Dipole moment

1. Which molecules has zero dipole moment
   (a) H_2O (b) CO_2
   (c) HF (d) HBr

2. In the following which one have zero dipole moment
   (a) BF_3 (b) CCl_4
   (c) $BeCl_2$ (d) All of these

3. Which molecule has the largest dipole moment
   (a) HCl (b) HI
   (c) HBr (d) HF

4. The unequal sharing of bonded pair of electrons between two atoms in a molecule causes
   (a) Dipole
   (b) Radical formation
   (c) Covalent bond
   (d) Decomposition of molecule

5. Which of the following will show least dipole character
   (a) Water (b) Ethanol
   (c) Ethane (d) Ether

6. Which of the following molecules will show dipole moment
   (a) Methane
   (b) Carbon tetrachloride
   (c) Chloroform
   (d) Carbon dioxide

7. Which of the following compounds possesses the dipole moment
   (a) Water
   (b) Boron trifluoride
   (c) Benzene
   (d) Carbon tetrachloride

8. Which bond angle θwould result in the maximum dipole moment for the triatomic molecule YXY
   (a) $\theta = 90^o$ (b) $\theta = 120^o$
   (c) $\theta = 150^o$ (d) $\theta = 180^o$

9. Which of the following would have a permanent dipole moment
   (a) BF_3 (b) SiF_4
   (c) SF_4 (d) XeF_4

10. Carbon tetrachloride has no net dipole moment because of
    (a) Its planar structure
    (b) Its regular tetrahedral structure

(c) Similar sizes of carbon and chlorine atoms

(d) Similar electron affinities of carbon and chlorine

11. The molecule which has the largest dipole moment amongst the following

(a) CH_4 (b) $CHCl_3$

(c) CCl_4 (d) CHI_3

12. Positive dipole moment is present in

(a) CCl_4 (b) C_6H_6

(c) BF_3 (d) HF

13. The polarity of a covalent bond between two atoms depends upon

(a) Atomic size

(b) Electronegativity

(c) Ionic size

(d) None of the above

14. Pick out the molecule which has zero dipole moment

(a) NH_3 (b) H_2O

(c) BCl_3 (d) SO_2

15. Zero dipole moment is present in

(a) NH_3

(b) H_2O

(c) *cis* 1, 2-dichloroethene

(d) *trans* 1, 2-dichloroethene

16. Which of the following is the most polar

(a) CCl_4 (b) $CHCl_3$

(c) CH_3OH (d) CH_3Cl

17. Which one has minimum (nearly zero) dipole moment

(a) Butene-1

(b) *cis* butene-2

(c) *trans* butene-2

(d) 2-methyl-1-propene

18. Which one of the following is having zero dipole moment

(a) CCl_4 (b) CH_3Cl

(c) CH_3F (d) $CHCl_3$

19. Which of the following molecules does not possess a permanent dipole moment

(a) H_2S (b) SO_2

(c) CS_2 (d) SO_3

20. Which of the following has zero dipole moment

(a) CH_2Cl_2 (b) CH_4

(c) NH_3 (d) PH_3