

## Questions for Nuclear Materials Science Exam

1. Bonding force and energy
2. Ionic bond
3. Covalent bond
4. Metallic bond
5. Secondary bonding
6. Miller indices
7. Lattice systems
8. Symmetry structures
9. Allotropy and polymorphism
10. Microdefects
11. Macrodefects
12. Eutectic systems. Gibbs rule. Calculation of concentration.
13. Phase diagrams. Cooling curves.
14. Visual testing
15. Dye penetrant testing
16. Eddy current testing
17. Magnetic particle testing
18. X-ray testing
19. Ultrasonic testing
20. Basic components of nuclear power plant
21. PWR
22. CANDU
23. BWR
24. FBR
25. Nuclear fuel types and materials
26. Cladding materials
27. Control rod materials
28. Poisoning materials
29. Reactor core materials
30. Steels for nuclear application: specifics and characteristics