

Questions to prepare for the exam of " Basic principles of Modern Physics "

Part № 1

1. History of the nuclear physics.
2. Types of nuclear reactions.
3. Types of physical fundamentals.
4. Production of electrical energy.
5. Production of heat energy.
6. Basic nuclear-physical concepts.
7. Nuclear Reactors.
8. The main structural units of hulls and process equipment
9. Requirements for radiation resistance of structural materials and fuel.
10. Nuclear-energy transport installations.
11. Nuclear power transport installations.
12. Nuclear energy in the world.
13. Conditions and prospects of nuclear energy.
14. Nuclear technologies.
15. The main types of nuclear reactors

Part № 2

16. The basic nuclear-physical concepts.
17. Nuclear-propulsion systems in space.
18. Irradiated nuclear fuel of radioactive waste management.
19. Technical practice of radioactive waste management.
20. Irradiated nuclear fuel and technical practice of radioactive waste management.
21. Prospects of the atomic industry of Kazakhstan.
22. The main types of accelerators of charged particles.
23. The main types of accelerators.
24. Application of accelerators in science and industry.
25. Radiation and its impact on the living organism.
26. Radioactivity.
27. Natural and artificial radioactivity
28. Radioactive Isotopes.
29. Ionizing Radiation.
30. Nuclear technologies.

Part № 3

31. Alpha radiation.
 1. Beta radiation.
 2. Gamma radiation.
 3. Use of nuclear technology for peaceful purposes.
 4. Development of nuclear technology in Kazakhstan.
 5. Radioactive isotopes in medicine, in agriculture
 6. Radioactive isotopes in medicine.
 7. Radioactive isotopes in agriculture.
 8. Nuclear energy in the world.
 9. Application of accelerators in science and industry
 10. The main structural units of hulls and process equipment
 11. The main types of accelerators.
 12. Radiation and its impact on the living organism.
 13. Basic nuclear-physical concepts.
 14. Application of accelerators in science and industry.
 15. Ionizing Radiation.