

## **The list of theoretical questions for preparation of students for the final modular control.**

1. Methods and means of protection when working with sources of ionizing radiation. Species, individual and age types of radiosensitivity.
2. Maximum allowable doses (MPI) of human exposure and various categories of personnel. Dose determination methods. Types of dosimeters. Methods for determining radioactivity. Types of radiometers.
3. Classification of methods of radiation therapy. Basic principles of radiation therapy.
4. Characteristics of the method of long-distance radiotherapy. Devices. Indications and contraindications to use. Types of long-distance radiotherapy. Physical and technical conditions of operation of devices. Assignment of tubes and filters.
5. Indications for radiation therapy for non-neoplastic diseases (inflammatory, dystrophic).
6. Prevention of radiation reactions and injuries.
7. Formation and basic properties of X-rays. Structure and principle of operation of an X-ray tube.
8. The main methods of radiological examination: radioscopy and radiography, their advantages and disadvantages.
9. Classification of X-ray contrast agents, their application in X-ray diagnostics. Complications arising from the use of X-ray contrast agents.
10. Physical and technical bases of computer tomography, diagnostic possibilities of the method.
11. Physical and technical bases of magnetic resonance imaging, diagnostic capabilities of the method.
12. Pulmonary pattern, its substrate. Changes in the lung pattern.
13. Roots of the lungs: anatomical substrate and radiological picture. Pathological changes of roots.
14. X-ray semiotics of lung diseases.
15. Annular shadows in the lungs, their differential diagnosis.
16. X-ray diagnosis of pneumonia and their complications.
17. X-ray diagnosis of pleurisy.
18. Classification of pulmonary tuberculosis. X-ray diagnosis of forms of pulmonary tuberculosis.
19. X-ray diagnosis of diffuse dissemination in the lungs.
20. Immediate radiological diagnosis of pathology of the thoracic cavity: pneumothorax, hydropneumothorax, hydrothorax, atelectasis.

21. Classification of lung cancer. X-ray diagnosis of various forms of lung cancer. Central lung cancer, radiological and differential diagnosis, complications.
22. Normal radiological anatomy of the heart and large vessels. Arc of the heart in a straight front projection.
23. Methods of X-ray examination of the gastrointestinal tract and its normal radiograph.
24. Radiological signs of complications of gastric ulcer.
25. Gastric cancer, classification, clinical and radiological signs.
26. Chronic gastritis, classification, clinical and radiological signs.
27. Methods of X-ray examination of the colon, normal X-ray anatomy of the colon.
28. Radiological signs of tumors of the colon.
29. Methods of radiological diagnosis of diseases of the liver, gallbladder, bile ducts and pancreas.
30. Methods of radiological diagnosis of diseases of the kidneys, ureters, bladder.
31. Complex radiological diagnosis of urolithiasis.
32. Radiological signs of bone fractures.
33. Features of X-ray imaging of bones. Age features of fractures.
34. X-ray diagnosis of osteomyelitis. X-ray diagnosis of primary chronic forms of osteomyelitis.
35. X-ray diagnosis of tuberculosis of bones and joints. Tuberculous spondylitis, its X-ray diagnosis.
36. Classification and radiological diagnosis of bone tumors.
37. Methods of radiological examination of the thyroid gland, the sequence of their application, indications.