10.1 Fundamentals of Organic Chemistry

Question Paper

Course	DP IB Chemistry
Section	10. Organic Chemistry
Topic	10.1 Fundamentals of Organic Chemistry
Difficulty	Easy

Time allowed: 20

Score: /10

Percentage: /100

Question 1

Which pairs of homologous series do **not** have the same C:H ratio in their general formulae?

A aldehydes and ketones

B alkanes and alkenes

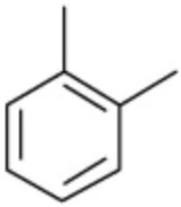
C carboxylic acids and esters

D alkenes and aldehydes

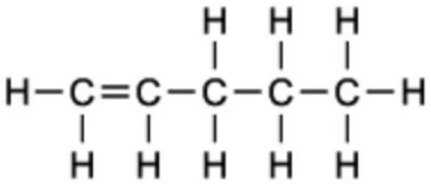
[1 mark]

Question 2

Which of the following molecules are hydrocarbons?



1



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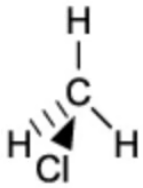


3

HCO_3^-

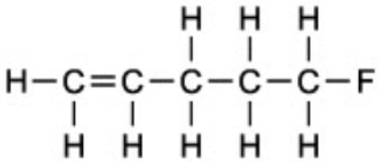
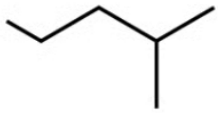
4

A All **B** 1 and 2 **C** 1, 2 and 3 **D** 4 only

[1 mark]

Question 3

What is the correct formula for 1-fluoro-3-methylbut-2-ene?

A	Molecular	$CH_2FCH_2C(CH_3)CH_3$
B	Empirical	C_5H_9F
C	Displayed	
D	Skeletal	

[1 mark]

Question 4

Considering **only** structural isomers, what is the number of alcohols of each type with the formula $C_5H_{12}O$?

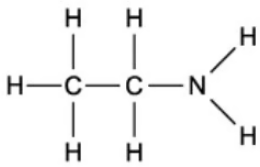
	primary	secondary	tertiary
A	3	3	2
B	4	2	2
C	4	3	1
D	5	2	1

[1 mark]

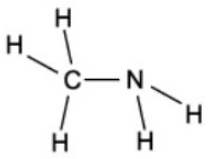
Question 5

Which of the following is the displayed formula for ethylamine?

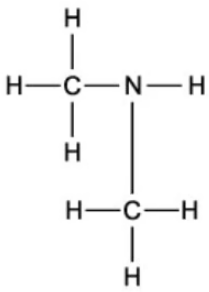
A



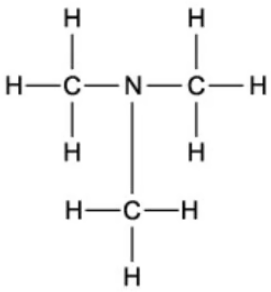
B



C



D



[1 mark]

Question 6

Identify which of the hydrocarbons shown below does **not** belong in the same homologous series as the other compounds

A C_5H_{12}

B C_6H_{12}

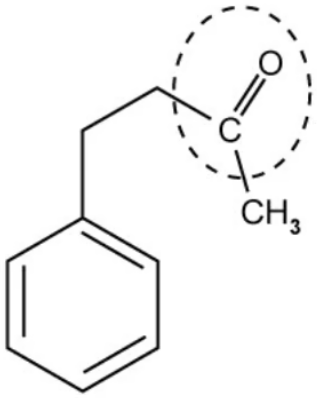
C C_7H_{16}

D C_8H_{18}

[1 mark]

Question 7

Identify the functional group that is ringed in the molecule shown below:



A hydroxyl

B carboxyl

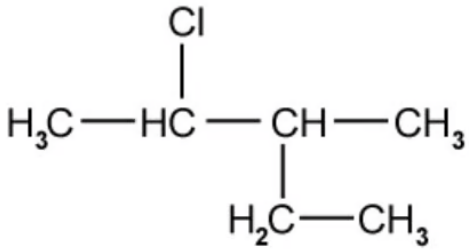
C ether

D carbonyl

[1 mark]

Question 8

What is the IUPAC name of the following molecule?



A 2-chloro-3-ethylbutane

B 3-methyl-4-chloropentane

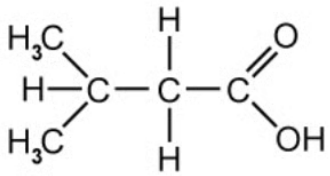
C 2-ethyl-3-chlorobutane

D 2-chloro-3-methylpentane

[1 mark]

Question 9

What is the IUPAC name of the following molecule?



A 3,3-dimethylpropanoic acid

B 1,1-dimethylpropanoic acid

C 3-methylbutanoic acid

D 2-methylbutanoic acid

[1 mark]

Question 10

Which of the halogenoalkanes shown contains a secondary carbon atom?

A $(CH_3)_2CHCH_2Cl$

B $CH_3(CH_2)_3CH_2Cl$

C $(CH_3)_3CCl$

D $CH_3CHClCH_2CH_3$

[1 mark]