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AIIMS GUWAHATI

ORGANIC CHEMISTRY GOC 1 AEROMATIC AND NON AEROMATIC AND ANTI AEROMATIC

Weightage 1 to 2 questions

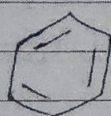
Aromatic, Antiaromatic & Non-Aromatic Compounds :-

Huckel's Rule for Aromaticity :-

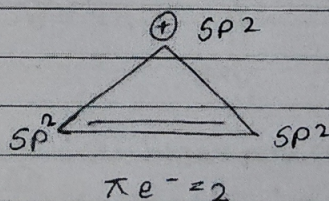
- ① Cyclic
- ② Planar cyclic systems [sp^2/sp]
- ③ Complete conjugation in cyclic systems
- ④ $(4n+2) \pi e$ Rule
 $n = 0, 1, 2, 3, \dots$

Note :-

n	$(4n+2) \pi e$
0	$\longrightarrow 2 \pi e^-$
1	$\longrightarrow 6 \pi e^-$
2	$\longrightarrow 10 \pi e^-$
3	$\longrightarrow 14 \pi e^-$



$$\begin{aligned} \pi e &= 6 \\ 4n+2 &= 6 \\ 4n &= 6-2 \\ n &= 4-2 \\ &= 1 \end{aligned}$$

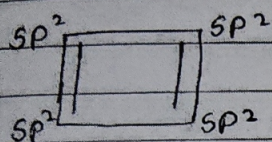


Huckel's Rule for Antiaromaticity :-

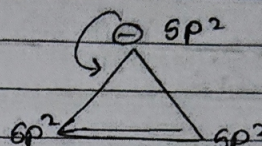
- ① Cyclic
- ② Planar cyclic systems [sp^2/sp]
- ③ Complete conjugation in cyclic systems
- ④ $(4n) \pi e^-$ Rule
 $n = 1, 2, 3, \dots$

Note :-

n	$(4n) \pi e$
1	$\longrightarrow 4 \pi e$
2	$\longrightarrow 8 \pi e$
3	$\longrightarrow 12 \pi e$



- ① ✓
- ② ✓
- ③ ✓
- ④ $\pi e^- = 4$



- ① ✓
- ② ✓
- ③ ✓
- ④ $\pi e = 4$

Non-Aromatic Compounds :-

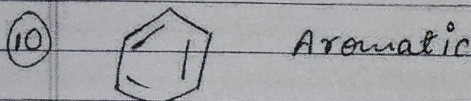
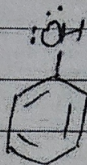
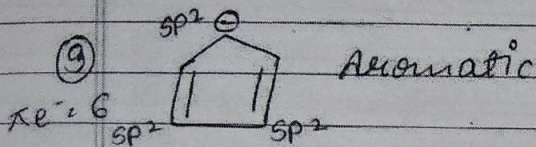
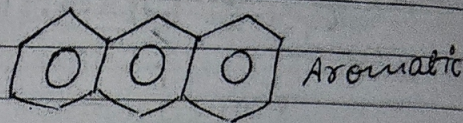
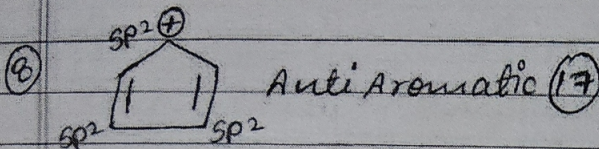
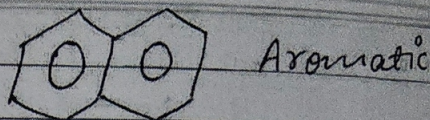
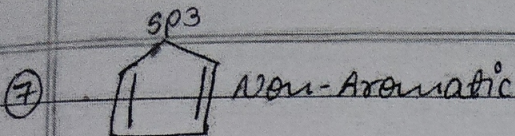
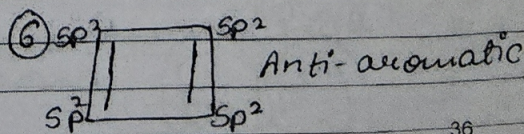
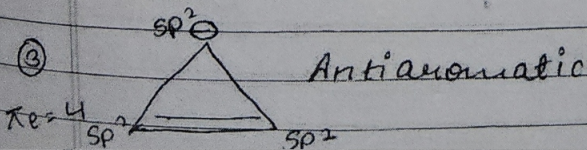
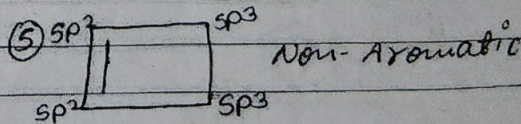
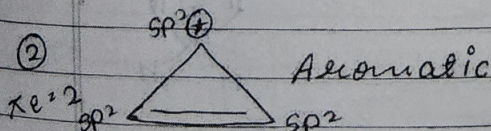
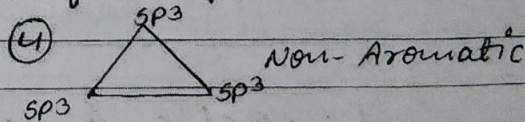
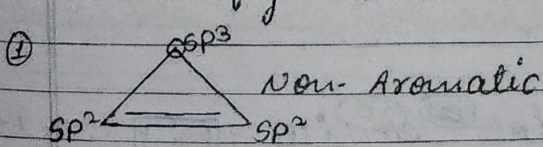
\rightarrow Compounds which are neither aromatic

