Date Planned : __ / __ / __	Daily Tutorial Sheet-4	Expected Duration : 30 Min
Actual Date of Attempt : __ / __ / __	Level-1	Exact Duration :_____

46. Which amongst the following is also called as a sesqui oxide :
(A) B_2O_3 **(B)** Al_2O_3 **(C)** Ga_2O_3 **(D)** All

47. Which species does not exist :
(A) $[BF_6]^{3-}$ **(B)** $[AlF_6]^{3-}$ **(C)** $[GaF_6]^{3-}$ **(D)** $[InF_6]^{3-}$

48. Dative bonds are not present in :
(A) Al_2Cl_6 **(B)** BF_3 **(C)** Borazole **(D)** B_2H_6

49. All the products formed in the oxidation of $NaBH_4$ by I_2 are :
(A) B_2H_6 and NaI **(B)** B_2H_6, H_2 and NaI
(C) BI_3 and NaH **(D)** $NaBI_4$ and HI

50. Select correct statement about H_3BO_3 :
(A) It has triangular BO_3^{3-} units
(B) In solid states, molecules are hydrogen bonded
(C) Both the above statements 1 and 2 are correct
(D) None of the statement is correct

51. Orthoboric acid behaves as weak monobasic acid giving H^+ and _____.
(A) $H_2BO_3^-$ **(B)** BO_3^{3-} **(C)** $[B(OH)_4]^-$ **(D)** BO_2^-

52. BCl_3 does not exist as dimer but BH_3 exists as dimer because :
(A) Cl is more electropositive than H
(B) There is $p\pi - p\pi$ back bonding in BCl_3 but BH_3 does not contain such multiple bonding
(C) Large sized chlorine atoms do not fit in between small sized boron atoms where as small sized hydrogen atoms get fitted in between boron atoms
(D) None of these

53. With a given anion the correct stability order of tetra haloborates is :
(A) $BCl_4^- > BBr_4^- > BI_4^-$ **(B)** $BI_4^- > BBr_4^- > BCl_4^-$
(C) $BCl_4^- = BBr_4^- > BI_4^-$ **(D)** $BCl_4^- = BBr_4^- = BI_4^-$

54. $BCl_3 + LiAlH_4 \rightarrow A + LiCl + AlCl_3$
$A + H_2O \rightarrow B + H_2$
$B \xrightarrow{\text{Red heat}} C$. In this reaction sequence A, B and C compounds respectively are :
(A) B_2H_6, B_2O_3, B **(B)** B_2H_6, H_3BO_3, B_2O_3
(C) B_2H_6, H_3BO_3, B **(D)** $HBCl_4$, H_3BO_3, B_2O_3

55. Which is not correct in case of Be and Al ?
(A) Both are rendered passive by conc. HNO_3
(B) Carbides of both give methane on hydrolysis
(C) Both give hydroxides which are basic
(D) Both give covalent chlorides

56. Graphite is used as lubricant due to :

(A) The slippery nature **(B)** Its giant structure

(C) High refractive index **(D)** High IP value of carbon

57. $SiF_4 + H_2O \longrightarrow A \xrightarrow{1000^\circ C} B \xrightarrow{Na_2CO_3} C$

Identify B & C ?

(A) H_4SiO_4, Na_2SiO_3 **(B)** SiO_2, SiC

(C) SiO_2, Na_2CO_3 **(D)** SiO_2, Na_2SiO_3

58. Decreasing order of "p" orbital character in the following :

(a) SiO_2 **(b)** CO_2 **(c)** Graphite

(A) a > b > c **(B)** b > a > c **(C)** b > c > a **(D)** a > c > b

59. Silicon has a strong tendency to form polymers like silicones, the chain length of silicone polymers can be controlled by adding :

(A) $MeSiCl_3$ **(B)** Me_2SiCl_2 **(C)** Me_3SiCl **(D)** Me_4Si

60. Which of the following undergoes hydrolysis ?

(A) BCl_3 **(B)** $COCl_2$ **(C)** $SiCl_4$ **(D)** All of these