Types of bonding and Forces in solid

1. In a crystal cations and anions are held together by

(a) Electrons

(b) Electrostatic forces

(c) Nuclear forces

(d) Covalent bonds

2. In the following metals which one has lowest probable interatomic forces

(a) Copper (b) Silver

(c) Zinc (d) Mercury

3. In solid argon, the atoms are held together by

(a) Ionic bonds

(b) Hydrogen bonds

(c) Vander Waals forces

(d) Hydrophobic forces

4. Which one is the highest melting halide

(a) $NaCl$ (b) $NaBr$

(c) NaF (d) NaI

5. The enhanced force of cohesion in metals is due to

(a) The covalent linkages between atoms

(b) The electrovalent linkages between atoms

(c) The lack of exchange of valency electrons

(d) The exchange energy of mobile electrons

6. Which one of the following substances consists of small discrete molecules

(a) CO (b) Graphite

(c) Copper (d) Dry ice

7. Which of the following does not apply to metallic bond

(a) Overlapping valency orbitals

(b) Mobile valency electrons

(c) Delocalized electrons

(d) Highly directed bonds

8. In melting lattice, structure of solid

(a) Remains unchanged

(b) Changes

(c) Becomes compact

(d) None of the above

9. Which of the following has the highest melting point

(a) Pb (b) Diamond

(c) Fe (d) Na

10. In the formation of a molecule by an atom
(a) Attractive forces operate
(b) Repulsive forces operate
(c) Both attractive and repulsive forces operate
(d) None of these

11. Which has weakest bond
(a) Diamond (b) Neon (Solid)
(c) KCl (d) Ice

12. Which of the following exhibits the weakest intermolecular forces
(a) He (b) HCl
(c) NH_3 (d) H_2O

13. Glycerol has strong intermolecular bonding therefore it is
(a) Sweet (b) Reactive
(c) Explosive (d) Viscous

14. Among the following the weakest one is
(a) Metallic bond
(b) Ionic bond
(c) Van der Waal's force
(d) Covalent bond

15. Lattice energy of alkali metal chlorides follows the order
(a) $LiCl > NaCl > KCl > RbCl > CsCl$
(b) $CsCl > NaCl > KCl > RbCl > LiCl$
(c) $LiCl > CsCl > NaCl > KCl > RbCl$
(d) $NaCl > LiCl > KCl > RbCl > CsCl$

16. In the following which molecule or ion possesses electrovalent, covalent and co-ordinate bond at the same time
(a) HCl (b) NH_4^+
(c) Cl^- (d) H_2O_2

17. Both ionic and covalent bond is present in the following
(a) CH_4 (b) KCl
(c) SO_2 (d) $NaOH$

18. The formation of a chemical bond is accompanied by
(a) Decrease in energy
(b) Increase in energy
(c) Neither increase nor decrease in energy
(d) None of these

19. Chemical bond implies
(a) Attraction
(b) Repulsion
(c) Neither attraction nor repulsion

(d) Both (a) and (b)

20. Which of the following statements is true

(a) *HF* is less polar than *HBr*

(b) Absolutely pure water does not contain any ions

(c) Chemical bond formation take place when forces of attraction overcome the forces of repulsion

(d) In covalency transference of electron takes place

21. Which of the following statements is true about $[Cu(NH_3)_4]SO_4$

(a) It has coordinate and covalent bonds

(b) It has only coordinate bonds

(c) It has only electrovalent bonds

(d) It has electrovalent, covalent and coordinate bonds

22. Blue vitriol has

(a) Ionic bond

(b) Coordinate bond

(c) Hydrogen bond

(d) All the above

23. The number of ionic, covalent and coordinate bonds in NH_4Cl are respectively

(a) 1, 3 and 1 (b) 1, 3 and 2

(c) 1, 2 and 3 (d) 1, 1 and 3

24. Covalent molecules are usually held in a crystal structure by

(a) Dipole-dipole attraction

(b) Electrostatic attraction

(c) Hydrogen bonds

(d) Vander Waal's attraction