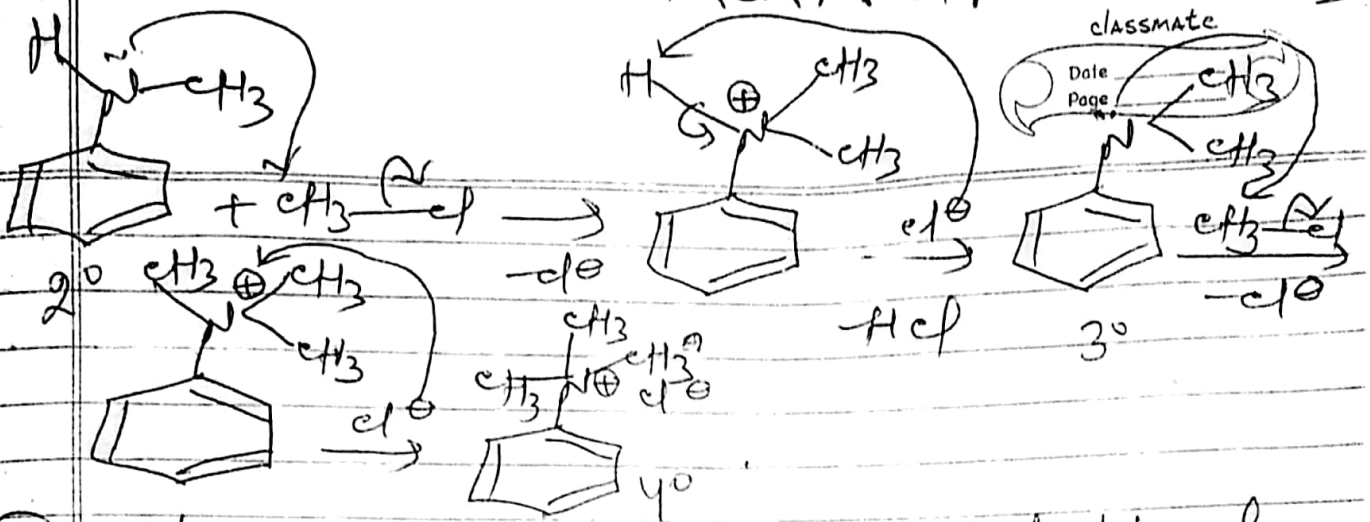
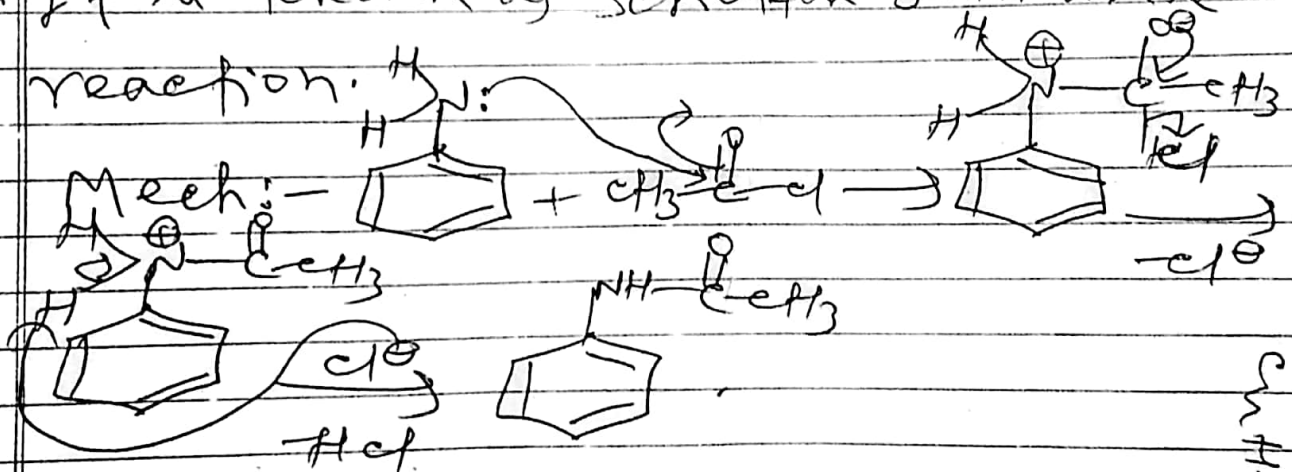


