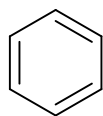
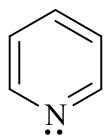


**Marks**  
**6**

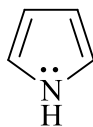
- Benzene, pyridine and pyrrole are all aromatic.



benzene



pyridine



pyrrole



cyclopentadiene

 $pK_a = 15$ 

cyclopentene

 $pK_a = 45$ 

What three criteria must be met for a compound to be aromatic?

Apply your previous answer to explain the following.

Pyridine is basic but pyrrole is not.

The  $pK_a$  of cyclopentadiene is much lower than that of cyclopentene.