

Series 4

Exercise 1 :

1. Write the Lewis sybole for each of the followig ions
 As^{3-} , I^- , Be^{2+} , O^{2-} , Ga^{3+} , Li^+ , N^{3-}
2. Draw the Lewis Dot Structures for the following compounds
a) Br_2 ; b) HCl ; c) CH_4 ; d) NH_3 ; e) H_2S ; f) SiF_4 g) PF_3 ; h) CO_2 ; i) SO_3 ; j) PF_5 ; K) CH_2Br_2 ; l) AlCl_3
3. Draw the Lewis dot structure for each of the following polyatomic ions:
a) NH_4^+ b) PO_4^{-3} ; c) NO_3^- d. CO_3^{2-}

exercise 2:

1. Identify the type of bond described for each of the following as ionic, polar covalent, nonpolar covalent, or metallic :
a.The C–O bonds in CO_2 ; **b.** The C–C bonds in C_3H_8 ; **c.**The bonds in F_2 ; **d.** The bonds in Ba ;**e.** The bonds in K_2O ; **f.** The bonds in H_2O .
2. Determine whether the following five molecules are polar or nonpolar:
a) CCl_4 ; b) CO_2 ; c) H_2O ; d) CHCl_3
3. Dipole moment of H_2S is 0.95D. Calculate the bond moment if the bond angle is 97°.
($\cos 48.5^\circ = 0.662$)

Exercise 3 :

For the following molecules or ions (where the central atom is underlined):

- i. Draw the Electron dot structure.
- ii. Determine the electron geometry and molecular geometry of the following molecules using the VSEPR model.
 - a. CH_2F_2
 - b. OF_2
 - c. SF_4 ,
 - d. XeF_4

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