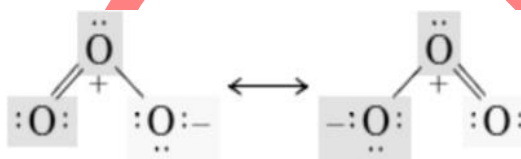


**BP 202T - PHARMACEUTICAL ORGANIC CHEMISTRY - I****UNIT: 2 ALKANES, ALKENE & CONJUGATED DIENES**

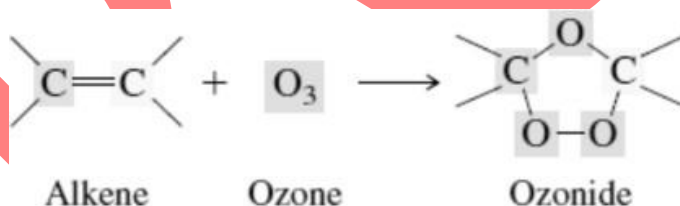
CLASS: 5

**TOPIC: OZONOLYSIS AND ELECTROPHILIC ADDITION REACTION OF ALKENES****OZONOLYSIS**

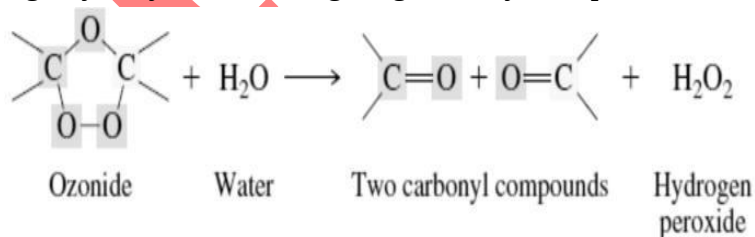
- Ozone (O<sub>3</sub>) is the triatomic form of oxygen
- It is a neutral but polar molecule that can be represented as a hybrid of its two most stable Lewis structures.



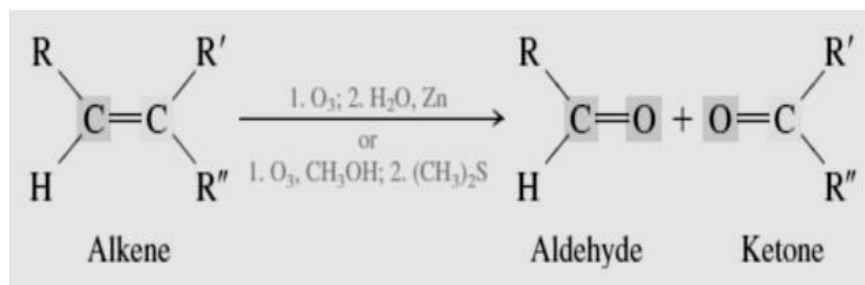
- Ozone is a powerful electrophile and undergoes a remarkable reaction with alkenes in which both the  $\sigma$  and  $\pi$  components of the carbon-carbon double bond are cleaved to give a product referred to as an **ozonide**.



- Ozonides undergo hydrolysis in water, giving carbonyl compounds.



- The two-stage reaction sequence is called **ozonolysis** and is represented by the general equation



- Each carbon of the double bond becomes the carbon of a carbonyl group.
- Ozonolysis has both synthetic and analytical applications in organic chemistry.
- In synthesis, Ozonolysis of alkenes provides a method for the preparation of aldehydes and ketones

### 5 MARKS QUESTIONS

1. Explain ozonolysis ?
2. Explain in detail about ozonolysis with mechanism