By- SHAILENDRA SHUKLA SIR

OBJECTIVE TEST
Topic – Chemical Bonding

Time – 1 Hr. **M.M.- 150**

Q.1.In ground state, the covalency of carbon is -

(a) 2 (b) 3 (c) 4 (d) 1

Q.2.The covalency of chlorine in second excited state is -

(a) 2 (b) 3 (c) 5 (d) 1

Q.3.Which of the following is not the favourable condition for the formation of ionic bond-

(a) Large Cation (b) Small anion
(c) More charge on cation (d) Less charge on anion

Q.4.Which one of the following is not the favourable condition for the formation of covalent bond-

(a) Large Cation (b) Large anion
(c) More charge on cation (d) More charge on anion

Q.5.Which of the following has the highest ionic character-

(a) Na_2O (b) K_2O (c) Rb_2O (d) Cs_2O

Q.6.Which one of the following has the highest ionic character-

(a) Na_2O (b) K_2O (c) MgO (d) CaO

Q.7.Which one of the following is the most basic-

(a) Na_2O (b) K_2O (c) Rb_2O (d) Cs_2O

Q.8.Which of the following is the most soluble in water-

(a) Na_2O (b) K_2O (c) Rb_2O (d) Cs_2O

Q.9.Which of the following is the least soluble in water-

(a) Na_2O (b) K_2O (c) Al_2O_3 (d) MgO

Q.10.Which of the following has the highest covalent character-

(a) Na_2O (b) K_2O (c) Rb_2O (d) Cs_2O

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Q.11.Which of the following has the least covalent character-

(a) Na_2O (b) K_2O (c) MgO (d) Al_2O_3

Q.12.The correct sequence of water solubility is-

(a) NaOH > KOH > RbOH > CsOH (b) KOH > NaOH > RbOH > CsOH

(c) CsOH > RbOH > KOH > NaOH (d) NaOH > KOH > CsOH > RbOH

Q.13.The correct sequence of basic strength is-

(a) NaOH > KOH > RbOH >CsOH (b) KOH > NaOH > RbOH > CsOH

(c) CsOH > RbOH > KOH > NaOH (d) NaOH > KOH > CsOH > RbOH

Q.14.The correct sequence of thermal stability is-

(a) NaOH > KOH > RbOH > CsOH (b) KOH > NaOH > RbOH > CsOH

(c) CsOH > RbOH > KOH > NaOH (d) NaOH > KOH > CsOH > RbOH

Q.15.The correct sequence of thermal stability is-

(a) $Na_2CO_3 > K_2CO_3 > Rb_2CO_3 > Cs_2CO_3$

(b) $K_2CO_3 > Na_2CO_3 > Rb_2CO_3 > Cs_2CO_3$

(c) $Na_2CO_3 > K_2CO_3 > Cs_2CO_3 > Rb_2CO_3$

(d) $Cs_2CO_3 > Rb_2CO_3 > K_2CO_3 > Na_2CO_3$

Q.16.Two elements A and B have their elecrtonegativities 2.1 and 3.2 respectively. The nature of bond formed between them will be-

(a) Polar covalent (b) Nonpolar covelent

(c) Electrovalent (d) Unpredictable

Q.17.Two elements A and B have their elecrtonegativities 1.4 and 3.7 respectively. The nature of bond formed between them will be-

(a) Polar covalent (b) Nonpolar covelent

(c) Electrovalent (d) Unpredictable

Q.18.Two elements A and B have their elecrtonegativities 1.1 and 3.5 respectively. The percentage ionic character in the compound formed between them will be-

(a) 73.5 % (b) 75 % (c) 65 % (d) None

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Q.19.The formula of oxide of a metal M is MO. What will be the formula of its halide-

(a) MX (b) MX_2 (c) MX_3 (d) M_3X_2

Q.20.The formula of halide of a metal M is MX. What will be the formula of its carbonate-

(a) MCO_3 (b) M_2CO_3 (c) $M_3(CO_3)_2$ (d) None

Q.21.The formula of oxide of a metal M is MO. What will be the formula of its phosphate-

(a) MPO_4 (b) M_2PO_4 (c) $M_3(PO_4)_2$ (d) None

Q.22.The formula of oxide of a metal M is MO. What will be the formula of its sulphate-

(a) MSO_4 (b) M_2SO_4 (c) $M_3(SO_4)_2$ (d) None

Q.23.Which of the following bonds are present in NH_4Cl -

(a) Ionic (b) Covalent (c) Co-ordinate (d) All

Q.24.Which of the following bonds are present in NaCN-

(a) Ionic (b) Covalent (c) Both (d) Co-ordinate

Q.25.The total number of sigma and pi bonds in benzene molecule is-

(a) 6 σ & 3 π (b) 12 σ & 3 π (c) 12 σ & 6 π (d) 6 σ & 6 π

Q.26.The total number of sigma and pi bonds in tetra cyanoethene molecule is-

(a) 5 σ & 1 π (b) 9 σ & 1 π (c) 9 σ & 9 π (d) 6 σ & 6 π

Q.27.The total number of sigma and pi bonds in enol form of acetaldehyde is-

(a) 6 σ & 1 π (b) 5 σ & 1 π (c) 5 σ & 2 π (d) None

Q.28.Which one of the following overlappings leads to the formation of pi bond-

(a) s-s (b) s-p (c) p-p (axial) (d) p-p (lateral)

