weight

146. Select water-soluble radiographic contrast agents

147. Specify all groups of X-ray techniques, which include bronchography research:

148. Specify all groups of X-ray techniques, which include carotid angiography

149. Specify all groups of X-ray techniques, which include the method of excretory urography research:

150. Specify all groups of X-ray techniques, which include the method of fistulography

151. The most common contrast material used for gastrointestinal examination is

152. The most common contrast material used for urinary tract examination is

153. The most common contrast material used for vascular system examination is

154. What is the purpose of bronchography research?

155. What is the purpose of carotid angiography examination?

156. What is the purpose of excretory urography research?

157. What is the purpose of fistulography examination?

158. What type of contrast media are commonly used for enhancement during CT imaging?

159. Which of the following is an advantage of using a nonionic, water-soluble iodinated contrast medium over its ionic counterpart?

160. What is the purpose of producing X-ray examination in traumatic injuries of the bone?

161. List the main radiographic signs (symptoms) of a fracture?

162. What are the types of the bone fragment displacement distinguished?

163. Joint Space Changes can be the following

164. Define the term "Luxation"

165. Define the term "Subluxation"

166. The injuries of the musculoskeletal system include

167. Call the main types of the bone fractures according passing fracture line

168. Call the directions of the bone fragment displacement by the side dislocations?

169. List the main X-ray signs of the green-stick fractures of the long bone

170. What elements of bones and joints form the so-called «X-ray joint space»?

171. Call the main types of bone fragment displacement by the longitudinal dislocation

172. Call the main radiological symptoms of the traumatic epiphysiolysis

173. What is the early term for the appearance of bone callus of the long bone in children?

174. What is the early term for the appearance of bone callus of the long bone in adults?

175. What are the most frequent causes of formation of "false joint"?

176. Call the specific types of bone fractures in children:

177. What are the features of fractures in the elderly?

178. Call radiological signs of pathological fractures:

179. Specify radiographic sign of the simple bone fracture:

180. Specify the radiographic signs of complex fractures of the bones:

181. List the possible complications after the injury of the bones:

182. Specify the radiographic signs of the pseudoarthrosis (false joint)

183. Call the main radiological symptoms of the impacted fracture in the long tube bone

184. Call the main radiological symptoms of the compression fracture of the vertebral body

185. Define the process osteoporosis

186. Define the process osteosclerosis

187. Call the main radiologicalsigns of the bone osteoporosis:

188. Call the main radiologicalsigns of the bone osteosclerosis

189. Call the main radiologicalsigns of the bone destruction

190. Call the part of the long tubular bone in which periosteal reaction is the most active

191. Call the part of the long tubular bone in which periosteal reaction is the less active

192. Call the part of the long tubular bone in which the periosteal reaction is absent

193. In what term is it possible to detect early radiographic signs of osteomyelitis in the long bone?

194. Call the main radiological symptoms of acute osteomyelitis:

195. Call the main radiological symptoms of chronic osteomyelitis:

196. Call the more typically periosteal reactions of acute and chronic osteomyelitis

197. Call the more typically periosteal reactions of osteosarcoma

198. Call the main radiological symptoms of osteosarcoma (osteoblastic type)

199. Call the main radiological symptoms of osteosarcoma (osteolytic type)

200. Call the main radiographic signs of tuberculous spondylitis ("postarthritic" stage)

201. What are the main radiographic signs of joint ankylosis?

202. Point the most frequent location of osteomyelitis in the long tubular bone

203. Point the most frequent location of tuberculosis process in the long tubular bone

204. Indicate the main radiographic signs of the benign bone neoplasm

205. Indicate the main radiographic signs of the bone malignant neoplasm

206. Call the main radiographic signs of the joint tuberculous process in the pre-arthritic stage

207. Call the main radiographic signs of the joint tuberculous process in the arthritic stage

208. Call the main radiographic signs of the joint tuberculous process in the post-arthritic stage

209. List the main radiographic signs of the enchondroma

210. List the main radiographic signs of the ecchondroma

211. Call the part of the long tubular bone in which periosteal reaction is the less active

212. Advantages of chest X-ray (compared with roentgenoscopy):

213. Describe the main radiological signs of acute (miliary) haematogenous dissemination:

