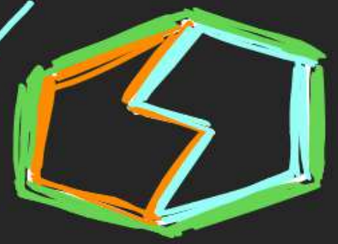
Basic Organic Chemistry

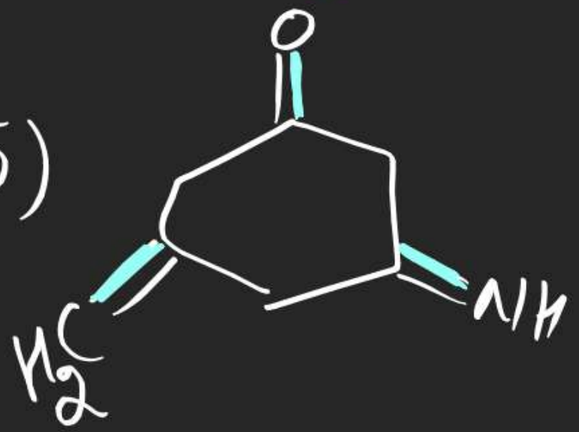
Theory Copy Discussion:

(4) ✓



$$DBE = T_R + T_\pi$$
$$= 2 + 0 = 2$$

(5)



$$DBE = T_R + T_\pi$$
$$= 1 + 3$$
$$= 4$$

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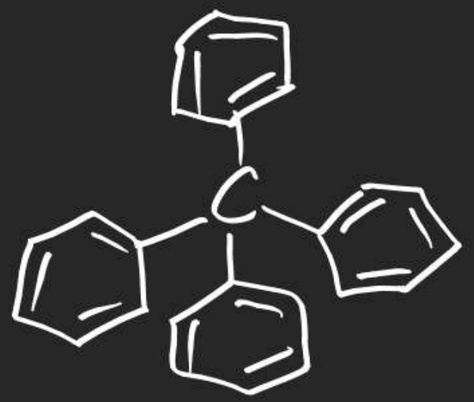
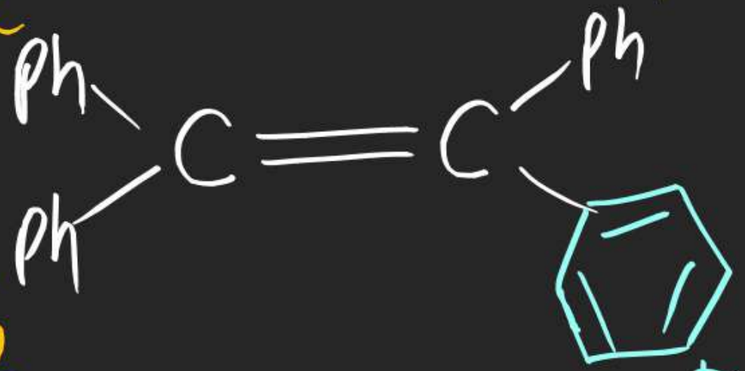
(6) Ph_4C



