EveryTuition Revision- etrevision.co.uk
Connect With A Tutor: everytuition.org

GCSE Chemistry Topic 7 AQA: Organic Chemistry

Exam Questions/Mock Exam Questions

Questions For Foundation, Higher, and Triple Science (scroll down for questions for higher and triple science only):
(It would still be recommended to answer the foundation tier questions for triple science and higher tier to ensure you have good understanding).

Q1.
Jack learns that crude oil is a mixture.

(a) State what type of mixture crude oil is.

---

[1]

(b) Name the main group of hydrocarbons found in crude oil.

---

[1]

[Total: 2 marks]

Q2.
Harry looks at alkanes.

(a) State the general formula of alkanes.

---

[1]

(b) Write the molecular formula of propane.

---

[1]

[Total: 2 marks]

Q3.
Ben studies the structure of alkanes.

Draw the displayed formula of methane.

---

[2]

[Total: 2 marks]

Q4.
Daniel is revising fractional distillation.

(a) Explain why different fractions are collected at different levels of the fractionating column.

[2]

(b) Name the fraction collected at the top of the column.

[1]

[Total: 3 marks]

Q5.
Oliver thinks about the properties of hydrocarbons.

(a) State what happens to viscosity as chain length increases.

[1]

(b) State what happens to flammability as chain length increases.

[1]

[Total: 2 marks]

Q6.
Ethan studies combustion.

(a) Write the word equation for the complete combustion of methane.

[2]

(b) Name one product of incomplete combustion.

[1]

[Total: 3 marks]

Q7.
Sam investigates cracking.

(a) State the conditions needed for cracking.

[2]

(b) Explain why cracking is useful.

[2]

[Total: 4 marks]

Q8.
Charlie tests hydrocarbons with bromine water.

(a) Describe the result of the bromine water test if an alkene is present.

[1]

(b) What result is seen if an alkane is present?

[1]

[Total: 2 marks]

Q9.
Noah looks at alkenes.

(a) State the general formula of alkenes.

[1]

(b) Draw the displayed formula of ethene.

[2]

[Total: 3 marks]

Q10.
Jacob learns about polymers.

(a) State the type of reaction used to make addition polymers.

[1]

(b) Draw the displayed formula of the polymer formed from ethene.

[2]

[Total: 3 marks]

Q11.
William studies alcohols.

(a) Write the functional group of alcohols.

---

[1]

(b) Name the alcohol with the formula C_2H_5OH.

---

[1]

[Total: 2 marks]

Q12.
Alex looks at uses of alcohols.

Give one use of ethanol.

---

[1]

[Total: 1 mark]

Q13.
Luke revises carboxylic acids.

(a) State the functional group of carboxylic acids.

---

[1]

(b) Give the name of the carboxylic acid with the formula CH_3COOH.

---

[1]

[Total: 2 marks]

Q14.
James investigates esters.

(a) Name the ester formed from ethanol and ethanoic acid.

_____

[1]

(b) Give one use of esters.

_____

[1]

[Total: 2 marks]

_____

Q15.
Tom is revising organic chemistry.

Describe two differences between alkanes and alkenes.

_____

_____

[2]

[Total: 2 marks]

Higher Tier

Q16.
Jack is studying hydrocarbons.

(a) State the general formula for alkanes.

_____

[1]

(b) Write the molecular formula for butane.

_____

[1]

[Total: 2 marks]

Q17.
Harry looks at properties of hydrocarbons.

(a) Explain how viscosity changes as chain length increases.

[2]

(b) Explain how flammability changes as chain length increases.

[2]

[Total: 4 marks]

Q18.
Ben studies fractional distillation of crude oil.

(a) Explain why different fractions are collected at different levels in the fractionating column.

[3]

(b) Name the fraction collected at the top of the column.

[1]

[Total: 4 marks]

Q19.
Daniel investigates combustion.

(a) Write a balanced symbol equation for the complete combustion of ethane (C_2H_6).

[2]

(b) Name two products of incomplete combustion of hydrocarbons.

[2]

[Total: 4 marks]

Q20.
Oliver investigates cracking.

(a) Write a balanced symbol equation for the cracking of decane ($C_{10}H_{22}$) into octane (C_8H_{18}) and ethene (C_2H_4).

[2]

(b) Explain why cracking is important in industry.

[2]

[Total: 4 marks]

Q21.
Ethan carries out a test with bromine water.

(a) Describe the result if bromine water is added to an alkene.

[2]

(b) Explain why this result happens.

[2]

[Total: 4 marks]

Q22.
Sam studies the structure of alkenes.

(a) State the general formula of alkenes.

[1]

(b) Draw the displayed formula of propene.

[2]

[Total: 3 marks]

Q23.
Charlie learns about addition polymerisation.

(a) State the type of monomer needed to form addition polymers.

[1]

(b) Draw the displayed formula of the polymer formed from propene.

[2]

[Total: 3 marks]

Q24.
Noah revises alcohols.

(a) State the functional group of alcohols.

[1]

(b) Write the molecular formula of propanol.

[1]

(c) Give one use of alcohols.

[1]

[Total: 3 marks]

Q25.
Jacob compares the combustion of alcohols.

(a) Write the word equation for the complete combustion of ethanol.

