Functional Groups

Course on Nomenclature of Organic Compounds for Class XI

SURENDRA K MISHRA • Lesson 5 • June 24, 2021

(#) Theory Copy HW :-

(4) DOU = 5 (3 + 2)

(5) " = 6 (4 + 2)

(6) " = 3 (3 + 0)

(7) " = 2 (2 + 0)

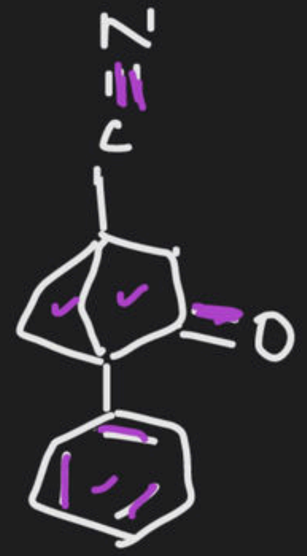
(8) " = 4 (4 + 0)

(9) = 1 (0 + 1)

(10) = 1 (0 + 1)

(11) = 2 (0 + 2)

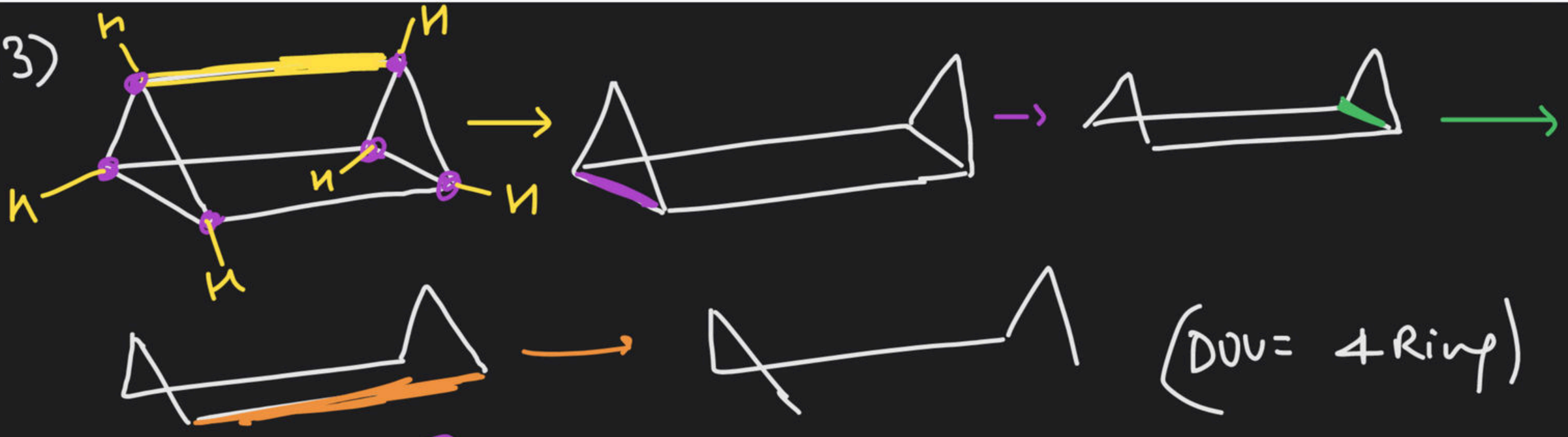
(12) =



(A) 5
(B) 7
(C) 8
(D) 9
(E) 6

DOU = 6 + 3 = 9
π Ring

(13)



(DOU = 4 Ring)

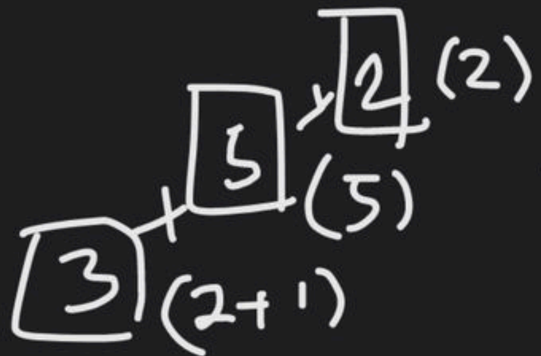
(method - II)

C_6H_{14} ↑
C_6H_6 ↓ $\Delta n_H = 8$

$DBE = \frac{\Delta n_H}{2} = \frac{8}{2} = 4$

(C_nH_{2n+2})

(14)



