Date Planned : __ / __ / __	Daily Tutorial Sheet - 3	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	JEE Advanced (Archive)	Exact Duration :_____

31. The shape of CH_3^+ is _____. **(1990)**

32. The presence of polar bonds in a polyatomic molecule suggests that the molecule has non-zero dipole moment. **(1990)**

33. What effect should the following resonance of vinyl chloride have on its dipole moment? **(1990)**

$$CH_2 = CH - Cl \longleftrightarrow H_2\bar{C} - CH = \overset{+}{Cl}$$

34. Arrange the following as stated: "Increasing strength of hydrogen bonding $(X - H - X)$". **(1991)**

O, S, F, Cl, N

35. In the reaction, $I^- + I_2 \rightarrow I_3^-$, which is the Lewis acid? **(1991)**

***36.** The linear structure is assumed by : **(1991)**

(A) $SnCl_2$ **(B)** CS_2 **(C)** NO_2^+ **(D)** NCO^-

37. Arrange the following ions in order of their increasing radii; Li^+, Mg^{2+}, K^+, Al^{3+}. **(1991)**

38. The maximum possible number of hydrogen bonds a water molecule can form is: **(1992)**

(A) 2 **(B)** 4 **(C)** 3 **(D)** 1

39. The type of hybrid orbitals used by the chlorine atom in ClO_2^- is: **(1992)**

(A) sp^3 **(B)** sp^2 **(C)** sp **(D)** None of these

***40.** Which of the following have identical bond order? **(1992)**

(A) CN^- **(B)** O_2^- **(C)** NO^+ **(D)** CN^+

41. The dipole moment of CH_3F is greater than that of CH_3Cl. **(1993)**

42. H_2O molecule is linear. **(1993)**

43. The dipole moment of KCl is 3.336×10^{-29} C-m which indicated that it is a highly polar molecule. The inter atomic distance between K^+ and Cl^- in this molecule is 2.6×10^{-10} m. Calculate the dipole moment of KCl molecule if there were opposite charges of one fundamental unit located at each nucleus. Calculate the percentage ionic character of KCl. **(1993)**

44. The two types of bonds present in B_2H_6 are covalent and _____. **(1994)**

45. All molecules with polar bonds have dipole moment. **(1995)**