not anti-aromatic are k/n as Non-Aromatic compounds.

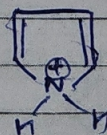
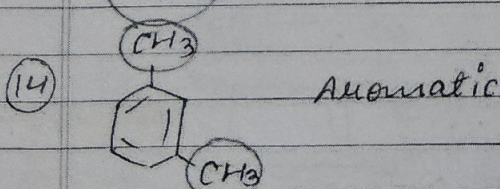
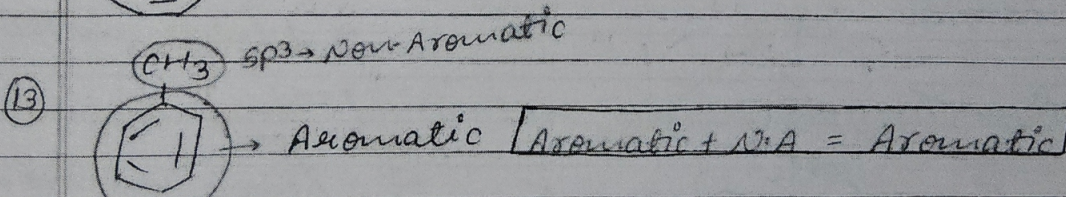
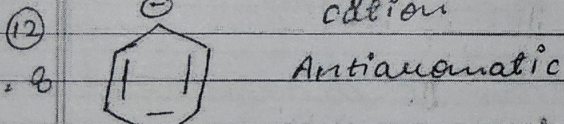
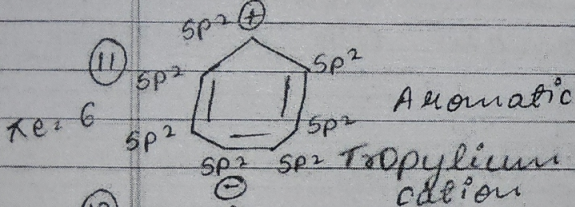
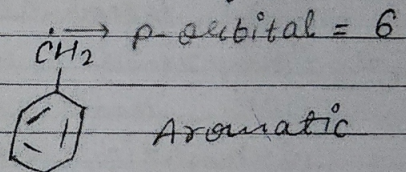
General order of stability \rightarrow

Aromatic $>$ Non-Aromatic $>$ Anti-Aromatic
 highly unstable

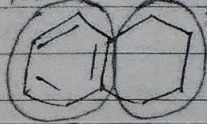
Ques: Identify the nature of compounds \rightarrow

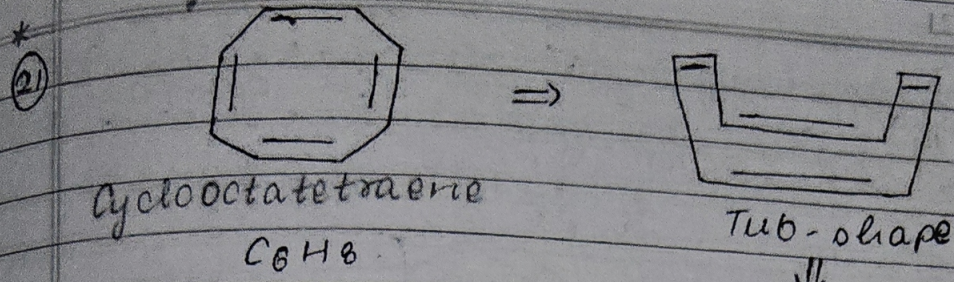


* ⑪



* Aromatic

15  Aromatic



\Downarrow
Non-planar
 \Downarrow
Non-Aromatic