= 10

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IIT - ORGANIC CHEMISTRY

NURTURE

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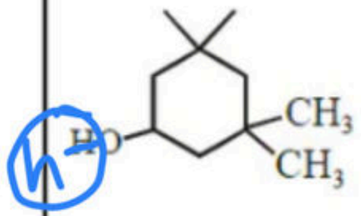
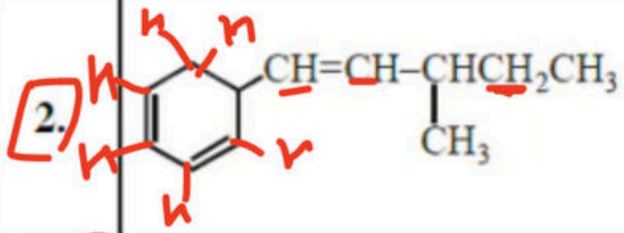
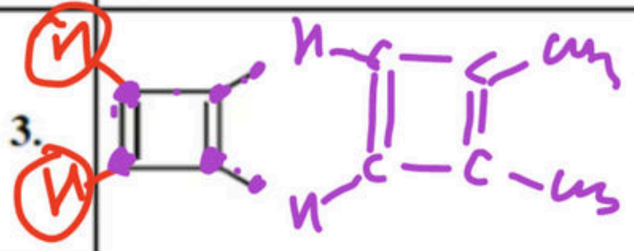
Q. Count the number of primary, secondary, tertiary, quarternary carbon as well as hydrogen in given compound:

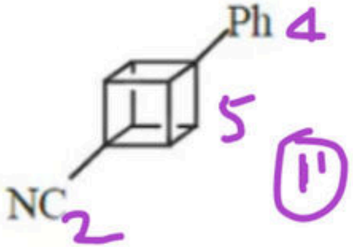
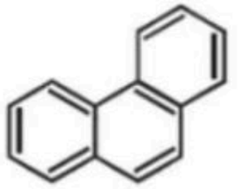
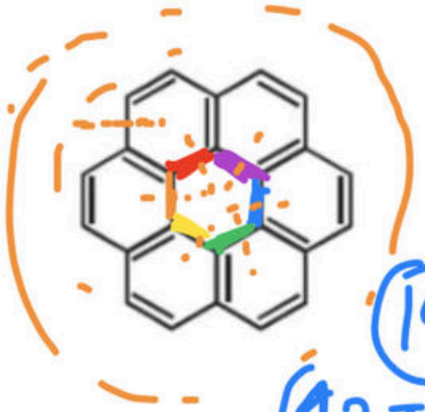
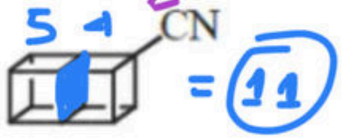
S.No.	Compound	1°C	2°C	3°C	4°C	1°H	2°H	3°H	σ/π
1.		4	4	0	2	12	7	0	31, 0
2.		2	8	2	0	6	10	2	30, 3
3.		2	2	2	0	6	2	0	14/2

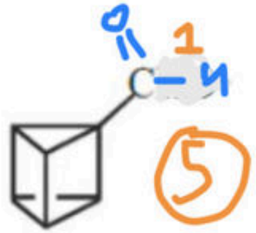
(C_nH_{2n+2})
C_8H_{18}
C_8H_{18} $\Delta n_H = 10 = 1$ $\left(DBE = \frac{\Delta n_H}{2} = 5\right)$

Q. Find the degree of unsaturation for following molecular formulas.

1. $C_6H_5NO_2$
2. C_8H_8
3. $C_{10}H_{12}IBrCl_2$
4. $C_{12}H_8Cl_2Br_2O_2$
5. $C_6H_5ClBr_2O_2$

Q. Find the degree of unsaturation of the following compounds.

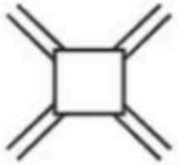
1. 4
2.  5 + 4 + 2 = 11
3.  7+3
4.  19 (12π + 7 Ring)
5.  = 11
6. 4

7. 

