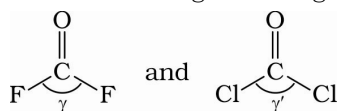


Date Planned : __ / __ / __	Daily Tutorial Sheet-2	Expected Duration : 30 Min
Actual Date of Attempt : __ / __ / __	Level-1	Exact Duration : _____

16. In group 13, Tl (thallium) shows +1 oxidation state while other members show +3 oxidation state, why ?
- (A) Presence of lone electron in Tl (B) Inert pair effect
(C) Large ionic radius of Tl ion (D) None of these

17. Correct order of bond angles in the given compounds is/are :

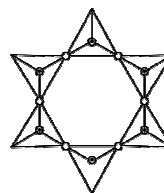


- (A) $\gamma > \gamma'$ (B) $\gamma < \gamma'$ (C) $\gamma = \gamma'$ (D) can't be predicted

18. The correct order of increasing atomic radii, is :

- (A) $B < Al < Ga$ (B) $Ga < Al < B$ (C) $Al < B < Ga$ (D) $B < Ga < Al$

19. Which type of silicate is shown in the given figure ?



- (A) Orthosilicate
(B) Pyrosilicate
(C) Sheet silicate
(D) None of these

20. Buckminsterfullerene is a variety of :

- (A) Boron (B) Carbon (C) Sulphur (D) Phosphorous

21. The basic structural unit in silicate is :

- (A) SiO_2 (B) $[\text{Si}_2\text{O}_7]^{2-}$ (C) SiO_4^{4-} (D) $[\text{Si}_2\text{O}_5]^{2-}$

22. What product is formed on heating lead nitrate ?

- (A) $\text{PbO} + \text{NO} + \text{O}_2$ (B) $\text{PbO} + \text{NO}_2 + \text{O}_2$ (C) $\text{Pb} + \text{NO}_2$ (D) $\text{PbO} + \text{N}_2$

23. Among the following substituted silanes the one which will give rise to cross linked silicone polymer on hydrolysis is :

- (A) R_4Si (B) RSiCl_3 (C) R_2SiCl_2 (D) R_3SiCl

24. Identify B in the following reaction, $\text{H}_4\text{SiO}_4 \xrightarrow[-\text{H}_2\text{O}]{1000^\circ\text{C}} \text{A} \xrightarrow[\Delta]{\text{Carbon}} \text{B} + \text{CO}$:

- (A) Corundum (B) Quartz (C) Silica (D) Carborundum

25. In silica (SiO_2), each silicon is bonded to :

- (A) Two oxygen atoms (B) Four oxygen atoms
(C) One silicon and two oxygen atoms (D) One silicon and four oxygen atoms

26. The incorrect statements among the following is/are :

- I. Fullerene is molecular solid
II. Lead prefers to form tetravalent compounds
III. The three C-O bonds are not equal in the carbonate ion
IV. Both B_2 and C_2 are paramagnetic

- (A) I, III and IV (B) I and IV (C) II, III and IV (D) I and III

27. The stability of dihalides of Si, Ge Sn and Pb increases steadily in the sequence :
- (A) $\text{GeX}_2 < \text{SiX}_2 < \text{SnX}_2 < \text{PbX}_2$ (B) $\text{SiX}_2 < \text{GeX}_2 < \text{PbX}_2 < \text{SnX}_2$
- (C) $\text{SiX}_2 < \text{GeX}_2 < \text{SnX}_2 < \text{PbX}_2$ (D) $\text{SiX}_2 < \text{GeX}_2 < \text{PbX}_2 < \text{SnX}_2$
28. In SiF_6^{2-} and SiCl_6^{2-} which one is known and why ? ▶
- (A) SiF_6^{2-} because of small size of F (B) SiF_6^{2-} because of large size of F
- (C) SiCl_6^{2-} because of small size of Cl (D) SiCl_6^{2-} because of large size of Cl
29. Graphite is a soft solid lubricant extremely difficult to melt. The reason for this anomalous behaviour is that, graphite :
- (A) Is a non-crystalline substance
- (B) Is an allotropic form of diamond
- (C) Has molecules of variable molecular masses like polymers
- (D) Has carbon atoms arranged in large plates of rings of strongly bound carbon atoms with weak interpolate bonds
30. Water glass is :
- (A) Glass made of water (B) Sodium silicate
- (C) Calcium formate (D) Pyrex glass