

Date Planned : __ / __ / __	Daily Tutorial Sheet - 2	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level - 1	Exact Duration : _____

16. In which of the following compounds are the bond angles close to  $90^\circ$  ? ▶  
**(A)**  $\text{PH}_3$  **(B)**  $\text{SF}_6$  **(C)**  $\text{H}_2\text{S}$  **(D)** All of these
17. Which of the following species is isoelectronic with  $\text{CO}_2$  ?  
**(A)**  $\text{N}_3^-$  **(B)**  $\text{CNO}^-$  **(C)**  $\text{NCN}^{2-}$  **(D)** All of these
18. The shape of  $\text{NH}_2^-$  is like that of :  
**(A)**  $\text{CS}_2$  **(B)**  $\text{SnCl}_2$  **(C)**  $\text{NO}_2^+$  **(D)**  $\text{BeCl}_2$
19. The benzene molecule contains :  
**(A)**  $6\sigma$  bonds and  $3\pi$  bonds **(B)**  $12\sigma$  bonds and  $3\pi$  bonds  
**(C)**  $6\sigma$  bonds and  $6\pi$  bonds **(D)**  $9\sigma$  bonds and  $3\pi$  bonds
20. Which of the following ions has an  $(18 + 2)$  electronic configuration ?  
**(A)**  $\text{Cu}^+$  **(B)**  $\text{Fe}^{3+}$  **(C)**  $\text{Pb}^{2+}$  **(D)**  $\text{Xe}^{2+}$
21. Which of the following ions has a pseudo-inert-gas configuration? ▶  
**(A)**  $\text{Zn}^{2+}$  **(B)**  $\text{Cu}^+$  **(C)**  $\text{Ag}^+$  **(D)** All of these
22. Which of the following elements can form both ionic and covalent bonds ?  
**(A)** Argon **(B)** Hydrogen **(C)** Iron **(D)** Neon
23. The total number of covalent bonds present in the  $\text{NO}_2^+$  ion is :  
**(A)** three **(B)** two **(C)** four **(D)** six
24. Which set contains no ionic species?  
**(A)**  $\text{NH}_4\text{Cl}$ ,  $\text{OF}_2$ ,  $\text{H}_2\text{S}$  **(B)**  $\text{CO}_2$ ,  $\text{CCl}_4$ ,  $\text{Cl}_2$   
**(C)**  $\text{BF}_3$ ,  $\text{AlF}_3$ ,  $\text{TlF}_3$  **(D)**  $\text{I}_2$ ,  $\text{CaO}$ ,  $\text{CH}_3\text{Cl}$
25. Which of the following has zero dipole moment?  
**(A)**  $\text{CO}$  **(B)**  $\text{SO}_2$  **(C)**  $\text{SO}_3$  **(D)**  $\text{H}_2\text{O}$
26. Which are non-polar molecules?  
**I.**  $\text{NCl}_3$  **II.**  $\text{SO}_3$  **III.**  $\text{PCl}_5$   
 The correct option is :  
**(A)** I only **(B)** II only **(C)** I and II only **(D)** II and III only
27. Which of the following ions has the maximum polarising power?  
**(A)**  $\text{Na}^+$  **(B)**  $\text{Ca}^{2+}$  **(C)**  $\text{Mg}^{2+}$  **(D)**  $\text{Al}^{3+}$
28. All the following molecules are polar except one  
**(A)**  $\text{BCl}_3$  **(B)**  $\text{CH}_2\text{Cl}_2$  **(C)**  $\text{NH}_3$  **(D)**  $\text{FNO}$
29. Which of the following has the highest percentage of ionic character in its bonding?  
**(A)**  $\text{LiI}$  **(B)**  $\text{MgCl}_2$  **(C)**  $\text{CsF}$  **(D)**  $\text{CsI}$
30. Which of the following is non-polar but contains polar bonds?  
**(A)**  $\text{HCl}$  **(B)**  $\text{CO}_2$  **(C)**  $\text{NH}_3$  **(D)**  $\text{NO}_2$