Chemistry

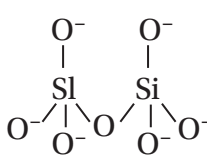**Class : XI to XII**

1. © $pH = -\log(10^{-8} + 10^{-7}) = 6.96$ [As 10^{-7}m H^+ is there in pure water]

2. © $K_p = K_c$

   $\Rightarrow (\Delta n)g = 0$

   $\Rightarrow$ No effect of presure

3. Ⓐ $Pb(46) = [Kr]36\ 4d^{10}5s^0$

4. Ⓐ

   Pyrosilicate

5. Ⓓ Each of the two axial lone pairs have repulsion with three equitorial bond pair. So LP – BP repulsion = 3 × 2 = 6.

6. Ⓐ $W_1T_1 = W_2T_2$

   $\Rightarrow 20 \times 300 = W_2 \times 330$

   $\Rightarrow W_2 = \dfrac{20 \times 300}{330} = 18.18$

   Amount of gas to be taken out = 20 – 10.18 = 1.81 kg

7. © $C_p - C_v = R$ for ideal gas only.

8. Ⓐ K_2CO_3 cannot be prepared by solvey process due to high solubility of $KHCO_3$

9. © For Group-2 metal $1F_2 \approx 2IE_1$.

10. Ⓑ $\Delta H = \Delta U + \Delta nRT$

    Here $\Delta n = 1 - 3 = -2$

    So $\Delta H = \Delta U - 2RT$

11. Ⓓ Degre of unsaturations = No. of cyclic unit + No of π-bond
    $$= 2 + 5$$
    $$= 7$$

12. Ⓑ Peroxide effect is applicable to HBr additions to alkene

13. © In both of the structure at (A) & (B) there is plane of symetry. So, both of them are messo.

14. Ⓓ Etard reactions doesnot take place if at least two $\propto$—H are not present beside phenyl group.

15. Ⓐ $CH_3 - C \equiv CH \xrightarrow{Hg^{++}/H_2SO_4} CH_3 - \underset{\underset{H}{|}O}{C} = CH_2 \longrightarrow CH_3 - \underset{\underset{O}{\|}}{C} - CH_3$