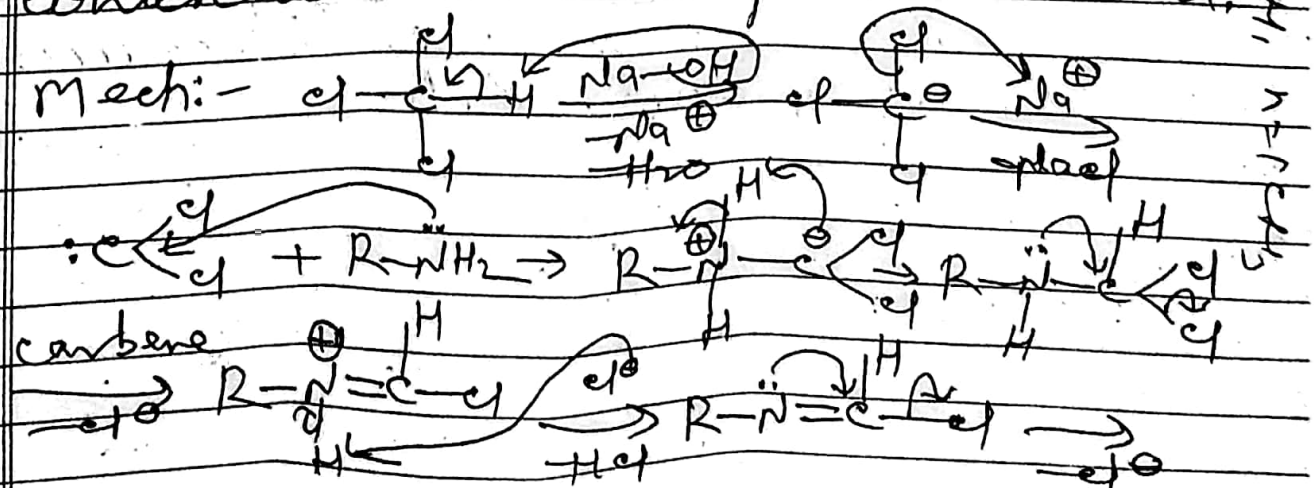
M.H.Khan - 4-5-20 DCH, Topic -
 Reko baniline, Mon, Maryam college

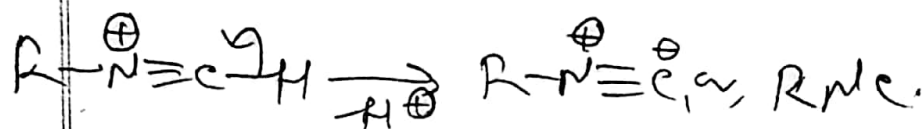


③ when aniline react with acid chloride then form acetanilide by ionic mechanism. It is known as Schotten Baumann reaction.

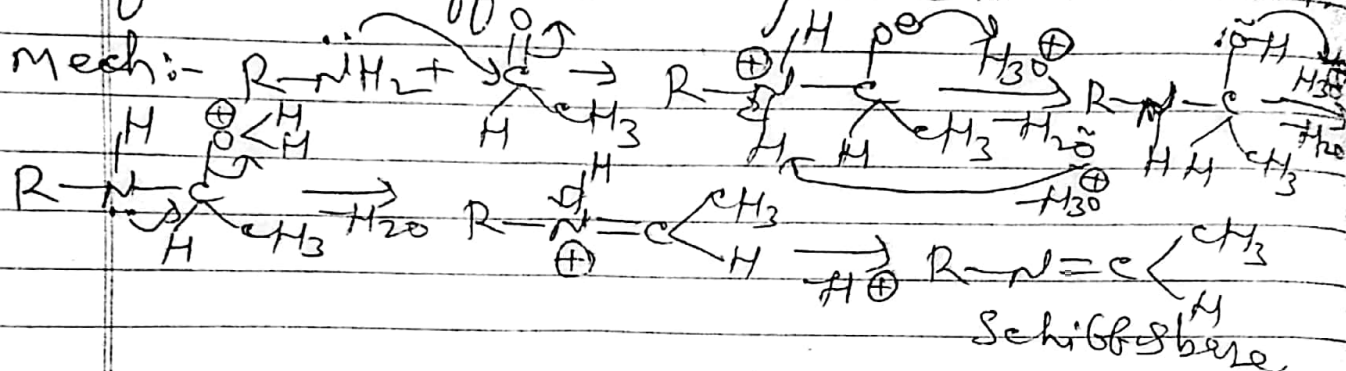


④ Carbyl amine rxn :- when aniline react with chloroform in presence of base then form phenyl isocyanide. Here carbene intermediate is formed which acts as electrophile and acid.

