

1. Chemistry belongs to ... sciences: a) applied b) humanitarian c) natural d) synthetic
2. The areas of study of chemistry are: a) elementary particles b) substances, their properties and transformations c) models of real bodies d) transmutation of substances
3. The sections of chemistry do not include: a) the study of quantum phenomena b) analysis of the effects of drugs on the body c) the study of the chemical composition of living organisms d) the science of the distribution of elements in rocks
4. Chemical analysis that allows you to accurately determine the numerically expressed content of a substance: a) qualitative b) organoleptic c) theoretical d) quantitative
5. An atom is the smallest ... particle of an element: a) visible through an optical microscope b) having a charge c) indivisible d) bearing unique properties
6. The composition of an atom does not include: a) photons b) nucleons c) electrons d) quarks
7. Atoms of one element are charged: a) negatively b) positively c) differently d) neutral
8. An element with the electronic configuration  $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$  is: a) a non-metal b) a metal with pronounced basic properties c) an amphoteric metal d) a noble gas
9. In which row are the elements arranged in order of increasing electronegativity: a) H Al Si S Br b) Li Na K Rb c) Ge Ga Ca K d) At Te PC
10. What property of an atom does not increase in a period: a) the number of electrons in the last layer b) electronegativity c) atomic number d) atomic radius
11. Boron with atomic mass 11 in relation to a common element is: a) allotrope b) isotope c) ion d) isomer
12. How do the nuclei of isotopes of one element differ: a) number of neutrons b) charge c) number of protons d) density
13. What does the concept of mole reflect: a) the mass of a molecule b) the amount of a substance containing  $6.022 \cdot 10^{23}$  particles c) the volume of a substance under normal conditions d) the number of particles in a carbon isotope
14. Find the element with atomic mass 32: a) O b) Mg c) S d) Cl
15. Molar mass is the ratio of: a) the mass of a substance to its volume b) the mass of a substance to its quantity c) the number of atoms of a substance to their mass d) the mass of the nucleus to its charge
16. The equivalence factor of orthophosphoric acid in the formation of a disubstituted salt will be equal to a)  $1/3$  b)  $2/3$  c)  $1/2$  d)  $1/4$
17. The simple substance is: H<sub>2</sub>O F<sub>2</sub>O KCl Mg
18. A complex substance with a molar mass: 58.5 g/mol is: a) H<sub>2</sub>O b) NaCl c) MgBr d) Al<sub>2</sub>O<sub>3</sub>
19. A simple substance with an atomic crystal lattice is a) magnesium chloride b) copper sulfate c) calcium d) diamond
20. Binary substances include: a) volatile hydrogen compounds b) bases c) salts of oxygen-containing acids d) oxygen-containing acids