4 ⑤

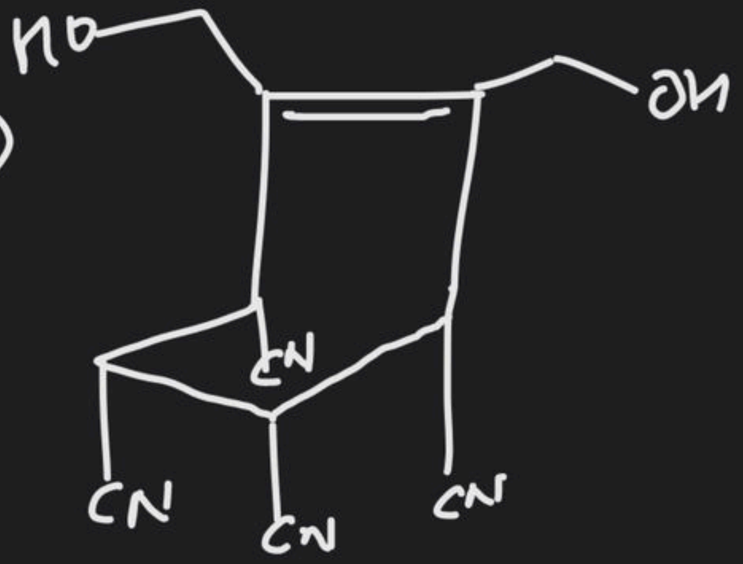
8.
④

9.
(4+4) = 8

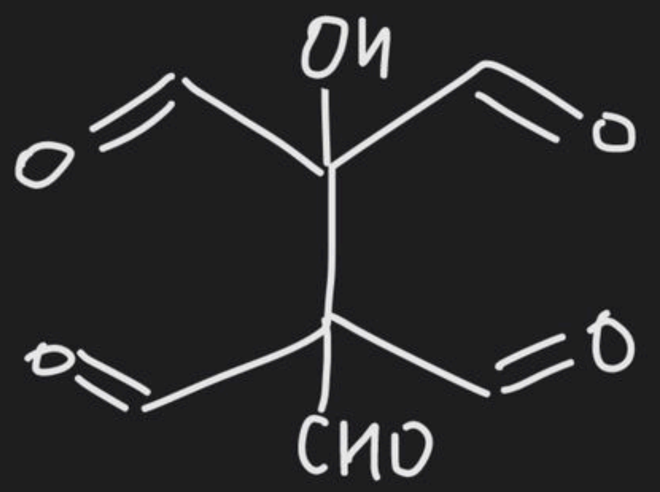
10. 
⑤

(16)

(17)

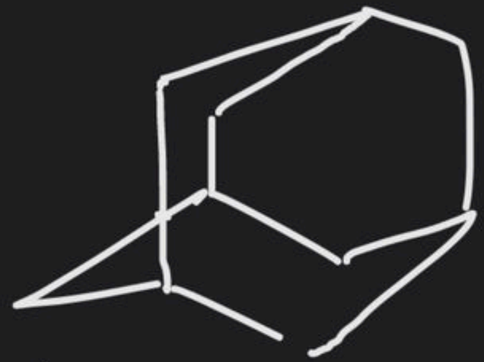


(18)



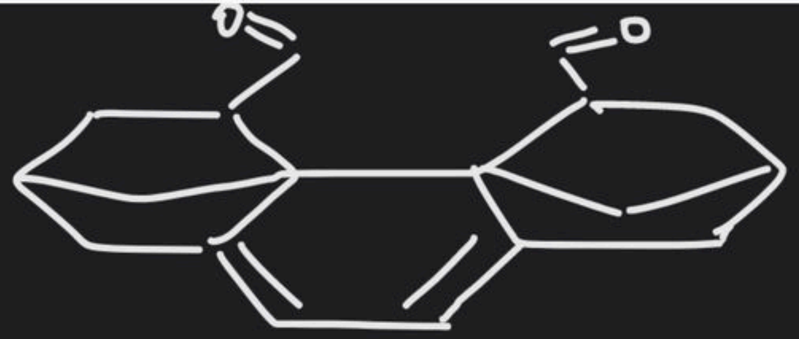
(19)

(20)



(Adamantane)

(21)



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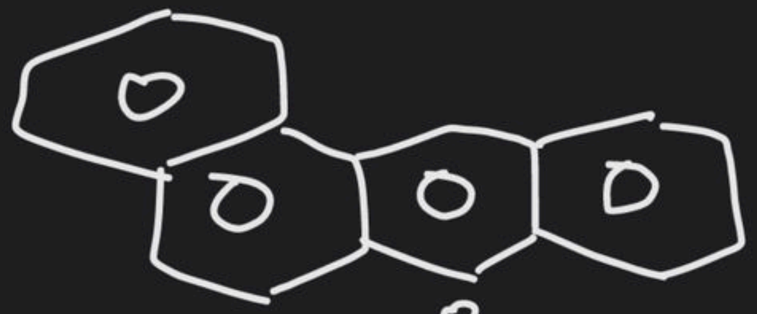

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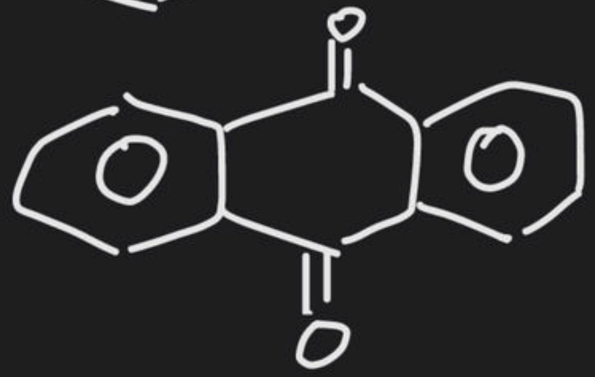