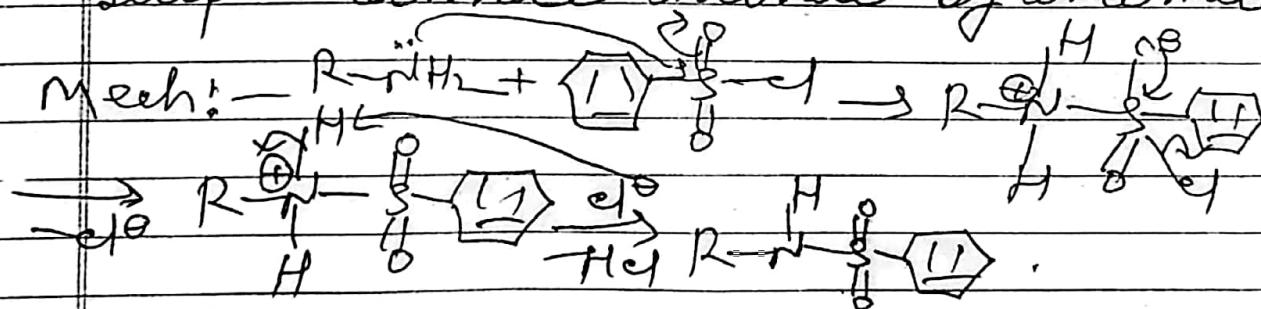




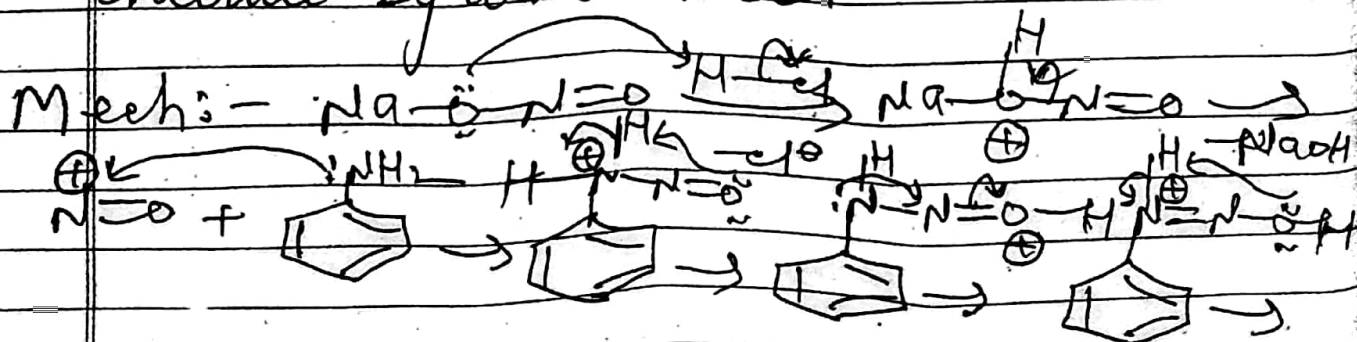
Q5 Rxn with Aldehyde :- when Aniline react with Aldehyde (Acetaldehyde) then form Schiff base. by ionic mechanism.



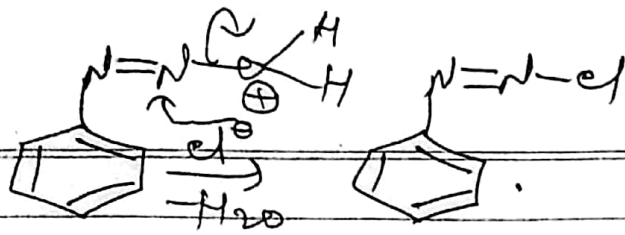
6. Rxn with Hinsberg Reagent :- when Aniline react with benzene sulphonyl chloride then form N-phenyl benzene Sulphonamide chloride by ionic mech.