[2]

(b) State one use of ethanol as a fuel.

_____

[1]

[Total: 3 marks]

Q26.
William studies fermentation.

(a) State the word equation for the fermentation of glucose.

_____

_____

[2]

(b) State two conditions needed for fermentation.

_____

_____

[2]

[Total: 4 marks]

Q27.
Alex studies carboxylic acids.

(a) State the functional group of carboxylic acids.

_____

[1]

(b) Name the carboxylic acid with the formula C_2H_5COOH.

_____

[1]

[Total: 2 marks]

Q28.
Luke reacts carboxylic acids with metals.

(a) Write the general word equation for the reaction of a carboxylic acid with a metal carbonate.

_____

_____

[2]

(b) State one observation you would see in this reaction.

_____

[1]

[Total: 3 marks]

Q29.
James studies esters.

(a) Name the ester formed from ethanol and propanoic acid.

_____

[1]

(b) State one use of esters.

_____

[1]

[Total: 2 marks]

Q30.
Tom compares alkanes and alkenes.

Give two differences in their chemical properties.

_____

_____

[2]

[Total: 2 marks]

Q31.
Jack looks at polymer problems.

Evaluate the environmental issues caused by addition polymers.

[4]

[Total: 4 marks]

Q32.
Harry compares methods of making ethanol.

Compare the advantages and disadvantages of fermentation and hydration of ethene to make ethanol.

[6]

[Total: 6 marks]

Q33.
Ben studies displayed formulae.

Draw the displayed formulae of butane and but-1-ene.

[2]

[Total: 2 marks]

Q34.
Daniel investigates combustion.

Explain why incomplete combustion is dangerous.

[2]

[Total: 2 marks]

Q35.
Oliver revises fractional distillation.

State two products obtained from crude oil and give one use for each.

[3]

[Total: 3 marks]

Q36.
Ethan studies reactions of alkenes.

State two reactions alkenes undergo in addition to combustion.

[2]

[Total: 2 marks]

Q37.
Sam investigates combustion of alcohols.

Describe an experiment to compare the energy released when burning different alcohols.

[4]

[Total: 4 marks]

Q38.
Charlie revises carboxylic acids.

Explain why carboxylic acids are described as weak acids.

[2]

[Total: 2 marks]

Q39.
Noah studies homologous series.

(a) Define the term homologous series.

[2]

(b) Give one property members of a homologous series share.

[1]

[Total: 3 marks]

Q40.
Jacob plans an investigation into combustion of hydrocarbons.

Suggest how he could ensure the experiment is valid and accurate.

[4]

[Total: 4 marks]

Triple Science

Q41.
William studies cracking.

(a) Explain why cracking is an example of thermal decomposition.

[2]

(b) Give two products of cracking and explain their uses.

[2]

[Total: 4 marks]

Q42.
Alex looks at structural isomers.

(a) Define the term structural isomer.

[2]

(b) Draw the displayed formulae of two isomers of C_4H_{10}.

[2]

[Total: 4 marks]

Q43.
Jacob investigates addition polymerisation.

(a) Explain why the repeating unit of a polymer has no double bond.

[2]

(b) Draw the displayed formula of the repeating unit of the polymer made from propene.

[2]

[Total: 4 marks]

Q44.
James compares polymer types.

Explain one difference between addition and condensation polymers.

[2]

[Total: 2 marks]

Q45.
Luke studies alcohol reactions.

(a) Write a balanced symbol equation for the combustion of ethanol.

[2]

(b) Describe what happens when ethanol reacts with sodium.

[2]

[Total: 4 marks]

Q46.
Tom investigates fermentation.

Explain why temperature control is important in the fermentation of glucose.

[2]

[Total: 2 marks]

Q47.
Jack looks at hydration of alkenes.

(a) State the conditions needed for hydration of ethene to form ethanol.

[2]

(b) Write the balanced symbol equation for this reaction.

[2]

[Total: 4 marks]

Q48.
Harry studies carboxylic acids and alcohols.

(a) Name the product formed when ethanoic acid reacts with ethanol.

[1]

(b) State one property of this product.

[1]

[Total: 2 marks]

Q49.
Ben looks at esters.

Evaluate the advantages and disadvantages of using esters as solvents.

[4]

[Total: 4 marks]

Q50.
Daniel revises homologous series.

Explain why members of a homologous series show a trend in physical properties.

[2]

[Total: 2 marks]

Q51.
Oliver compares alkanes and alkenes.

Write two differences in their bonding and reactions.

[2]

[Total: 2 marks]

Q52.
Ethan studies functional groups.

(a) State the functional group in alcohols.

[1]

(b) State the functional group in esters.

[1]

(c) State the functional group in carboxylic acids.

[1]

[Total: 3 marks]

Q53.
Sam evaluates polymer disposal.

Discuss three problems caused by disposing of addition polymers.

[3]

[Total: 3 marks]

Q54.
Charlie investigates biofuels.

Explain two advantages and two disadvantages of using biofuels compared to fossil fuels.

[4]

[Total: 4 marks]

Q55.

Noah plans a practical to compare the energy released by burning different alcohols.

Include:

- the apparatus used
- the method
- the measurements taken
- how accuracy could be improved

[6]

[Total: 6 marks]