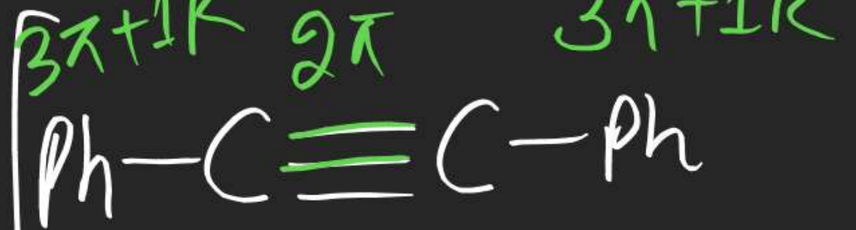
DBE = 16
= 4 + 12

(7) Ph_4C_2



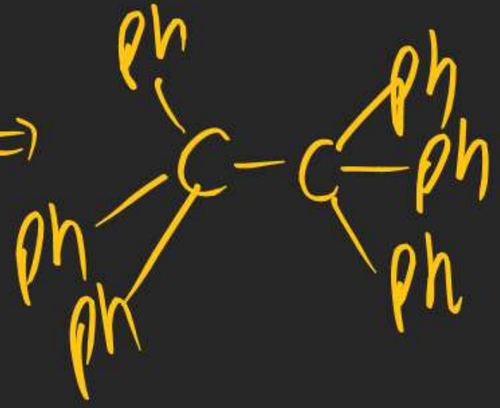
DBE = 4 + 12 + 1
= 4 + 13
= 17

(8) Ph_2C_2



DBE = 10
= 2 + 8

(9) $Ph_6C_2 \Rightarrow$



DBE = 24
= 6 + 18

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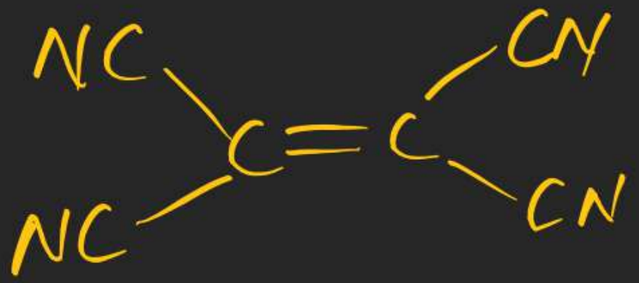
(10)

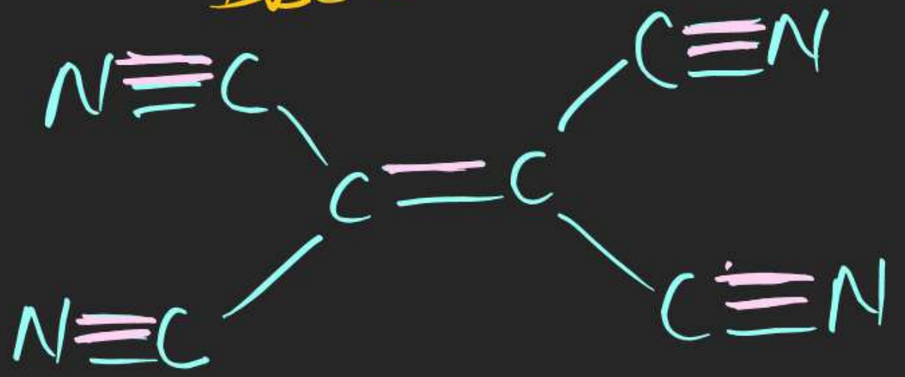
DBE = 2 + 5 = 7

(11)



⇒

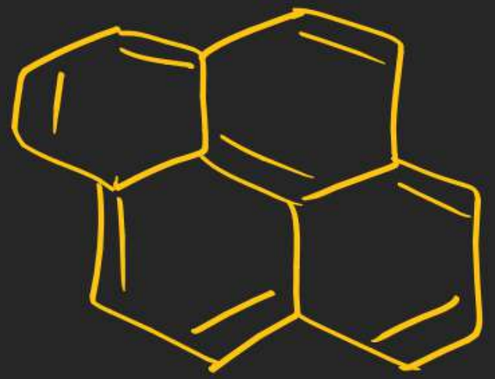
DBE =



DBE = 0 + 9

= 9

(12)