Q.29.Which one of the following is not true about hybridization -

(a) In hybridization only the orbitals having exactly same energy can take part

(b) Hybridization involves redistribution of energy and space amongst orbitals

(c)Hybridization decides the geometry of molecules

(d) In hybridization half-filled, full-filled and even vacant orbitals can take part

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Q.30.Which one of the following hybridized orbitals has highest s-character-
(a) sp (b) sp^2 (c) sp^3 (d) Unpredictable

Q.31.Which one of the following hybridized orbitals has biggest size-
(a) sp (b) sp^2 (c) sp^3 (d) Unpredictable

Q.32.Which one of the following hybridization provides trigonal planar geometry-
(a) sp (b) sp^2 (c) sp^3 (d) dsp^2

Q.33.Which one of the following d- orbitals is involved in sp^3d hybridization-
(a) d_z2 (b) $d_x2\text{-}_y2$ (c)d_{xy} (d) None

Q.34.The degeneracy of sp^3d-orbitals is –
(a)0 (b) 1 (c) 2 (d) 5

Q.35.Which of the following differs in geometry from the rest-
(a)$SnCl_2$ (b) $CdCl_2$ (c) $ZnCl_2$ (d) XeF_2

Q.36.Which of the following set of orbitals can not hybridize together-
(a)1s & 2p (b) 3s & 3p (c) 4s , 4p & 4d (d) 3d, 4s & 4p

Q.37.Which of the following has distorted geometry-
(a)PCl_5 (b) SF_6 (c) SF_4 (d) BF_3

Q.38.Which of the following hybridization gives the highest bond angle -
(a) sp (b) sp^2 (c) sp^3 (d) dsp^2

Q.39.The bond angle corresponding to sp^3 hybridization is -
(a) 180^0 (b) 90^0 (c) $109^028'$ (d) 104.5^0

Q.40.Which of the following has T-shaped geometry-
(a) ClF_3 (b) BF_3 (c) SF_4 (d) AlF_3

Q.41.Which of the following has See-saw shaped geometry-
(a) ClF_3 (b) BF_3 (c) SF_4 (d) AlF_3

Q.42.Which of the following has sp^3 hybridization–
(a) ClF_3 (b) NO_3^- (c) SF_4 (d) AlF_3

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Q.43.Which of the following differ in hybridization than others–

(a) BF_3 (b) NO_3^- (c) CO_3^{--} (d) NH_4^+

Q.44.Consider following change–

$$H_2O + H^+ \rightarrow H_3O^+$$

Here, the type of hybridization changes from sp^3 to-

(a) sp^2 (b)sp (c) sp^3d (d) Remains unchanged

Q.45.Consider following change–

$$H_2O + H^+ \rightarrow H_3O^+$$

Here, the geometry of molecule changes from angular to-

(a) Pyramidal (b) Trigonal planar

(c) Tetrahedral (d) Remains unchanged

Q.46.Consider following change–

$$NH_3 + H^+ \rightarrow NH_4^+$$

Here, the geometry of molecule changes from pyramidal to-

(a) Pyramidal (b)Trigonal planar

(c) Tetrahedral (d) Remains unchanged

Q.47.Consider following change–

$$PCl_5 \rightarrow PCl_3 + Cl_2$$

Here, the geometry of molecule changes from trigonal bipyramidal to-

(a) Pyramidal (b)Trigonal planar

(c) Tetrahedral (d) Remains unchanged

Q.48.Which of the following has square pyramidal geometry-

(a) ClF_3 (b) ClF_5 (c) SF_4 (d) AlF_3

Q.49.Which of the following has distorted octahedral geometry-

(a) XeF_6 (b) SF_6 (c) IF_7 (d) All

Q.50.The number of lone pair of electrons in valence shell of central Xenon atom in XeF_2 molecule is -

(a) 2 (b) 3 (c) 4 (d) 0

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ANSWERS

1. (a)	2. (c)	3. (c)	4. (a)	5. (d)
6. (b)	7. (d)	8. (d)	9. (c)	10. (a)
11. (b)	12. (c)	13. (c)	14. (c)	15. (d)
16. (a)	17. (c)	18. (d)	19. (b)	20. (b)
21. (c)	22. (a)	23. (d)	24. (c)	25. (b)
26. (c)	27. (a)	28. (d)	29. (a)	30. (a)
31. (c)	32. (d)	33. (d)	34. (c)	35. (a)
36. (a)	37. (c)	38. (a)	39. (c)	40. (a)
41. (c)	42. (b)	43. (d)	44. (d)	45. (a)
46. (c)	47. (a)	48. (b)	49. (a)	50. (b)

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