ENGLAND GCSE COMBINED SCIENCE OCR TWENTY FIRST CENTURY HIGHER · UNIT 9 · 25 QUESTIONS

Chemicals of the Natural Environment — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button so it can be fixed.

1 **A chocolate cake rises in the oven. What makes it rise?**

- A the sugar freezes
- B a gas is made
- C the egg evaporates
- D the flour melts

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2 **Paintbrushes apply paint to a wall. What is the paint made of?**

- A a single element, nothing else
- B pure water with nothing in it
- C a single compound, nothing else
- D a mixture of substances

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3 **A thermometer shows a patient's temperature is 39 degrees Celsius. Is this above or below normal body temperature?**

- A above normal
- B below normal
- C impossible to tell
- D exactly normal

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4 **Lemons contain citric acid. What do acids make with metals?**

- A a salt and oxygen gas
- B water only, nothing else
- C a salt and water, never hydrogen
- D a salt and hydrogen

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5 **A river is polluted by fertiliser. What grows too fast in the water?**

- A fish
- B reeds
- C algae
- D trees

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6 **Silver coins are made of a metal. Which property do metals have?**

A they conduct electricity

B they dissolve in water

C they do not conduct electricity at all

D they are brittle

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7 **What gas is made at the positive electrode in aluminium extraction?**

A aluminium metal from the ore

B hydrogen gas from the acid used

C oxygen gas from the air around it

D carbon dioxide

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8 **What is poly(ethene) used for?**

A plastic bags and bottles

B non-stick cooking pans

C electrical cables and wires

D car tyres and rubber seals

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9 **What conditions are used to make ethanol from ethene?**

A steam and a catalyst

B cold water and no catalyst

C hydrogen and a cold catalyst

D oxygen and a very high pressure

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10 **Which alkane has the lowest boiling point?**

A ethane

B propane

C methane

D butane

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11 **What is the negative electrode called?**

A the anode

B the cathode

C the cell

D the electrolyte

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12 **An alkane with 12 carbon atoms is cracked. One product is an alkene with 3 carbon atoms. How many carbon atoms does the other product have?**

A 11

B 10

C 9

D 8

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13 **Why is aluminium extracted by electrolysis?**

A it is too reactive for carbon

B carbon does not react with it

C it is cheap to do

D it melts easily

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14 **What forms at the anode during the electrolysis of molten lead bromide?**

A chlorine

B bromine

C lead

D hydrogen

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15 **What is a polyester made from?**

A an alkene and nothing else

B a diol and a dicarboxylic acid

C two alkanes joined together in a chain

D an alcohol and water only

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16 **What is the relative formula mass of the alkane C_4H_{10}?**

A 70

B 60

C 58

D 56

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17 **An alkane has 3 carbon atoms. How many hydrogen atoms does one molecule have?**

A 8

B 4

C 10

D 6

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18 **During the electrolysis of sodium chloride solution, why is hydrogen made at the cathode?**

A hydrogen is more reactive than sodium

B sodium is more reactive than hydrogen

C sodium ions cannot gain electrons

D chlorine is made at the cathode instead

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19 **What is a rechargeable cell?**

A a cell that runs out very quickly

B a cell that makes electricity from light

C a cell that can be charged again

D a cell that can never be used again

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20 **What are the reactants in a hydrogen fuel cell?**

- **A** oxygen and nitrogen
- **B** hydrogen and oxygen
- **C** hydrogen and carbon dioxide
- **D** hydrogen and nitrogen

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21 **What is the half equation for oxygen gas forming at the anode?**

- **A** $O_2 \rightarrow 2O^{2-} + 4e^-$
- **B** $2O^{2-} + 4e^- \rightarrow O_2$
- **C** $2O^{2-} \rightarrow O_2 + 4e^-$
- **D** $4O^{2-} \rightarrow 2O_2 + 4e^-$

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22 **What is an alkene?**

A a hydrocarbon with a triple bond

B a hydrocarbon with a single bond

C a hydrocarbon with a double bond

D a hydrocarbon with no bonds

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23 **What is made at the negative electrode in aluminium extraction?**

A oxygen gas from the air

B aluminium

C carbon dioxide gas

D cryolite from the mixture

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24 **Why are biodegradable polymers useful?**

- **A** they are much stronger than others
- **B** they conduct electricity better
- **C** they are cheaper to make always
- **D** they do not pile up as waste

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25 **What is the test for an unsaturated hydrocarbon?**

- **A** a glowing splint relights brightly
- **B** limewater turns cloudy white
- **C** bromine water turns colourless
- **D** a lighted splint gives a pop

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ANSWER KEY

1.	B	**10.**	C	**19.**	C
2.	D	**11.**	B	**20.**	B
3.	A	**12.**	C	**21.**	C
4.	D	**13.**	A	**22.**	C
5.	C	**14.**	B	**23.**	B
6.	A	**15.**	B	**24.**	D
7.	D	**16.**	C	**25.**	C
8.	A	**17.**	A		
9.	A	**18.**	B		

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