7. Diazotisation :- when Aniline react with $NaNO_2$ in presence of HCl and heat then form benzene diazonium chloride by ionic mech.

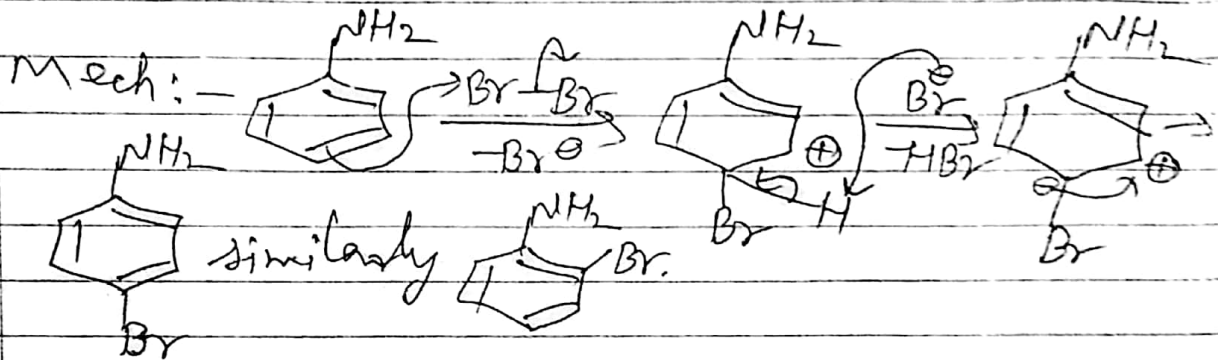


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4-5-20

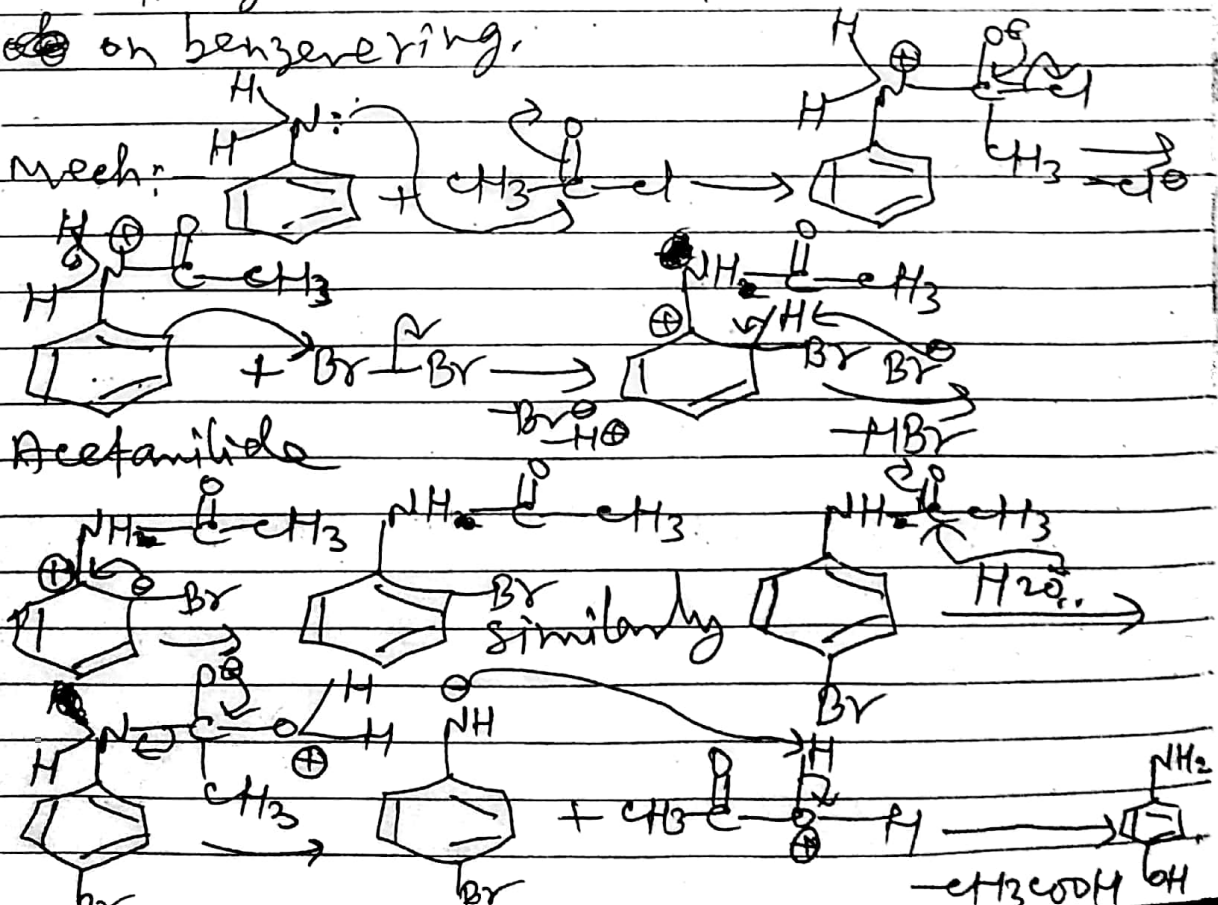


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⑧ Halogenation:- When aniline react with halogen then form ortho and para halo aniline.



→ However monobromo or chloro derivative of aniline can be prepared, if NH_2 group is first protected by acetyl group. Here the reactivity decreases due to less +m effect on benzene ring.



M.H. Khan 0-11
Bond order 4-5-20, Di (S), Moh, Topic-

Bond order Marwari college.

- For bond order take molecule having 2 atoms. having atomic no. Equal or less than 10.
- when bond order '0' then molecule or compound doesn't exist or formed