DBE = 4 + 8 = 12

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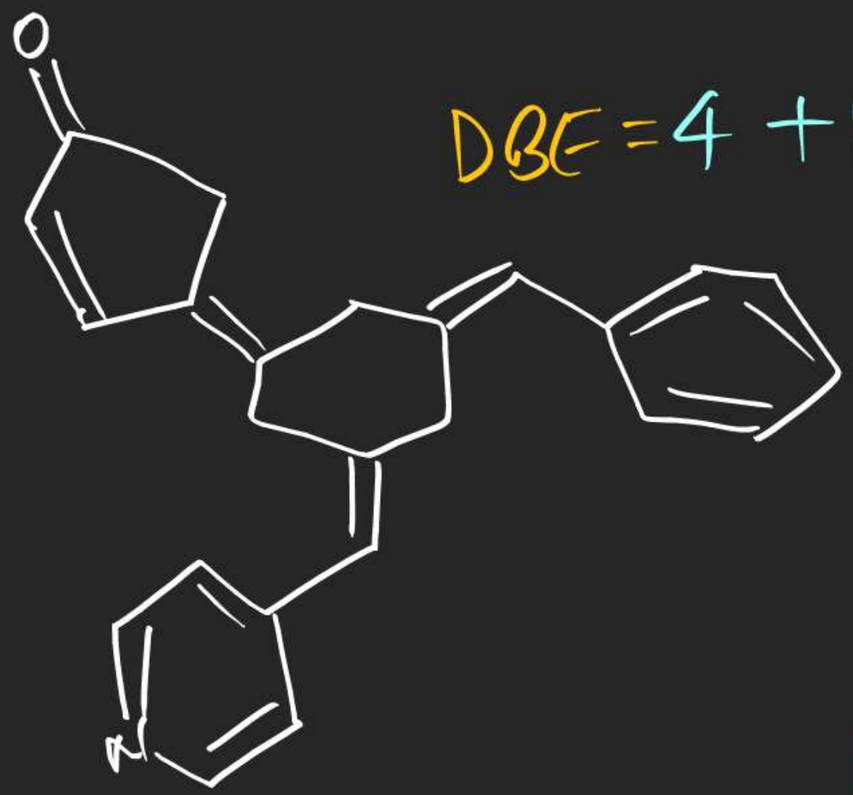
(13) O=C=C=C=O

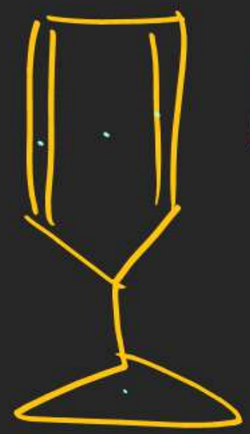
DBE = 4

(14)



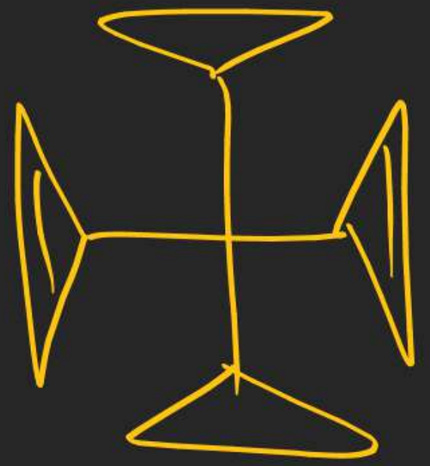
DBE = 4 + 11 = 15

(15)



DBE = 2 + 2 = 4

(16)



DBE = 4 + 2 = 6

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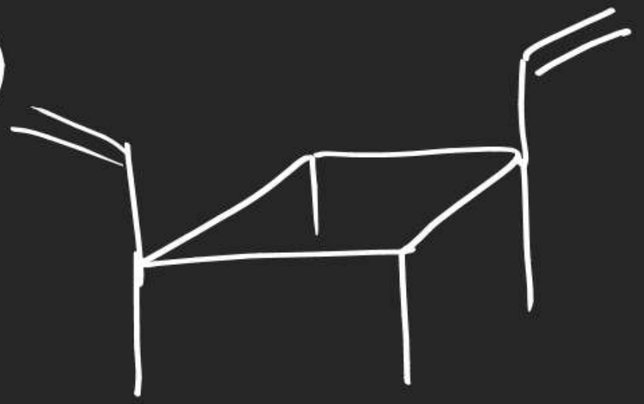
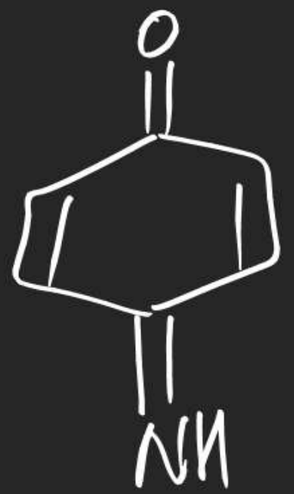
(17)