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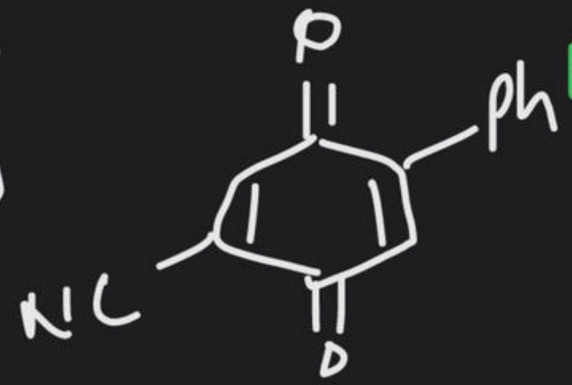

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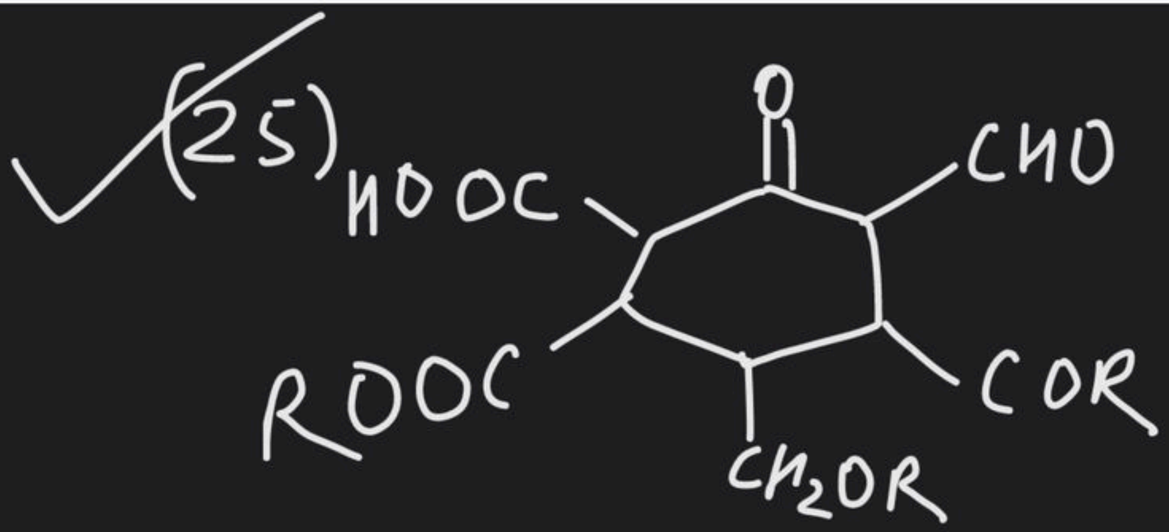
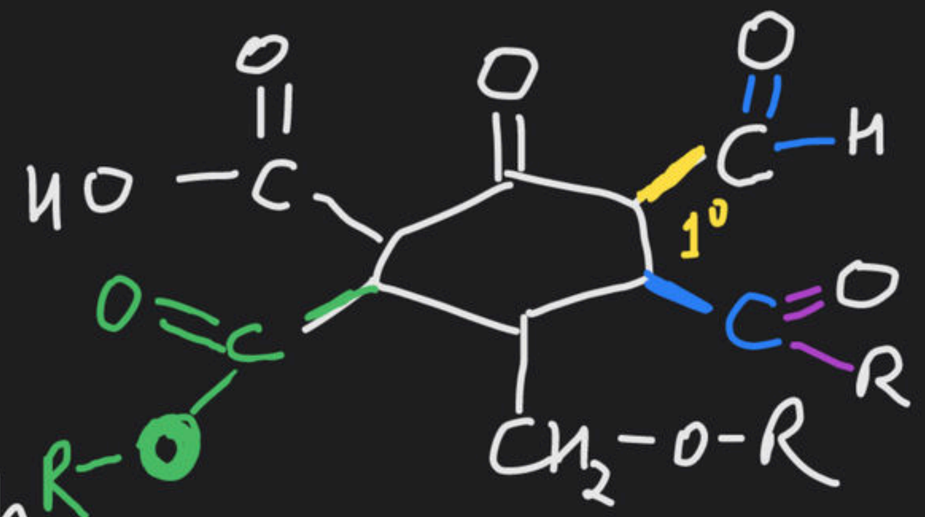
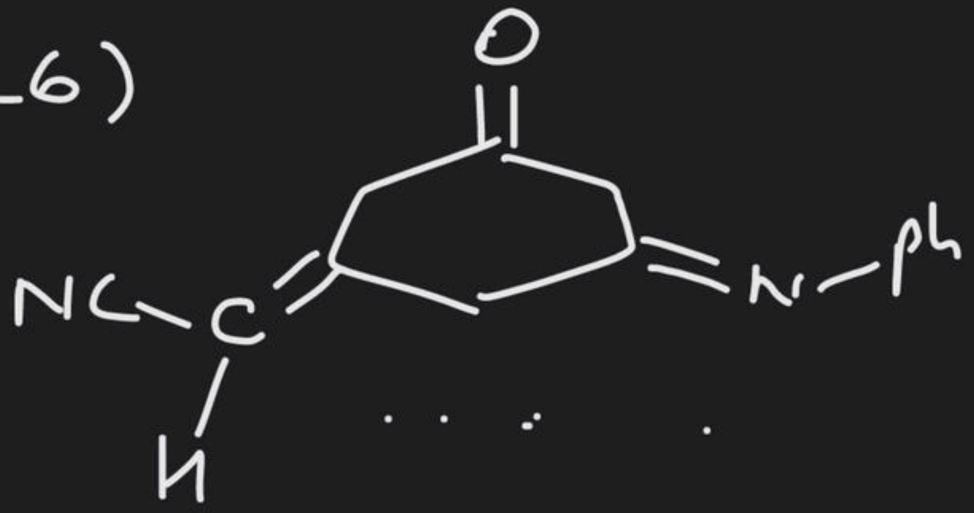




