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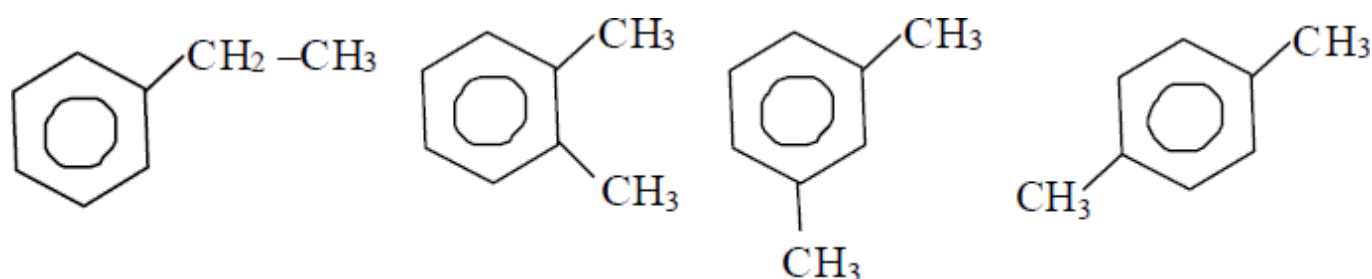
KVPY Interview Important Questions Chemistry Part 4

Q: 23. What is the difference between the double bonds of ethane and benzene?

Sol. The double bond in ethane is localized $\text{CH}_2 = \text{CH}_2$, whereas the double bond of benzene is delocalized.

Q: 24. Draw the benzoid structural isomers of C_8H_{10} .

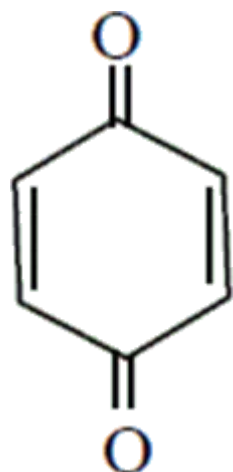
Sol.



Q 24 Structure of Benzoid Isomers of C_8H_{10}

Q: 25. Draw a structure with 6C, 4H, 2O and 4 double bonds.

Sol. The given compound $\text{C}_6\text{H}_4\text{O}_2$ have 5 index of hydrogen deficiency. Since it has 4 double bonds therefore it must be cyclic

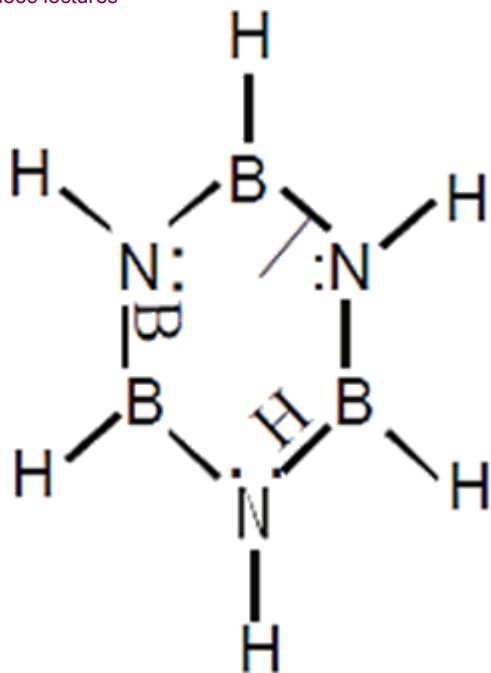


Q 25 Sol Structure with 6C, 4H, 2O and 4 Double Bonds

Q: 26. Now draw a structure keeping the skeleton same so that there is 3B, 3N, 6H?

Sol. Given compound is: $\text{B}_3\text{N}_3\text{H}_6$

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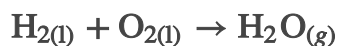
Q 26 Sol Structure of Borazine for Cyclic Compound

Q: 27. What is the reason for the double bond character in $B_3N_3H_6$?

Sol. Double bond present in $B_3N_3H_6$ due to back bonding, between electron deficient B atom and N – atom which has one LP of e^-

Q: 28. What are the gases released during rocket propulsion?

Sol. $N_2H_4(l) + O_2(l) \rightarrow N_2(g) + H_2O(g)$



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