

## XI Chemistry Worksheet

Time: 30 min    Ch#4 : Chemical Bonding and Molecular Structure -02    Full Marks: 20

### Instructions:

1. All questions are compulsory.
2. Please give the explanation for the answer where applicable.

Q1 - What is hydrogen bonding? Name the two types of hydrogen bonding?

(3 Marks)

Q2 - Find

- (i) Formal charge on S in  $\text{HSO}_4^-$
- (ii) Formal charge on P in orthophosphoric acid

(3 Marks)

Q3 - Which of the following bond is most polar?

- (i) Cl-F
- (ii) Br-F
- (iii) I-F
- (iv) F-F

(2 Marks)

Q4 - Which of the following compound will have highest solubility in water  $\text{CCl}_4, \text{CHCl}_3, \text{CS}_2, \text{C}_2\text{H}_5\text{OH}$ .

(2 Marks)

Q5 - Name the type of hybridisation in each carbon atom of the following compounds —

- (i) 1, 2 – butadiene
- (ii) Propyne

(2 Marks)

Q6 - Find the bond order of NO and CO.

(5 Marks)

Q7 - How is bond order related to the stability of a molecule?

(1 Mark)

Q8 - What is the maximum number of hydrogen bonds in which a water molecule can participate?

(1 Mark)

Q9 - Arrange  $\text{F}_2, \text{N}_2, \text{Cl}_2, \text{O}_2$  in increasing order of bond strengths.

(1 Mark)