DOU = 1 + 5
= 6

(26)



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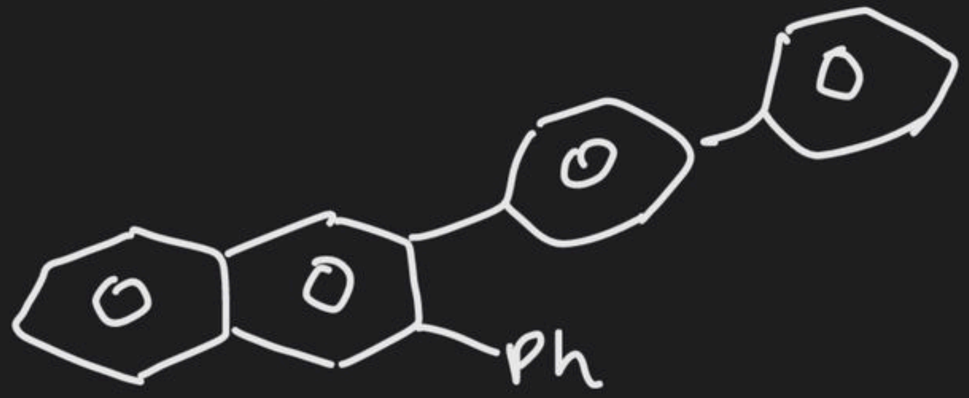
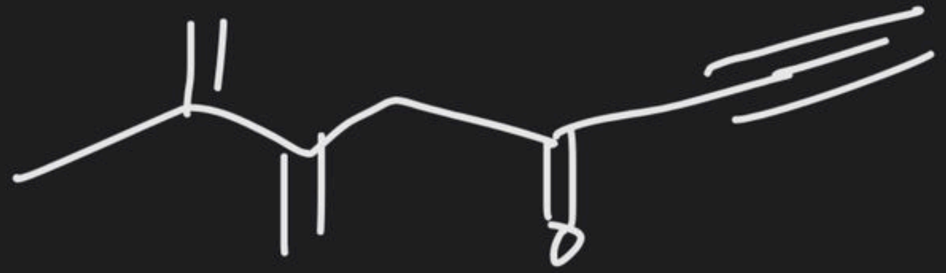
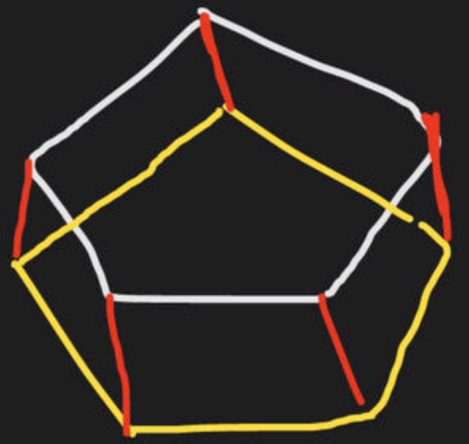


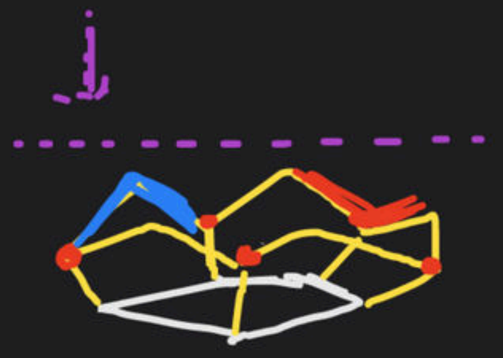
(28)



(29)



(30)



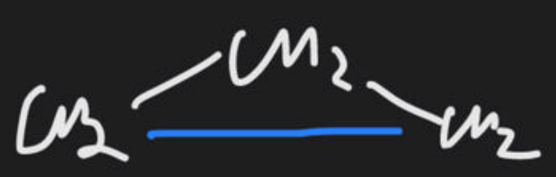
(31) C_7H_6 / C_7H_{16} / $\Delta n_H = 10$ / $DOU = \frac{10}{2} = 5$

