Covalent bonding

1. The valency of sulphur in sulphuric acid is
   (a) 2 (b) 4
   (c) 6 (d) 8

2. The number of electrons involved in the bond formation of N_2 molecule
   (a) 2 (b) 4
   (c) 6 (d) 10

3. The electronic configuration of four elements are given in brackets
   $L(1s^2, 2s^2 2p^1); M(1s^2, 2s^2 2p^5)$
   $Q(1s^2, 2s^2 2p^6, 3s^1); R(1s^2, 2s^2 2p^2)$
   The element that would most readily form a diatomic molecule is
   (a) *Q* (b)*M*
   (c) *R* (d)*L*

4. In covalency
   (a) Electrons are transferred
   (b) Electrons are equally shared
   (c) The electron of one atom are shared between two atoms
   (d) None of the above

5. Which compound is highest covalent
   (a) $LiCl$ (b) LiF
   (c) $LiBr$ (d) LiI

6. The nature of bonding in graphite is
   (a) Covalent (b) Ionic
   (c) Metallic (d) Coordinate

7. Which of the following substances has giant covalent structure
   (a) Iodine crystal
   (b) Solid CO_2
   (c) Silica
   (d) White phosphorus

8. With which of the given pairs CO_2 resembles
   (a) $HgCl_2$, C_2H_2 (b) $HgCl_2$, $SnCl_4$
   (c) C_2H_2, NO_2 (d) N_2O and NO_2

9. The electron pair which forms a bond between two similar non-metallic atoms will be
   (a) Dissimilar shared between the two
   (b) By complete transfer from one atom to other
   (c) In a similar spin condition
   (d) Equally shared in between the two

10. For the formation of covalent bond, the difference in the value of electronegativities should be
    (a) Equal to or less than 1.7
    (b) More than 1.7

(c) 1.7 or more
(d) None of these

11. Which type of bond is formed between similar atoms
(a) Ionic
(b) Covalent
(c) Coordinate
(d) Metallic

12. Covalent compounds are generally ..... in water
(a) Soluble (b) Insoluble
(c) Dissociated (d) Hydrolysed

13. Which one is the electron deficient compound
(a) ICl (b) NH_3
(c) BCl_3 (d) PCl_3

14. Which among the following elements has the tendency to form covalent compounds
(a) Ba (b) Be
(c) Mg (d) Ca

15. Silicon has 4 electrons in the outermost orbit. In forming the bonds
(a) It gains electrons
(b) It loses electrons
(c) It shares electrons
(d) None of these

16. Which of the following occurs when two hydrogen atoms bond with each others
(a) Potential energy is lowered
(b) Kinetic energy is lowered
(c) Electronic motion ceases
(d) Energy is absorbed

17. A bond with maximum covalent character between non-metallic elements is formed
(a) Between identical atoms
(b) Between chemically similar atoms
(c) Between atoms of widely different electronegativities
(d) Between atoms of the same size

18. Amongst the following covalent bonding is found in
(a) Sodium chloride
(b) Magnesium chloride
(c) Water
(d) Brass

19. Indicate the nature of bonding in diamond
(a) Covalent
(b) Ionic
(c) Coordinate
(d) Hydrogen

20. Octet rule is not valid for the molecule

(a) CO_2 (b) H_2O

(c) CO (d) O_2