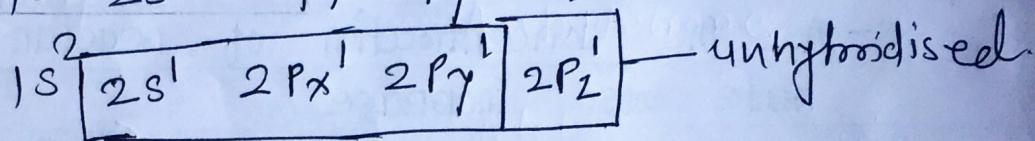
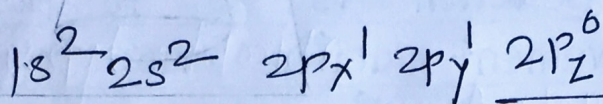
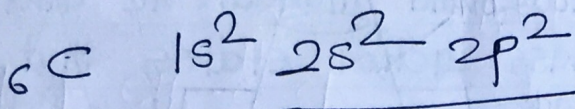
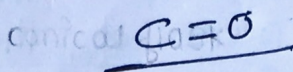


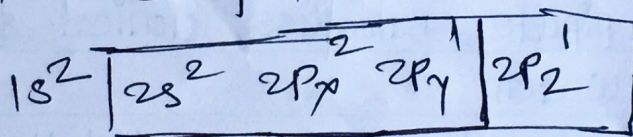
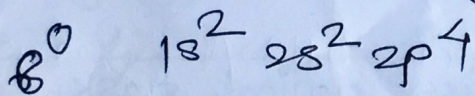
# Structure of carbonyl group.

Explain on the basis of geometry and Polarity.

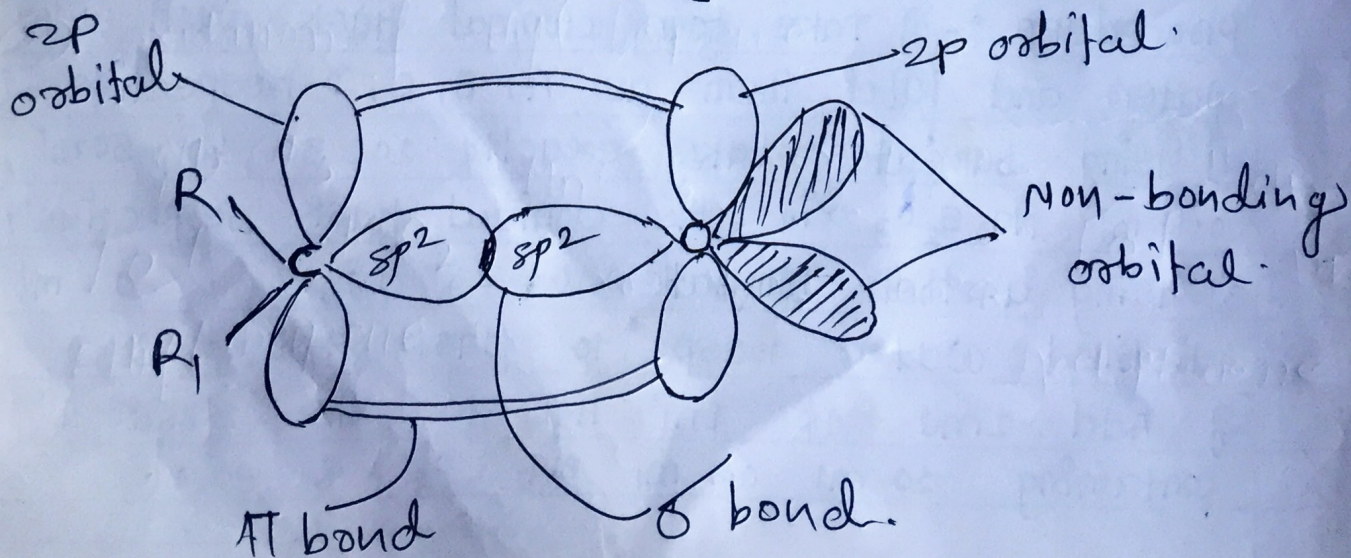
## ① Geometry.

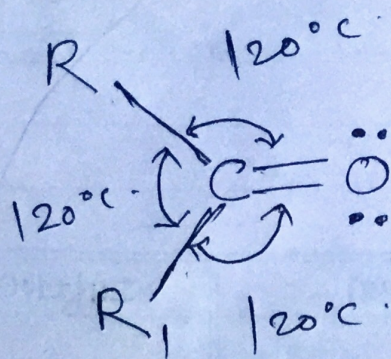


$sp^2$  hybridization.



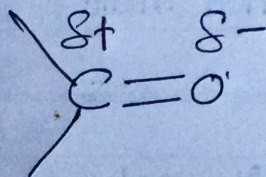
$sp^2$  hybridization.





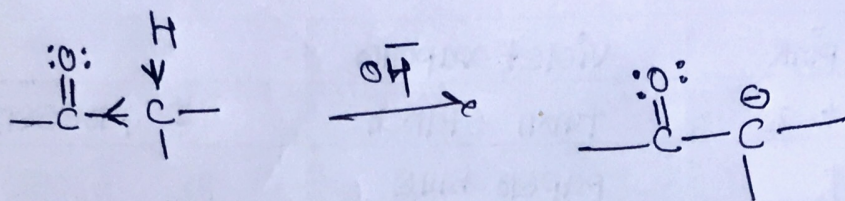
bond angle 120°.

② polarity



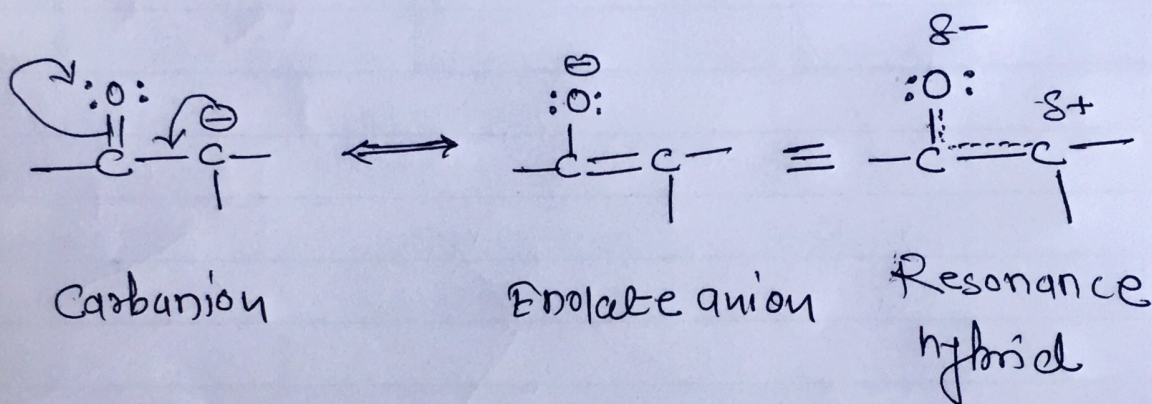
dipole moment of carbonyl compound  
(2.3 to 2.8 D)

## Acidity of $\alpha$ -hydrogen in carbonyl compound



Carbonyl compound

Carbanion



Carbanion

Enolate anion

Resonance hybrid

Hence  $\alpha$ -hydrogen in carbonyl compound is more acidic.

electronegativity of H = 2.1 C = 2.5 O = 3.5.