C_nH_{2n+2}

(32) $CH_3-CH_2-CH_3 \xrightarrow{-2H}$ $CH_2=CH-CH_3$

DOU = 0 DOU = 1

$-2H$

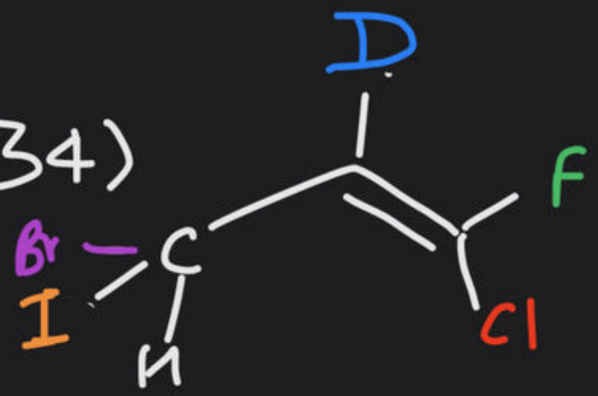


(DOV = 1)

(33) C_8H_4 / C_8H_{18} / $\Delta n_H = 14$ / DOU = 7

Case(i): In case of monovalent atom, Consider all like hydrogen.

(34)



DOU = 1

$-H \Rightarrow$ monovalent atom $(-F, -Cl, -Br, -I, -D, -T$ etc)

