**WEEK 1 - BASIC PRINCIPLES OF RADIOLOGY PHYSICS, PRINCIPLES OF WORK OF RADIOLOGY MACHINES**

1. What are different intensities you can see in a radiograph?
2. What is contrast?
3. Explain spatial resolution
4. What are the parts of an X-ray tube
5. What are the parts of an X-ray machine
6. What are the electrodes of an X-ray tube, explain their polarities
7. Explain the differences and similarities between X and gamma radiation
8. Where in the X-ray tube are the X-rays formed?
9. When were X-rays discovered and by whom?
10. In what ways can X-rays and matter interact?
11. What are different types of medical X-ray machines?
12. Explain Bremsstrahlung
13. What is the purpose of a command console and what parameters of the X-ray tube can we adjust before filming?
14. Define X-rays
15. Define electromagnetic radiation and provide examples of different types
16. Explain the relation between photon energy and wavelength
17. What factors affect the ability of X-ray radiation to penetrate tissues?
18. What is the focus of an X-ray tube
19. What is the central beam and why is it important?
20. When do we call an opacity “homogeneous”?
21. What are the mandatory markings every radiograph should have?
22. Explain different uses for X-ray radiation
23. What does AP and PA mean in radiography?
24. What is scatter radiation and how do we protect our patients and personnel from it?
25. What is fluoroscopy?
26. Why are some tissues “black” and some “white” on a radiograph?
27. Explain artifacts in radiography
28. What are opacities on a radiograph?
29. What are lucencies on a radiograph?
30. Define X-ray image