- when bond order increase bond energy bond strength stability and decrease bond-length and reactivity decrease.
- Etc

E⁻ filling order $\sigma 1s^2 > \sigma^* 1s^2 > \sigma 2s^2 > \sigma^* 2s^2$

$> \sigma 2p_x > \pi 2p_y = \pi 2p_z > \sigma^* 2p_x = \sigma^* 2p_y > \sigma^* 2p_z$

B.O = $\frac{N_b - N_a}{2}$, N_b = bonding e⁻ / non-star

N_a = non bonding e⁻ / star.

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- For equal and less than 20e

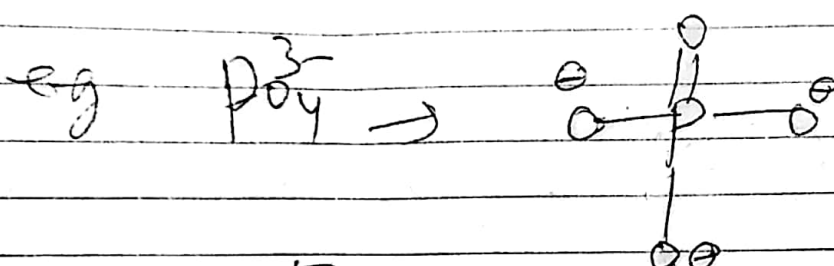
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$$N_2 \rightarrow 2 \times 7 + 7 \neq 14 \quad N_3 = 10 \quad \text{Masey}$$

$$B.O = \frac{10 - 4}{2} = \frac{6}{2} = 3$$

→ When ≥ 20 electrons then

$$B.O = \frac{\text{total no. of bond attach with central atom}}{\text{total no. of peripheral atom}}$$