DBE = 1 + 2
= 3

(18)



DBE = 5

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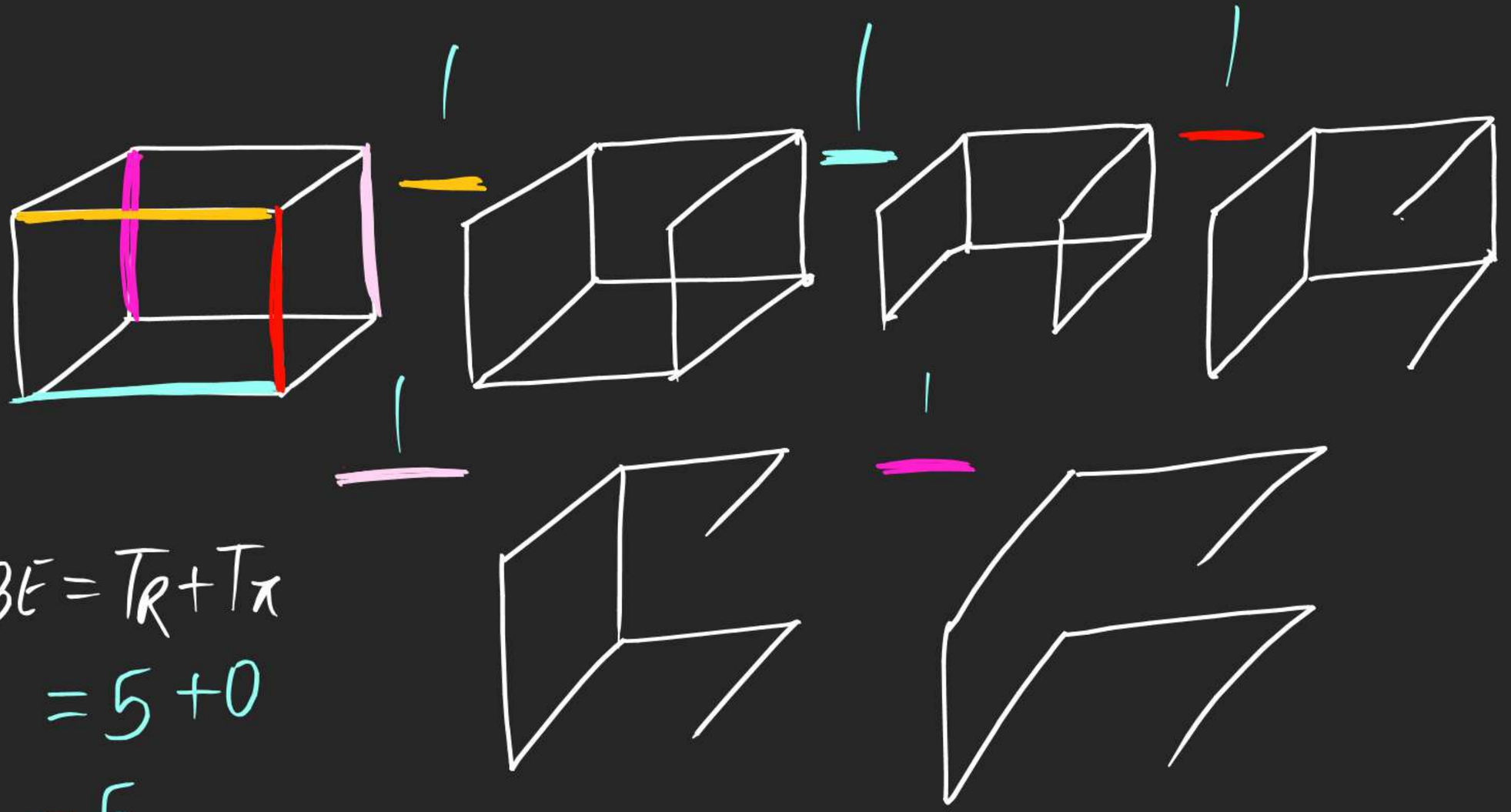
(19)



