

Model Question paper
Chemical Bonding 2

11th Standard

Chemistry

Reg.No. :

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I. Answer all the questions.

II. Use blue pen only.

Time : 01:20:00 Hrs

Total Marks : 40

Part - A

2 x 1 = 2

- 1) The crystal lattice of electrovalent compounds is composed of
(a) Atoms (b) Molecules (c) Oppositely charged ions (d) Both molecules and ions
- 2) The compound which contains both ionic and covalent is
(a) CH_4 (b) H_2 (c) KCN (d) KCl

Part - B

4 x 2 = 8

- 3) Write the differences between electrovalent and covalent bonds.
- 4) Give reason: CCl_4 is insoluble in H_2O while NaCl is soluble.
- 5) sp^3 hybridisation is involved in CH_4 , H_2O and NH_3 . Why are the bond angles different in three cases?
- 6) Explain the co-ordinate bond formation between BF_3 & NH_3 .

Part - C

5 x 3 = 15

- 7) What are the different types of bonds?
- 8) Write the Lewis dot structures for the following, S , S^{2-} , P , P^{3-} , Na , Na^+ , Al and Al^{3+} .
- 9) What are the important features of valence bond theory?
- 10) What is meant by hybridisation?
- 11) Define resonance. Give the various resonance structures of CO_2 and CO_3^{2-} ion.

Part - D

3 x 5 = 15

- 12) Explain the formation and difference between a sigma bond and a pi bond. Which has more bond strength?
- 13) Calculate the lattice enthalpy of CaCl_2 given that the enthalpy:
Ionisation of Ca to Ca^{2+} is 2422 kJ mol^{-1}
- 14) Calculate the lattice enthalpy of CaCl_2 given that the enthalpy:
 $\Delta H_f^{(0)}$ overall is -795 kJ mol^{-1}
