ENGLAND GCSE CHEMISTRY OCR GATEWAY HIGHER · FINAL EXAM · 50 QUESTIONS

Final Exam — 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 to let Brett know so he can fix it.

1 **A swimming pool holds water. Why does a person float in the pool?**

- A they are made of air
- B they are heavier than water and sink
- C the water pushes them down
- D their density is close to water

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

A a mixture of substances

B a single compound, nothing else

C a single element, nothing else

D pure water with nothing in it

Understand It with Pulse | Flag a mistake

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

A they dissolve in water

B they do not conduct electricity at all

C they conduct electricity

D they are brittle

Understand It with Pulse | Flag a mistake

5 **A cup of coffee is left for an hour. What happens to its temperature?**

- A it falls to room temperature
- B it falls to zero degrees
- C it rises above room temperature
- D it stays the same all day

Understand It with Pulse | Flag a mistake

6 **Fishing boats float on water. Why do they float?**

- A they displace enough water
- B they have sails that catch the wind
- C they are heavy and sink slowly
- D they are made of metal, which floats

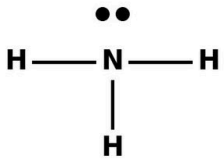
Understand It with Pulse | Flag a mistake

7 **What did Bohr suggest about electrons?**

- **A** they are stuck in a ball of charge
- **B** they move about at random anywhere in the atom
- **C** they sit inside the nucleus
- **D** they sit in shells at fixed distances

Understand It with Pulse | Flag a mistake

8 **The diagram shows an ammonia molecule. How many covalent bonds does the nitrogen atom form?**



- **A** 2
- **B** 3
- **C** 1
- **D** 4

Understand It with Pulse | Flag a mistake

9

Which acid makes a nitrate salt?

A hydrochloric acid

B nitric acid

C ethanoic acid

D sulfuric acid

Understand It with Pulse | Flag a mistake

10

Why does zinc displace copper from copper sulfate?

A zinc is a gas

B copper is a gas

C zinc is less reactive than copper

D zinc is more reactive than copper

Understand It with Pulse | Flag a mistake

11 **Why does increasing the pressure of a gas increase the rate?**

A particles are closer together

B particles get smaller

C particles move more slowly in the gas

D the temperature falls

Understand It with Pulse | Flag a mistake

12 **What is a problem with disposing of polymers in landfill?**

A most do not biodegrade

B they dissolve in the rain

C they burn very easily

D they are too heavy to bury

Understand It with Pulse | Flag a mistake

13 **What is the mass number of an isotope with 6 protons and 8 neutrons?**

- A 6
- B 20
- C 14
- D 8

Understand It with Pulse | Flag a mistake

14 **In a chromatogram, a spot moves 4 cm and the solvent moves 12 cm. What is the Rf value?**

- A 0.33
- B 0.48
- C 0.43
- D 0.67

Understand It with Pulse | Flag a mistake

15 **A solution contains 3 moles of solute in 2 cubic decimetres of solution. What is its concentration in moles per cubic decimetre?**

- **A** 4.5 mol/dm³
- **B** 0.75 mol/dm³
- **C** 3 mol/dm³
- **D** 1.5 mol/dm³

Understand It with Pulse | Flag a mistake

16 **What is made when sodium hydroxide reacts with hydrochloric acid?**

- **A** sodium chloride and water
- **B** sodium oxide and hydrogen
- **C** sodium carbonate and water
- **D** sodium and chlorine

Understand It with Pulse | Flag a mistake

17 **In an experiment, 40 cubic centimetres of gas are made in 10 seconds. What is the rate of the reaction?**

- A 8 cm^3/s
- B 400 cm^3/s
- C 4 cm^3/s
- D 2 cm^3/s

Understand It with Pulse | Flag a mistake

18 **Which of these is a condensation polymer?**

- A poly(propene), an addition polymer
- B poly(chloroethene), an addition polymer
- C poly(ethene), an addition polymer
- D polyester

Understand It with Pulse | Flag a mistake

19 **An element is in period 3 of the periodic table. How many electron shells do its atoms have?**

A 4

B 5

C 3

D 2

Understand It with Pulse | Flag a mistake

20 **What is chromatography used for in the food industry?**

A keeping food cold longer

B heating food more quickly

C making food taste better

D checking dyes in food

Understand It with Pulse | Flag a mistake

21 **How many moles are there in 40 g of a substance with a relative formula mass of 20 ?**

A 6

B 2

C 4

D 1

Understand It with Pulse | Flag a mistake

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

A carbon does not react with it

B it is cheap to do

C it is too reactive for carbon

D it melts easily

Understand It with Pulse | Flag a mistake

23 **What is the Haber process used to make?**

- A hydrogen
- B nitric acid
- C ammonia
- D sulfuric acid

Understand It with Pulse | Flag a mistake

24 **Glass is recycled at 50 percent. How much of 200 tonnes of glass is recycled?**

- A 100 tonnes
- B 75 tonnes
- C 200 tonnes
- D 125 tonnes

Understand It with Pulse | Flag a mistake

25

In Rutherford's gold foil experiment, what happened to most alpha particles?