C_nH_{2n+2}

(35) C_6Cl_6 / C_6H_6 / C_6H_{14} / $\Delta n_H = 8$ / DOU = 4

(36) $C_6H_2Cl_2Br_2$

(37) $C_6FClBrIDT$

(38) $C_4H_2Cl_6$

(39) $C_6N_6Cl_6$

(40) $C_8Cl_4Br_2I_2$

(41) C_{15}

(42) C_{60}

(43) C_x

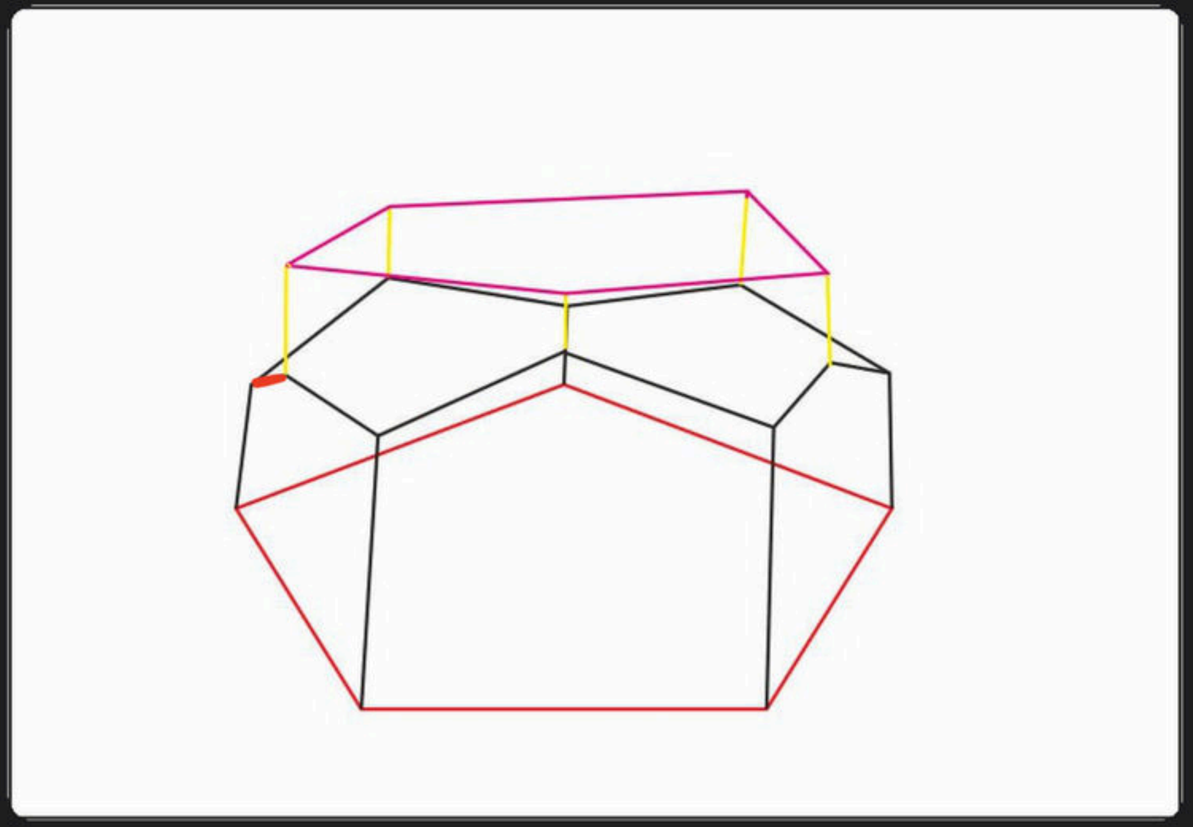
C_nH_{2n+2}

(44) $C_{100}H_0 / C_{100}H_{202} / \Delta n_H = 202 / DOU = 101$

(45) C_xH_y

Question

from chirag bhargava



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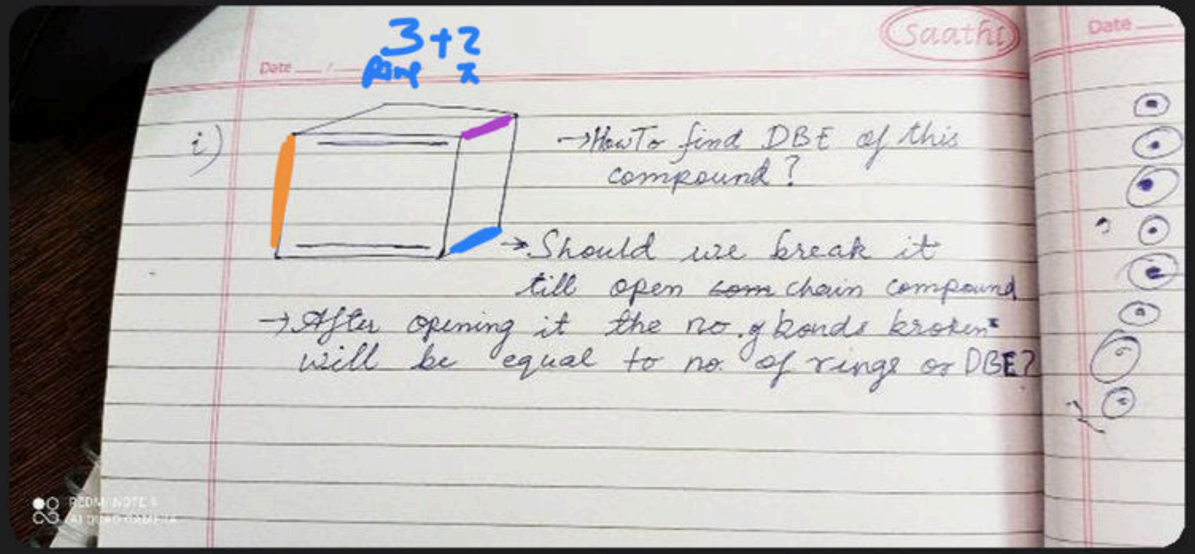
Question

from Pratyush Rankawat

Sir my doubt



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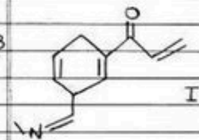
Question
from Kritika Mehta

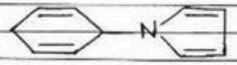
Ex-1 A compound contains IHD = 2, then correct statement regarding compound is:

A) It must have 2 double bond.
B) It must have 2 Rings
C) It may have 1 π Bond & 1 Ring
D) It must be Hydrocarbon
E) It must have Triple Bond.

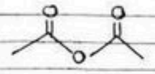
Ex-2 IHD = 3 + 1 = 4

Ex-3  IHD = 6

Ex-4 IHD = 5

Ex-5  IHD = 6

Ex-6 IHD = 3

Ex-7  IHD = 2

Ex-8 IHD = 4

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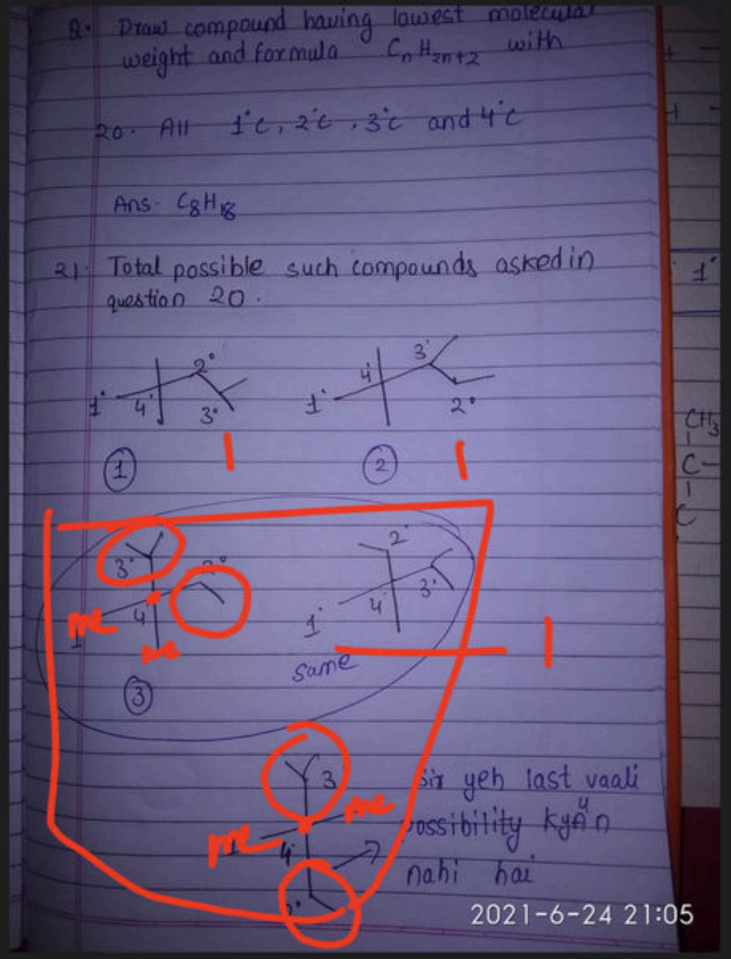
Question

