Science

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(Class – X)

Page 68 - 69

Question 1:

How many structural isomers can you draw for pentane?

Answer 1:

Three structural isomers are possible for pentane.



Question 2:

What are the two properties of carbon which lead to the huge number of carbon compounds we see around us?

CH

CH3

CHa

CH3

Answer 2:

The two features of carbon that give rise to a large number of compounds are as follows:

(i) Catenation: It is the ability to form bonds with other atoms of carbon.

(ii) Tetravalency: With the valency of four, carbon is capable of bonding with four other atoms.



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Question 3:

What will be the formula and electron dot structure of cyclopentane?

Answer 3:

The formula for cyclopentane is C_5H_{10} . Its electron dot structure is given below.



Question 4:

Draw the structures for the following compounds.

(i) Ethanoic acid

(ii) Bromopentane*

(iii) Butanone

(iv) Hexanal

*Are structural isomers possible for bromopentane?

Answer 4: (i)

$$\begin{array}{ccc} H & O \\ & & | & || \\ CH_3 COOH , & H - C - C - OH \\ & & | \\ H \\ H \end{array}$$

(ii) There are many structural isomers possible for bromopentane. Among them, the structures of three isomers are given.



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(iii)

$$\begin{array}{ccccccc} H & H & O & H \\ I & I & \parallel & I \\ CH_3 CH_2 CO CH_3 & H & - \begin{array}{c} C & - \\ H & H \\ H & H \end{array}$$

(iv)

	н	н	н	H	н	0
	1	1	1	1	1	
н —	- C -	- C -	- C -	- C -	- C -	- C — H
	1	1	1	1	1	
	н	н	н	H	н	

CH3 CH2 CH2 CH2 CH2 CH2 CH0



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Question 5:

How would you name the following compounds?



Answer 5:

(i). Bromoethane(ii). Methanal(iii). Hexyne



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