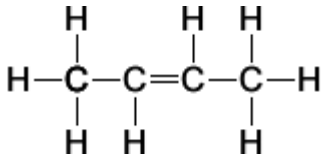
Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic: Alkanes

Merit Minds
www.merit-minds.com
Exam Preparation and Free Resources

Name of the Student:_____
Max. Marks : 16 Marks **Time : 16 Minutes**

Q1.

Compound **X** is shown below. It is a member of a homologous series of hydrocarbons.



(a) (i) Deduce the general formula of the homologous series that contains **X**.

_____

(1)

(ii) Name a process used to obtain a sample of **X** from a mixture containing other members of the same homologous series.

_____

(1)

(b) There are several isomers of **X**.

(i) Give the IUPAC name of the position isomer of **X**.

_____

(1)

(ii) Draw the structure of a functional group isomer of **X**.

(1)

(c) At high temperatures, one molecule of $C_{15}H_{32}$ can be converted into two molecules of **X** and one molecule of another compound.

(i) Write an equation for this reaction.

_____

(1)

(ii) State the name of the process used to obtain a high yield of **X** from $C_{15}H_{32}$

Downloaded from www.merit-minds.com

Give **one** reason why this process is used in industry.

Name _____

Reason _____

_____

(2)

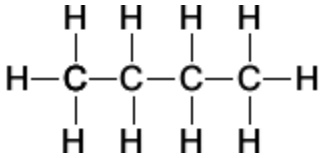
(iii) State why high temperatures are needed for this process.

_____

_____

(1)

(d) Compound **X** can be converted into compound **Y**.
Compound **Y** is shown below.



(i) Suggest the formula of a reagent that could be added to **X** in order to convert it into **Y**.

_____

(1)

(ii) Give **one** use of **Y**.

_____

(1)

(iii) Write an equation to show the reaction of **Y** in a limited supply of air to produce a solid and water only.

_____

(1)

(iv) When a sample of **Y**, contaminated with CH_3SH, is burned completely in air, a toxic gas is formed.
Identify this toxic gas and suggest a compound that could be used to remove the toxic gas from the products of combustion.

Toxic gas _____

Compound used to remove toxic gas _____

_____

(2)

(v) Suggest the name of the process that occurs when the toxic gas in part (d)(iv) is removed.

_____

(1)

Downloaded from www.merit-minds.com

(e) Explain why the boiling points of **X** and **Y** are similar.

_____

_____

_____

_____

(2)

(Total 16 marks)

Downloaded from www.merit-minds.com