Some basic concepts of chemistry

1. Which of the following is a physical change?
A) Rusting of iron
B) Burning of paper
C) Melting of ice
D) Cooking of rice

2. Which of the following is a compound?
A) Air
B) Oxygen
C) Water
D) Brass

3. The smallest particle of an element that retains its chemical properties is:
A) Molecule
B) Atom
C) Ion
D) Proton

4. Which subatomic particle carries a negative charge?
A) Proton
B) Neutron
C) Electron
D) Nucleus

5. The number of protons in an atom is known as its:
A) Mass number
B) Atomic number
C) Valency
D) Isotope number

6. What is the SI unit of amount of substance?
A) Gram
B) Mole
C) Kilogram
D) Atom

7. Which of the following is a mixture?
A) Carbon dioxide
B) Pure water
C) Salt
D) Milk

8. The chemical formula of common salt is:
A) NaCl
B) KCl
C) Na2CO3
D) NaOH

9. Which of the following is a diatomic molecule?
A) CO2
B) H2O
C) O2
D) NH3

10. The relative atomic mass of an element is measured in:
A) Grams
B) Kilograms
C) Atomic mass units (amu)
D) Moles

11. The law of conservation of mass was proposed by:
A) John Dalton
B) Antoine Lavoisier
C) Robert Boyle
D) Niels Bohr

12. Which of the following elements is a noble gas?
A) Hydrogen
B) Oxygen
C) Helium
D) Nitrogen

13. Which of the following has both metallic and non-metallic properties?
A) Carbon
B) Silicon

C) Iron
D) Sulfur

14. Which one is NOT a postulate of Dalton's atomic theory?
A) Atoms are indivisible
B) Atoms of the same element are identical
C) Atoms are created and destroyed in chemical reactions
D) Atoms combine in simple whole number ratios

15. Which of the following quantities is not a fundamental unit in the SI system?
A) Second
B) Kelvin
C) Mole
D) Liter

---

16. What is Avogadro's number?
A) 6.02×10^{22}
B) 6.02×10^{23}
C) 6.02×10^{24}
D) 3.02×10^{23}

17. The mass of 1 mole of oxygen gas (O_2) is:
A) 16 g
B) 32 g
C) 18 g
D) 14 g

18. What is the valency of carbon?
A) 1
B) 2
C) 3
D) 4

19. Which of the following is not an element?
A) Hydrogen
B) Silver
C) Brass
D) Neon

20. The periodic table is arranged in order of increasing:

A) Atomic mass

B) Number of neutrons

C) Atomic number

D) Molecular mass

ANSWERS-1.(C) 2.(C) 3.(B) 4.(C) 5.(B) 6.(B) 7.(D) 8.(A) 9.(C) 10.(C) 11.(B) 12.(C) 13.(B) 14.(C) 15.(D) 16.(B) 17.(B) 18.(D) 19.(C) 20.(C)