A they were absorbed by the gold foil

B they turned into electrons in the foil

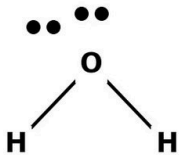
C they bounced straight back off the foil

D they passed straight through

Understand It with Pulse

Flag a mistake

26 **The diagram shows a water molecule. How many lone pairs of electrons does the oxygen atom have?**



- **A** 4
- **B** 1
- **C** 3
- **D** 2

Understand It with Pulse | Flag a mistake

27 **What is one disadvantage of hydrogen fuel cells?**

- **A** they are noisy when running
- **B** hydrogen is hard to store
- **C** they use a lot of water
- **D** they make carbon dioxide

Understand It with Pulse | Flag a mistake

28 **What are the products when an acid reacts with a metal oxide?**

A an oxide and water

B a salt and carbon dioxide

C a salt and water

D a salt and hydrogen

Understand It with Pulse | Flag a mistake

29 **A solution has a concentration of 2 mol per cubic decimetre. How many moles are in 2 cubic decimetres of the solution?**

A 8 mol

B 5 mol

C 4 mol

D 3 mol

Understand It with Pulse | Flag a mistake

30 **A town uses 2000 litres of water per day. How much water does it use in one week?**

A 15000 L

B 14000 L

C 13000 L

D 28000 L

Understand It with Pulse | Flag a mistake

31 **Hardcover books are dropped. What happens to their speed as they fall?**

A it becomes zero

B it increases

C it stays the same

D it decreases

Understand It with Pulse | Flag a mistake

32 **What type of bonding is in water?**

- A intermolecular forces
- B covalent
- C metallic
- D ionic

Understand It with Pulse | Flag a mistake

33 **A reaction makes 25 g of useful product from 100 g of reactants in total. What is the atom economy?**

- A 75%
- B 25%
- C 12%
- D 50%

Understand It with Pulse | Flag a mistake

34 **An ice cream cone melts in the Sun. What is happening to the particles in the ice cream?**

- A they get smaller
- B they stop moving
- C they gain energy and move more
- D they lose energy and slow down a lot

Understand It with Pulse | Flag a mistake

35 **A chocolate cake is baked. Is baking a chemical change?**

- A no
- B sometimes
- C never
- D yes

Understand It with Pulse | Flag a mistake

36 **A town recycles 25 percent of its 400 tonnes of waste. How many tonnes are recycled?**

- A 100 tonnes
- B 80 tonnes
- C 150 tonnes
- D 120 tonnes

Understand It with Pulse | Flag a mistake

37 **An atom has 6 protons and 6 neutrons. What is its mass number?**

- A 0
- B 6
- C 18
- D 12

Understand It with Pulse | Flag a mistake

38 **Silver coins conduct electricity well. Why?**

A they have free electrons

B they are cold

C they are heavy

D they are shiny and reflective

Understand It with Pulse | Flag a mistake

39 **What is the relative formula mass of magnesium oxide, MgO?**

A 48

B 36

C 80

D 40

Understand It with Pulse | Flag a mistake

40 **What happens to equilibrium if the temperature rises?**

A it moves to take in heat

B it stays in the same place

C the reaction stops

D it moves to give out heat

Understand It with Pulse | Flag a mistake

41 **A cup of coffee cools down. Energy is transferred to the surroundings. What type of change is this?**

A a chemical change

B a reversible reaction

C an energy transfer

D a neutralisation

Understand It with Pulse | Flag a mistake

42 **How is ammonia made for fertilisers?**

A by the Haber process

B by filtering river water

C by distilling crude oil

D by burning natural gas

Understand It with Pulse | Flag a mistake

43 **What is the mass of an electron compared with a proton?**

A about the same

B much larger

C very small

D zero

Understand It with Pulse | Flag a mistake

44 **Why are nanoparticles useful as catalysts?**

A they are magnetic and easy to collect

B their surface area is large

C they dissolve easily in water

D they are heavy and sink to the bottom

Understand It with Pulse | Flag a mistake

45 **What is one advantage of a hydrogen fuel cell over a petrol engine?**

A it never needs refuelling

B it makes no carbon dioxide

C it uses petrol more efficiently

D it is cheaper to build

Understand It with Pulse | Flag a mistake

46 **Silver coins are made of the element silver. What is the chemical symbol for silver?**

A Si

B S

C Sv

D Ag

Understand It with Pulse | Flag a mistake

47 **A wristwatch ticks every second. How many ticks in a minute?**

A 100

B 30

C 12

D 60

Understand It with Pulse | Flag a mistake

48 **What is the main metal in steel?**

A chromium

B iron

C nickel

D carbon

Understand It with Pulse | Flag a mistake

49 **An atom of aluminium loses 3 electrons. What is the charge on the ion formed?**

A +3

B +2

C -3

D 0

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50 **How many atoms of oxygen are there in one molecule of carbon dioxide?**

A 4

B 2

C 3

D 1

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	D	**18.**	D	**35.**	D
2.	C	**19.**	C	**36.**	A
3.	A	**20.**	D	**37.**	D
4.	C	**21.**	B	**38.**	A
5.	A	**22.**	C	**39.**	D
6.	A	**23.**	C	**40.**	A
7.	D	**24.**	A	**41.**	C
8.	B	**25.**	D	**42.**	A
9.	B	**26.**	D	**43.**	C
10.	D	**27.**	B	**44.**	B
11.	A	**28.**	C	**45.**	B
12.	A	**29.**	C	**46.**	D
13.	C	**30.**	B	**47.**	D
14.	A	**31.**	B	**48.**	B
15.	D	**32.**	B	**49.**	A
16.	A	**33.**	B	**50.**	B
17.	C	**34.**	C		

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