



17. **Assertion (A)** : Generally metals lose electrons to form positive ions

**Reason (R)** : Metals are electronegative in nature

- a) A and R are correct, R is correct explanation of A
- b) A and R are correct and R is not correct explanation of A
- c) A is correct and R is incorrect
- d) A is incorrect and R is correct

18. Match the following

- |              |              |
|--------------|--------------|
| 1) Sodium    | p) $Mg^{2+}$ |
| 2) Magnesium | q) $S^{2-}$  |
| 3) Aluminium | r) $Na^+$    |
| 4) Sulphur   | s) $Al^{3+}$ |

19. Which of the following has electron configuration  $1s^2 2s^2 2p^6$

- a)  $Na^+$
- b)  $F^-$
- c)  $Ne$
- d)  $Mg^{2+}$

20. An element Na forms in ionic compound with another element Y.

Then what is the change on the ion formed by X?

21. What is formula of compound when  $A^{3+}$  ion reacts with  $B^{2-}$  ion?

22. Chlorine : Valence 1 : : \_\_\_\_\_ : valence 2

- |            |               |               |                |
|------------|---------------|---------------|----------------|
| i) Bromine | ii) Magnesium | iii) Sulphur  | iv) Calcium    |
| a) only I  | b) I and ii   | c) ii and iii | d) ii, iii, iv |

23. The ratio of coordination number of  $Na^+$  and  $Cl^-$  ions in face centre cubic lattice crystal of  $NaCl$  is

- a) 1 : 1
- b) 6 : 1
- c) 1 : 6
- d) 3 : 4

24. Match the following

- |                              |                        |
|------------------------------|------------------------|
| 1) two metal atoms           | p) ionic bond          |
| 2) Metal and non metal       | q) polar covalent bond |
| 3) Two similar non metals    | r) Metallic bond       |
| 4) Two dissimilar non metals | s) covalent bond       |

25. Who proposed valence shell electron pair repulsion theory ?

26. The shape and bond angle in ammonia molecule is

- |                                |                                  |
|--------------------------------|----------------------------------|
| a) Pyramidal, $104^{\circ}31'$ | b) Tetrahedral, $107^{\circ}48'$ |
| c) Pyramidal, $107^{\circ}48'$ | d) Tetrahedral, $104^{\circ}31'$ |

27. What are the number of lone pairs and bond pairs present in water molecule ?

28.  $1 \text{ \AA} : 10^{-10} :: 1 \text{ pm} : \underline{\hspace{2cm}}$

29. Find odd one

- |                        |                       |
|------------------------|-----------------------|
| a) $N_2$ – triple bond | b) $H_2$ -single bond |
| c) $O_2$ - double bond | d) $F_2$ -double bond |

30. The correct order of repulsions between electron pair is

- |                                  |                                  |
|----------------------------------|----------------------------------|
| a) $b.p-b.p > l.p-l.p > b.p-l.p$ | b) $l.p-l.p > b.p-l.p > b.p-b.p$ |
| c) $b.p-l.p > l.p-l.p > b.p-b.p$ | d) $l.p-l.p > b.p-b.p > b.p-l.p$ |

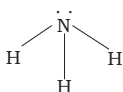
31. What is the number of covalent bonds present in methane ?

32.  $BeCl_2$  : Linear : : \_\_\_\_\_ : Tetrahedral

- |           |           |           |           |
|-----------|-----------|-----------|-----------|
| a) $BF_3$ | b) $CH_4$ | c) $H_2O$ | d) $NH_3$ |
|-----------|-----------|-----------|-----------|

33. What are number of  $\sigma$  and  $\pi$  bonds present nitrogen molecule?

34. What is the name of the molecule shown in the figure



35. **Assertion (A)** : Naphthalene is Soluble in kerosene  
**Reason (R)** : Both Naphthalene and Kerosene are non polar in nature
- A and R correct and R is correct explanation of A
  - A and R are correct and R is not correct explanation of A
  - A is correct and R is correct
  - A is incorrect and R is correct
36. What is the hybridization present in  $H_2O$ ?
37. The number of lone pairs present in  $Sp^3$  hybrid orbital's in water molecule
- 1
  - 2
  - 3
  - 6
38. Which overlap this figure represents ?
- $$\textcircled{H\uparrow} + \textcircled{H\downarrow} \longrightarrow \textcircled{H\uparrow\downarrow H}$$
39. What are the number of Hybrid orbital's formed in  $SP^3$  hybridization?
40. In Ammonia N-H bond ;  $SP^3-S ::$  in  $BeCl_2$ , Be-Cl bond: \_\_\_\_\_

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### KEY

- |                        |                         |            |                                |                |
|------------------------|-------------------------|------------|--------------------------------|----------------|
| 1. a                   | 2. Kossel               | 3. C       | 4. A                           | 5. Noble gases |
| 6. a                   | 7. B                    | 8. 2,8     | 9. Both statements are correct |                |
| 10. 2,8                | 11. Ionic bond          | 12. $XY_2$ | 13. D                          | 14) c          |
| 15) d                  | 16) $M_2(SO_4)_3$       | 17) c      | 18) 1-r, 2-p, 3-s, 4-q         |                |
| 19) I, ii, iii, iv     |                         | 20) +1     | 21) $A_2B_3$                   | 22) d          |
| 24) 1-r, 2-p, 3-s, 4-q | 25) sidwick, and powell | 26) c      | 27) 2,2                        | 23) a          |
| 28) $10^{-12}m$        | 29) d                   | 30) b      | 31) 4                          | 32) b          |
| 33) $1\sigma, 2\pi$    | 34) Ammonia             | 35) a      | 36) $SP^3$                     | 37) 2          |
| 38) S-S overlap        | 39) 4                   | 40) SP-P   |                                |                |

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