$DBE = T_R + T_x$

$= 5 + 0$

$= 5$

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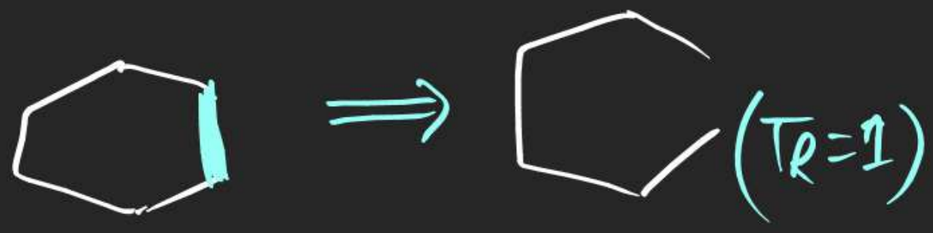
(20) (a)  $(TR=1)$

Total No. of Ring = Minimum No. of Bond By Breaking of that Acyclic Compound is obtained..

(b) $(TR=2)$

(c) $(TR=2)$

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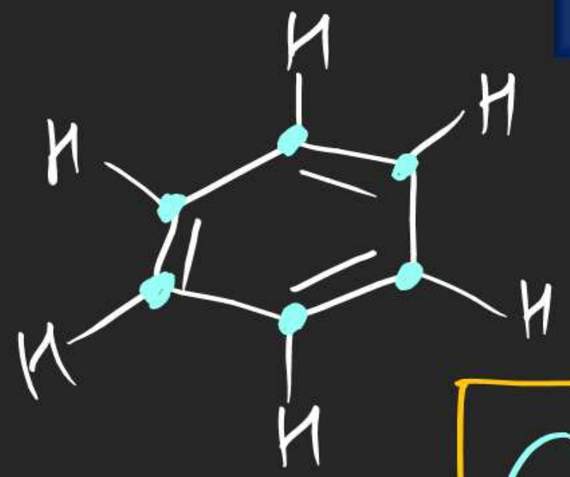
(21)



DBE = 4

C_6H_6 → Alkane G.F

C_nH_{2n+2} / C_6H_{14}

$\Delta n_H = 8$

Loss of 2H ---- generates = 1 DBE

Loss 1H ---- = $\frac{1}{2}$ DBE

--- Δn_H ---- = $\frac{\Delta n_H}{2}$ = DBE

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

(22) C_4H_6 $\quad C_nH_{2n+2}/C_4H_{10}$ $\quad DBE = \frac{4}{2} = "2"$

$\Delta n_H = 4$

(23) C_2H_2

(24) C_6H_8

(25) C_6H_4

(26) C_4H_4

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(27) $C_{60}H_0$ $\rightarrow$ C_nH_{2n+2} / $C_{60}H_{122}$

