

Date Planned ://	Daily Tutorial Sheet-2	Expected Duration : 90 Min
Actual Date of Attempt : / /	JEE Advanced Archive	Exact Duration :

16. Which one of the following oxides is neutral?

(1996)

(A) CO

(B) SnO_2

(C) ZnO

(**D**) SiO_2

17. Which of the following halides is least stable and has doubtful existence?

(1996)

(**A**) CCl₄

(B) GeI₄

(C) SnI_4

(D) PbI₄

18. Aluminium sulphide gives a foul odour when it become damp. Write a balanced chemical equation for the reaction. (1997)

Anhydrous AlCl₃ is covalent. From the data given below, predict whether it would remain covalent or become ionic in aqueous solution. (Ionisation energy for Al = $5137 \,\mathrm{kJ} \,\mathrm{mol}^{-1}$) (1997)

 $\Delta H_{hydration}$ for $Al^{3+} = -4665 \text{ kJ mol}^{-1}$

 $\Delta H_{hydration}$ for $Cl^- = -381 \, kJ \, mol^{-1}$

20. A liquid which is permanently super cooled is frequently called _____. (1997)

21. Statement-I: Al $(OH)_3$ is amphoteric in nature.

(1998)

Statement-II: Al – O and O – H bonds can be broken with equal ease in Al(OH)₃.

(A) Statement-I is True, Statement-II is True and Statement-II is a correct explanation for Statement-I

(B) Statement-I is True, Statement-II is True and Statement-II is NOT a correct explanation for Statement-I

(C) Statement-I is True, Statement-II is False

(D) Statement-I is False, Statement-II is True

22. Draw the structure of a cyclic silicate, $(Si_3O_9)^{6-}$ with proper labeling.

(1998)

23. The two types of bonds present in B_2H_6 are covalent and

(1999)

24. In compounds of type ECl_3 , where E = B, P, As or Bi, the angles Cl - E - Cl for different E are in the order: (1999)

(A) B < P = As = Bi

(B) B > P > As > Bi

(C) B > P = As = Bi

(**D**) B < P < As < Bi

25. Statement I Between $SiCl_4$ and CCl_4 only $SiCl_4$ reacts with water.

(2001)

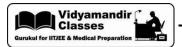
Statement II SiCl₄ is ionic and CCl_4 is covalent.

(A) Statement-I is True, Statement-II is True and Statement-II is a correct explanation for Statement-I

(B) Statement-I is True, Statement-II is True and Statement-II is NOT a correct explanation for Statement-I

(C) Statement-I is True, Statement-II is False

(D) Statement-I is False, Statement-II is True



26. Compound X on reduction with $LiAlH_4$ gives a hydride Y containing 21.72% hydrogen along with other products. The compound Y reacts with air explosively resulting in boron trioxide. Identify X and Y. Give balanced reactions involved in the formation of Y and its reaction with air. Draw the structure of Y.

(2001)

- **27.** (i) How is boron obtained from borax? Give chemical equations with reaction conditions. (2002)
 - (ii) Write the structure of B_2H_6 and its reaction with HCl(excess).
- **28.** Identify the correct order of acidic strength of CO_2 , CuO, CaO, H_2O :

(2002)

- (A) $CaO < CuO < H_2O < CO_2$
- **(B)** $H_2O < CuO < CaO < CO_2$
- (C) $CaO < H_2O < CuO < CO_2$
- $\textbf{(D)} \qquad \quad \text{H}_2\text{O} < \text{CO}_2 < \text{CaO} < \text{CuO}$
- **29.** Me_2SiCl_2 on hydrolysis will produce :

(2003)

(A) $(Me)_2 Si(OH)_2$

(B) $(Me)_2 Si = O$

(C) $[-O - (Me)_2 Si -]_n$

- (**D**) $Me_2SiCl(OH)$
- $\textbf{30.} \hspace{0.5in} \textbf{AlF}_3 \hspace{0.1in} \textbf{is insoluble in anhydrous HF but when little KF is added to the compound it becomes soluble.} \\$

On addition of $\,{\rm BF}_3,\,{\rm AlF}_3\,$ is precipitated. Write the balanced chemical equations.



(2004)