

Dipole moment, resonance and reaction**intermediates**

41. In $\text{CH}_3\text{CH}_2\text{OH}$, the bond that undergoes heterolytic cleavage most readily is
 (a) $\text{C} - \text{C}$ (b) $\text{C} - \text{O}$
 (c) $\text{C} - \text{H}$ (d) $\text{O} - \text{H}$
42. Which of the following intermediate have the complete octet around the carbon atom
 (a) Carbonium ion
 (b) Carbanion ion
 (c) Free radical
 (d) Carbene
43. A solution of D (+) - 2-chloro-2-phenylethane in toluene racemises slowly in the presence of small amount of SbCl_5 , due to the formation of
 (a) Carbanion (b) Carbene
 (c) Free radical (d) Carbocation
44. The reagent in Friedel Craft's reaction is
 (a) Pyridine (b) RCOCl
 (c) RCOOH (d) HCl
45. Which gives monosubstituted product
 (a) *o* -dinitrobenzene
 (b) *m* -dinitrobenzene
 (c) *p* -dinitrobenzene
 (d) Nitrobenzene
46. An aromatic compounds among other things should have a π -electron cloud containing electrons where n can't be
 (a) $1/2$ (b) 3
 (c) 2 (d) 1
47. Which of the following is an electrophile
 (a) H_2O (b) SO_3
 (c) NH_3 (d) ROR
48. The presence of the chlorine atom on benzene ring makes the second substituent enter at a position
 (a) *ortho* (b) *meta*
 (c) *para* (d) *ortholpara*
49. Which is the most stable carbocation
 (a) iso-propyl
 (b) Triphenylmethyl cation
 (c) Ethyl cation
 (d) π -propyl cation