$\Delta n_H = 122$

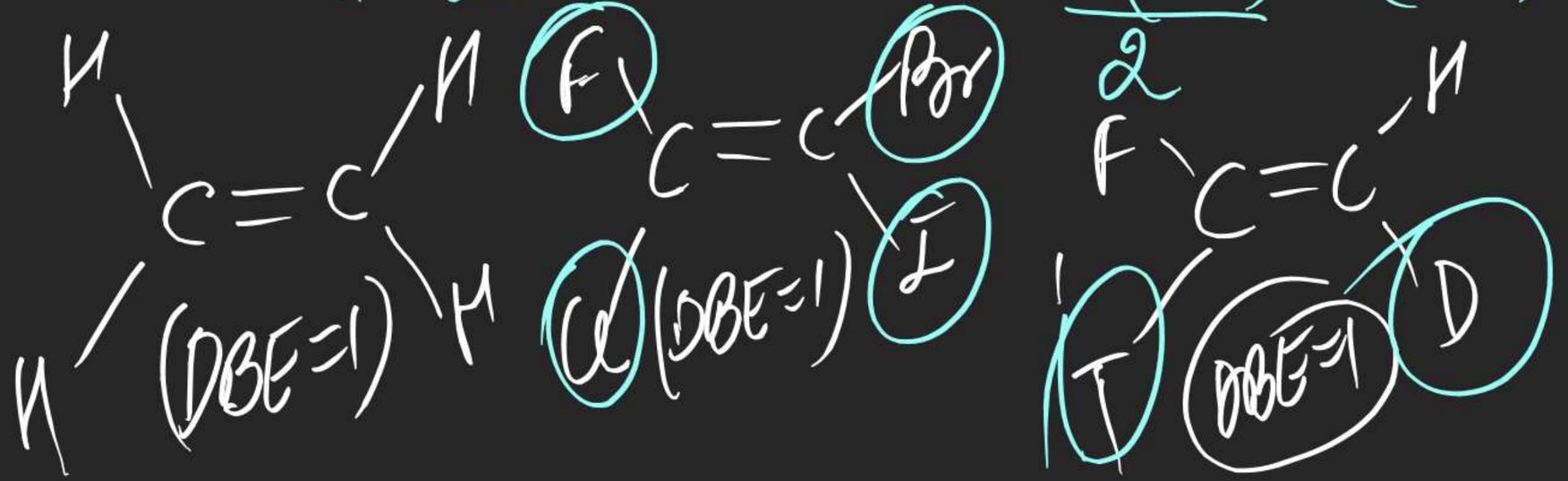
$DBE = 61 = \frac{122}{2}$

(28) C_x $\rightarrow$ C_nH_{2n+2} / C_xH_{2x+2}

$\Delta n_H = 2x+2$

$DBE = \frac{2(x+1)}{2} = (x+1)$

(29)



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Case (i) If monovalent atoms are present (−D, −T, −F, −Cl, −Br, −I) then consider these atoms like "H"

(29) $C_6Cl_6 \Rightarrow C_6H_6 / C_6H_{14}$ / $\Delta n_H = 6$ / $DBE = \frac{6}{2} = 4$

(30) $C_6H_3Cl_3$

(31) $C_6H_2F_2Cl_2$

(32) C_6H_3FClBr

(33) $C_8H_2F_2ClBrDT$

(34) C_6D_4

(35) $C_2F_2Cl_2I_2$

(36) $C_6H_6Cl_6$

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Soln (36):- $C_6H_6Cl_6$ | C_6H_{12} | C_6H_{14}

$C_6H_6Cl_6$ — mono valent

$DBE = \frac{\Delta n_H}{2} = \frac{2}{2} = 1$

(37) DBE of a compound is "3"
Then Correct statement is/are

(A) Compound must have 3 π Bonds
(B) Compound must have 3 Rings
(C) Compound must have 2 Rings & 1 π Bond

Ans (D) All statement 'A' 'B' & "C" is incorrect.

Soln

$DBE = T_R + T_\pi$

$\Rightarrow \boxed{3 = T_R + T_\pi}$

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(38) Compound $CH_3-CH=(C)_n=CH-CH_3$

Containg "21" DBE. Find 'n'.

$x+y+xy=7$

$y+z+yz=3$

$z+x+xz=1$

(A) 21

(B) 22

(C) 23

(D) 24

(E) NOT

19 DBE

DBE		
1	$C=C$	2C
2	$C=C=C$	3C
19		20C

$n=20$