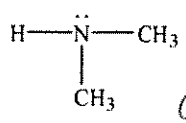
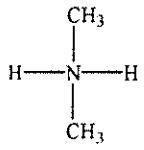
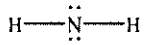
Quiz-1.

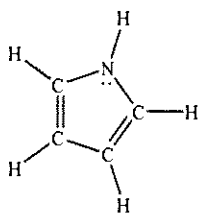
B

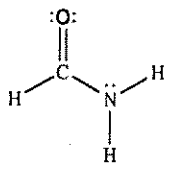
1. In which of the following Lewis structures does the nitrogen atom have a formal charge of 1+?

a.  C = 0

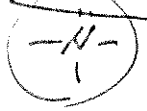
b.  C = 1

c.  VE − NE − $\frac{1}{2}$(BE) = 5 − 4 − $\frac{1}{2}$(4) = −1

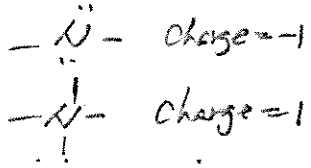
d.  C = 0

e.  1

formal charge = Valence electron − non bonding electron − ½(bonding electrons)

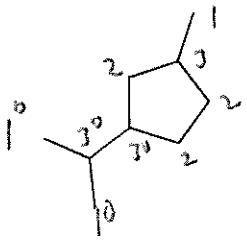


Neutral structure



A

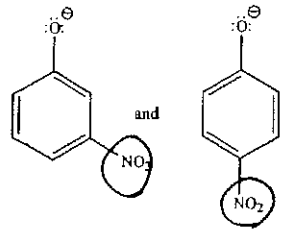
Which of the following choices lists the correct number of each type of carbon atom in the structure shown?



a. 3 primary, 3 secondary, 3 tertiary
b. 3 primary, 4 secondary, 2 tertiary
c. 3 primary, 5 secondary, 1 tertiary
d. 5 primary, 1 secondary, 3 tertiary
e. 6 primary, 3 secondary, 0 tertiary

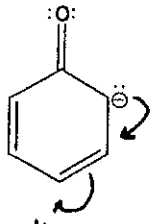
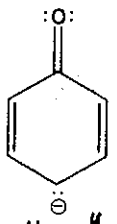
B

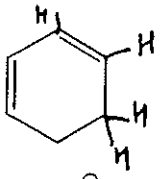
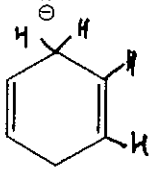
Which of the following pairs are related as resonance structures? All nonzero formal charges are shown.

a.  and

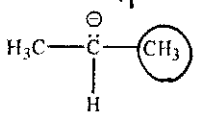
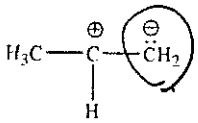
[isomers
NO_2 moved

This question is to identify the molecules (or compounds) as resonance structures, isomers, or neither.

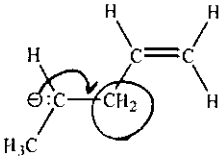
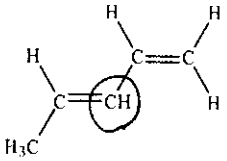
b.  and 

c.  and 

isomers, H atom moved.

d.  and 

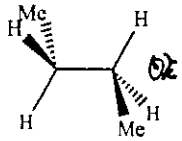
≡ $CH_3-\underset{H}{C}=CH_2$ (neither)

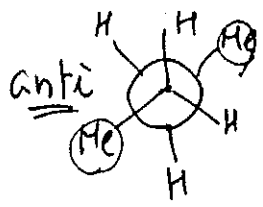
e.  and 

X.

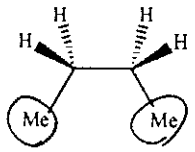
B

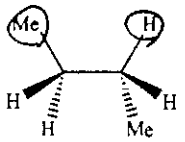
Which of the following structures is in the *gauche* butane conformation?

a. 

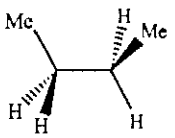


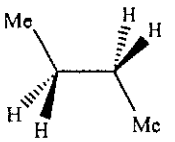
anti

d. 

e. 

eclipsed

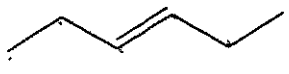
b. 

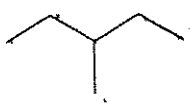
c. 

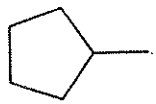
– anti

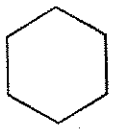
B

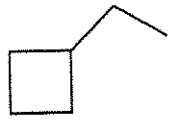
Which of the following compounds is *not* a structural isomer of the others?

a.  C_6H_{12}

b.  C_6H_{14} — diff. molecular formular

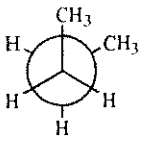
c.  C_6H_{12}

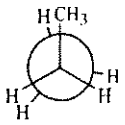
d.  C_6H_{12}

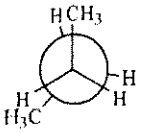
e.  C_6H_{12}

e

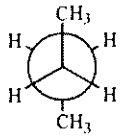
Which of the following Newman projections shows the *highest* energy conformation of butane?

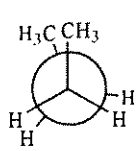
a.  gauche

b. 

c. 

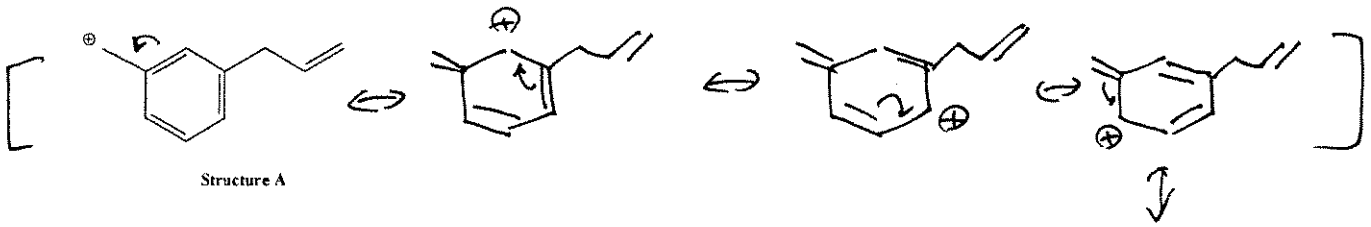
b=c eclipsed

d.  anti, most stable

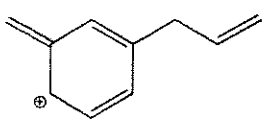
e.  — eclipsed. with two methyl groups

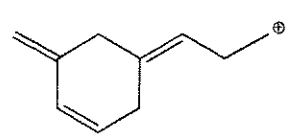
B

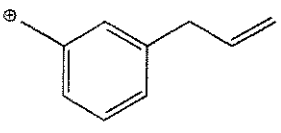
Which of the structures shown is not related to Structure A as a resonance contributor?

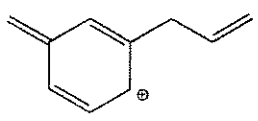


Structure A

a. 

b. 

c. 

d. 

e.