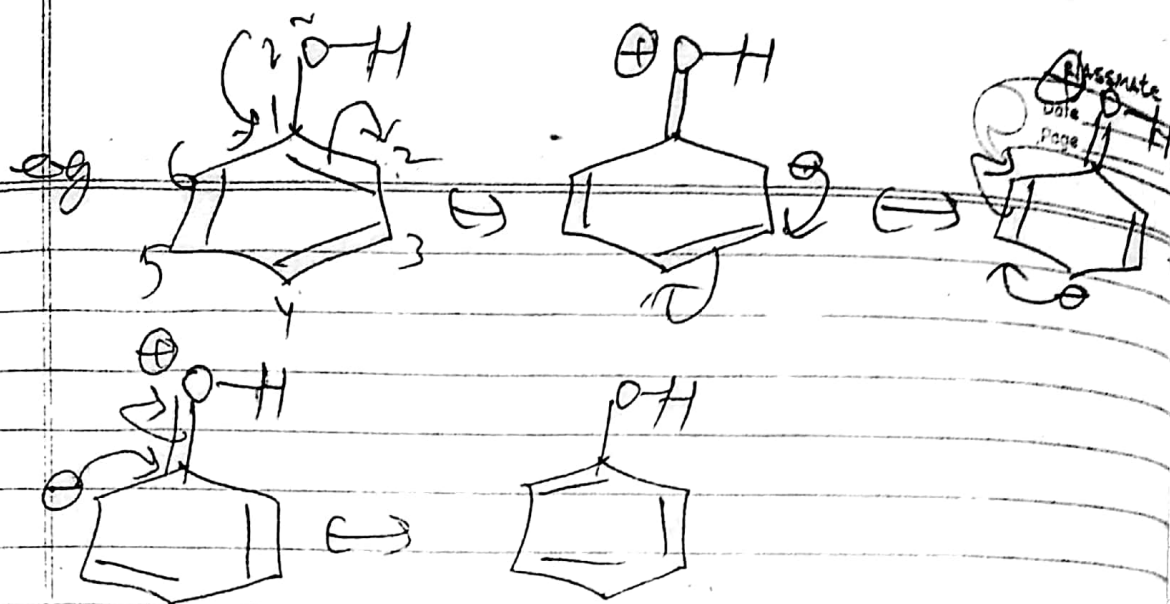
$$B.O = \frac{5}{4} = 1.25$$

$$\rightarrow \text{formal charge} = \frac{\text{total no. of } \cancel{\text{bond}} \text{ charge}}{\text{no. of peripheral atom}}$$
$$= \frac{-3}{4} = -0.75$$

→ When $\leftrightarrow$ (resonance) occurs

$$\text{then } B.O = \frac{\text{total no. of bond attach between 2 fixed atom}}{\text{total no. of } \leftrightarrow \text{ structure}}$$

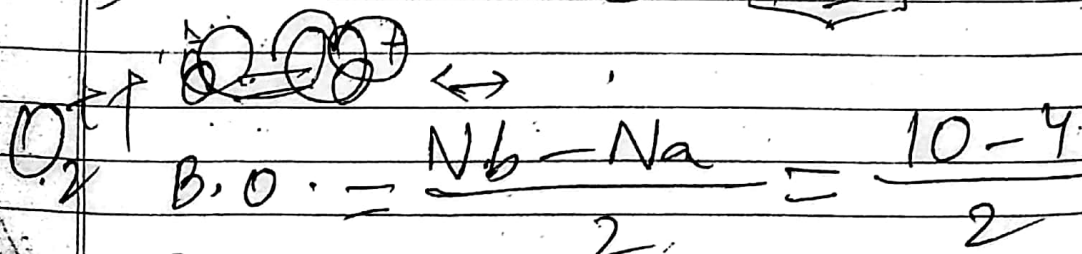
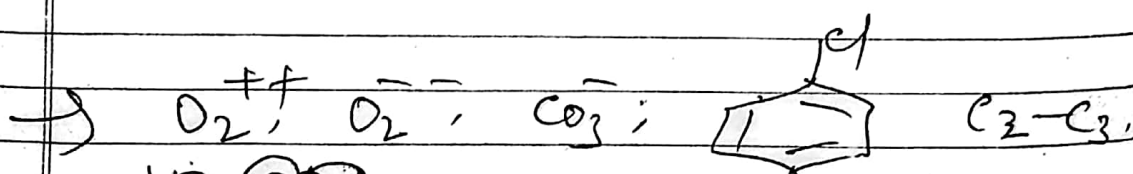
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$$\rightarrow \text{B.O. } A - C_B = \frac{2 + 1 + 1 + 1 + 1}{5} = \frac{6}{5} = 1.2$$

$$\rightarrow_{B10} c_2 - c_3 = \frac{1+1+2+2+2}{5} = \frac{8}{5} = 1.6$$

~~bond~~ C_1-C_2 bond is more reactive and less stable than C_2-C_3 .



$$B.O = \frac{10.8}{2} = \frac{2}{2} = 1$$