from Aniket Patel

sir answer 4 kyun nahi haii



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Question

from nishkarsh Raj purohit

Ye phir se batao sirji plzzzz batado sirji

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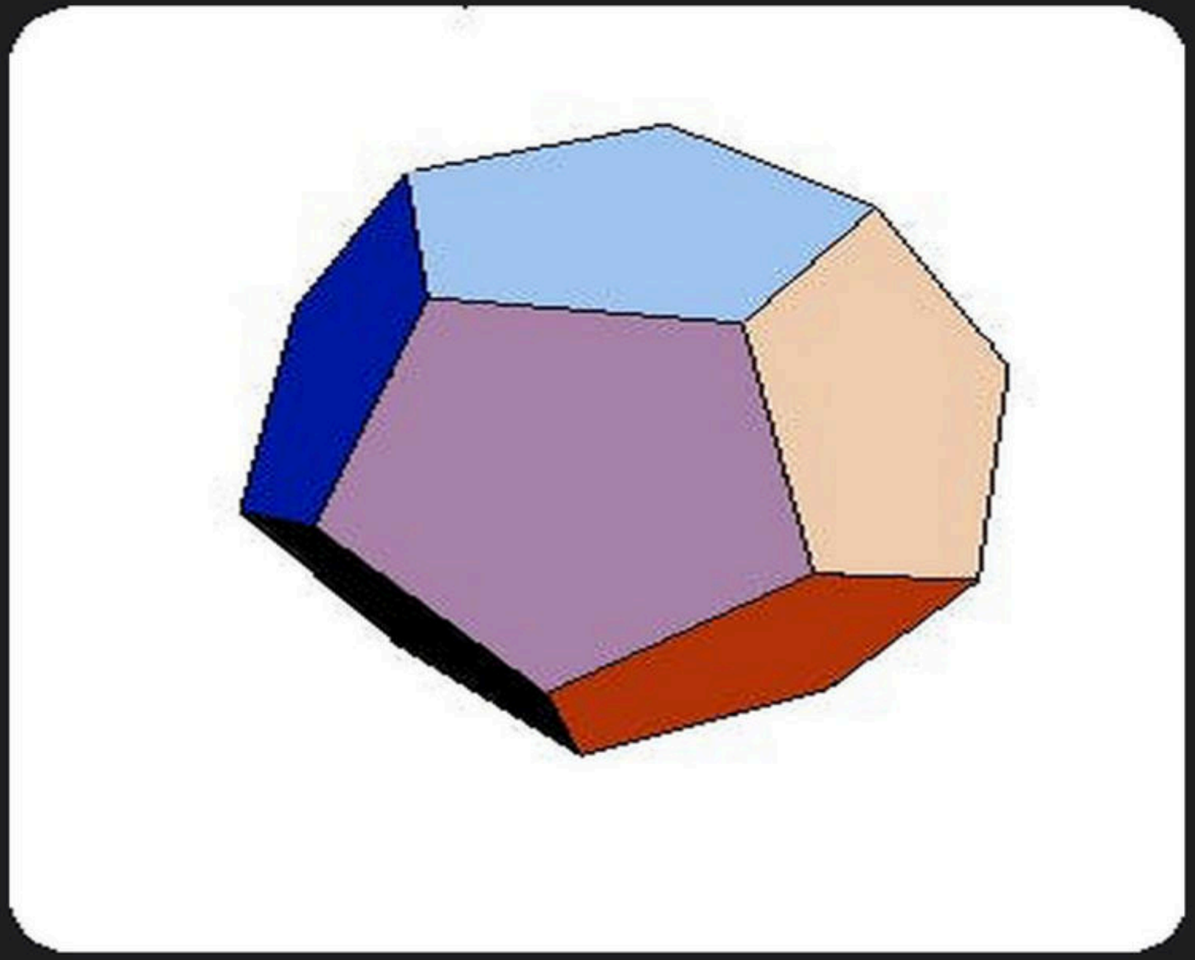
Question

from Aaditya Agarwal



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