

**Quiz 5.7 (i): Physical Properties of Ionic and Covalent Bond****(a) Electrical Conductivity****(b) Solubility In water and organic solvent**

1. Table shows the physical properties of compounds X, and Y.

| Compound | Electrical conductivity |        | Solubility in water | Solubility in organic solvent |
|----------|-------------------------|--------|---------------------|-------------------------------|
|          | Solid                   | Molten |                     |                               |
| <b>X</b> | No                      | No     | No                  | Yes                           |
| <b>Y</b> | No                      | Yes    | Yes                 | No                            |

(a) State the type of chemical bond in Compound X and Compound Y.

(i) Compound X : .....

(ii) Compound Y : .....

(b) State the type of particles in compound X and Y

(i) Compound X : .....

(ii) Compound Y : .....

(c) Explain why compound X cannot conduct electricity in the both solid and molten state.

.....

(d) Explain why compound Y cannot conduct electricity in solid state.

.....

(e) Explain why compound Y able to conduct electricity in molten state.

.....

(f) State the type of particles in compound X and Y.

.....

(g) State why compound Y is soluble in water.

.....

(h) State why compound Y is insoluble in organic solvent.

.....

(i) State why compound X soluble in organic solvent.

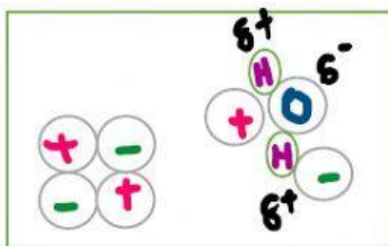
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2. Which of the following is the physical properties of lead(II) bromide,  $\text{PbBr}_2$ ?

- A. Soluble in water
- B. Conduct electricity in all state
- C. Soluble in organic solvent
- D. Insoluble in water

### 3. Solubility in water.

Example : Sodium chloride, NaCl



Why sodium chloride is soluble in water ?

Attraction force between atom of water molecules with the ions of ionic compounds are strong enough to overcome the

..... between ion themselves.

### 4. Tick the correct answer.

#### 1<sup>st</sup> properties : Electrical conductivity

| Physical state | Ionic Compounds | Covalent Compounds |
|----------------|-----------------|--------------------|
| Solid          |                 |                    |
| Molten         |                 |                    |
| Aqueous        |                 |                    |

#### 2<sup>nd</sup> properties : Solubility in water and organic solvent

| Solubility in   | Ionic Compounds | Covalent Compounds |
|-----------------|-----------------|--------------------|
| Water           |                 |                    |
| Organic solvent |                 |                    |

Thanks for Cooperation 😊