214. Determine the numberof pulmonary segmentsin the middle lobe of lung:

215. Determine the numberof pulmonary segmentsin the right lower lobe?

216. Determine the numberof pulmonary segmentsin the upper lobe of the left lung?

217. Determine the radiological signs of infiltrative process in the lungs:

218. Determine the size of focal shadows: .

219. MAIN radiological signs of atelectasis of the lung tissue:

220. MAIN radiological signs of pulmonary emphysema:

221. Organs located in the anterior mediastinum:

222. Radiographic signs of diffuse exudative pleurisy:

223. Radiographic signs of encysted interlobar pleurisy:

224. Radiographic signs of lobar pneumonia:

225. Radiographic signs of lung abscess:

226. Radiographic signs of the central lung cancer:

227. Radiographic signs of the hydropneumothorax:

228. Specify localization metallic of foreign body in the airway on direct x-ray with respect to the median line:

229. Specify the characteristics of the outline of the diaphragm in the norm:

230. Specify the direction of displacement of the mediastinum shadow on inspiration in case of contact of a foreign body in the right upper lobe bronchus:

231. The basic techniques of X-ray studies of the respiratory system:

232. Types of localization of lung cancer:

233. What are costophrenic sines distinguished X-ray examination of the chest organs?

234. What are morphological elements of lungs participate in the formation of lung picture on x-ray:

235. What are the causes lead to increased pulmonary pattern?

236. What are the serial number of the apical segment of the inferior lobe of the lung?

237. What are the serial number of the posterior segment of the right upper lobe?

238. What diagnostic methods can be used to complement radiography for lung research?

239. What is the diagnostic pneumothorax?

240. Which parts are distinguished in structure of the lung root by the X-ray examination?

241. X-ray techniques, that allow to evaluate condition of the walls and the inner lumen of the bronchi:

242. Call preparation of the patient for IRRIGOSCOPY:

243. Call the MAIN radiological symptoms of the BENIGN tumor of a stomach:

244. Define a radiological TECHNIQUE which is necessary for diagnosis of perforated ulcer:

245. Define a radiological TECHNIQUE which is necessary for diagnostics of acute intestine obstruction:

246. Existence of a large diverticulum of a esophagus is dangerous:

247. How many contrast is used for the first phase of research of a esophagus:

248. In what cases does free gas in an abdominal cavity come under the right dome of a diaphragm:

249. List the radiological methods applied to research of a digestive tract:

250. Radiological SIGN of the DIVERTICULUM of the esophagus:

251. Specify contrast substances for contrasting of a digestive tract of the NEWBORN:

252. Specify DIRECT radiological symptoms of STOMACH ULCER:

253. Specify phases at contrast research of a stomach:

254. Specify radiological signs of acute intestine obstruction:

255. Specify radiological symptoms of perforated ulcer:

256. Specify radiological symptoms of the MALIGNANT tumor of a esophagus:

257. Specify the correct DIRECTION of a bunch of X-rays for detection of perforated stomach ulcer:

258. DIRECTION of X-rays for examination of perforated ulcer is:

259. Specify the correct sequence of phases of an irrigoscopy:

260. Phases of irrigoscopy are:

261. Specify the direction of folds of a mucous membrane of a esophagus in norm:

262. The direction of mucous membrane folds in esophagus in norm:

263. Specify the DIRECTION of X-rays necessary for identification of signs of acute INTESTINAL IMPASSABILITY:

264. The DIRECTION of X-rays for identification of acute intestine obstruction is:

265. Specify the MAIN radiological SIGNS arising after a chemical BURN of a esophagus:

266. The MAIN radiological SIGNS arising after a chemical BURN of a esophagus:

267. Specify the radiological INDICATORS characterizing MORPHOLOGICAL features of digestive organs:

268. Than barium sulfate hit in an abdominal cavity is dangerous:

269. Barium sulfate in abdominal cavity can cause:

270. What contrast is used for research of a stomach at adults:

271. What contrast is used for research of a stomach:

272. What contrasts can be used for research of a stomach:

273. What is necessary training of the patient for research of a esophagus:

274. Preparation of the patient for research of esophagus:

275. What is the double contrasting of a stomach?

276. What is the esophagus atresia?

Testing the level of knowledge on theoretical questions is carried out in the form of computer testing

Practical part: describe the presented results of radionuclide studies of the thyroid gland, liver, kidneys and X-ray studies of the skeletal system, chest and gastrointestinal tract (six practical research).

The list of questions was approved at a meeting of the department, protocol No. 1 dated 28.08.2025.

Head of the department
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