ENGLAND GCSE CHEMISTRY OCR GATEWAY FOUNDATION · 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 **Glass marbles are shaken in a tray. What does this model?**

- A particles disappearing completely
- B particles gaining energy
- C particles freezing into place
- D particles bonding together

Understand It with Pulse | Flag a mistake

2 **A hot air balloon cools down. What happens?**

- A it stays still
- B it bursts
- C it rises faster
- D it sinks

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

4 **Lemons taste sour. What does sour taste show?**

- A an acid is present
- B an alkali is present
- C a salt is present
- D a metal is present

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

6 **A forest is cut down. What happens to the carbon stored in the trees?**

- A it turns to oxygen
- B it disappears
- C it is released
- D it is stored forever

Understand It with Pulse | Flag a mistake

7 **Why do isotopes of the same element have the same chemical properties?**

- **A** they have the same mass number
- **B** they have the same number of electrons
- **C** they have the same number of neutrons in the nucleus
- **D** they have the same density always

Understand It with Pulse | Flag a mistake

8 **What type of bonding is in diamond?**

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

Understand It with Pulse | Flag a mistake

9 **The maximum possible mass of product is 20 g. A student makes 16 g. What is the percentage yield?**

- A 80%
- B 70%
- C 160%
- D 90%

Understand It with Pulse | Flag a mistake

10 **What does a more reactive metal do to the oxide of a less reactive metal?**

- A it gives oxygen to the oxide
- B it turns it into a gas
- C it takes the oxygen away
- D it does nothing at all

Understand It with Pulse | Flag a mistake

11 **A student heats 200 g of water. Its temperature rises by 5 degrees Celsius. The specific heat capacity of water is 4.2 joules per gram per degree Celsius. How much energy is transferred to the water in kilojoules?**

- A 8.4 kJ
- B 0.42 kJ
- C 42 kJ
- D 4.2 kJ

Understand It with Pulse | Flag a mistake

12 **Oxygen is 21 percent of the air. How much oxygen is there in 100 litres of air?**

- A 31 L
- B 21 L
- C 42 L
- D 11 L

Understand It with Pulse | Flag a mistake

13 **A thermometer measures temperature in degrees Celsius. What is the freezing point of water on this scale?**

- A 10
- B 0
- C 100
- D 32

Understand It with Pulse | Flag a mistake

14 **What does adding carbon to iron do?**

- A it makes it melt more easily
- B it makes it conduct less heat
- C it makes it softer and weaker
- D it makes it harder

Understand It with Pulse | Flag a mistake

15 **Will iron displace copper from its salt solution?**

A yes

B only with a catalyst

C no

D only when heated

Understand It with Pulse | Flag a mistake

16 **What is a reversible reaction?**

A a reaction that needs a catalyst

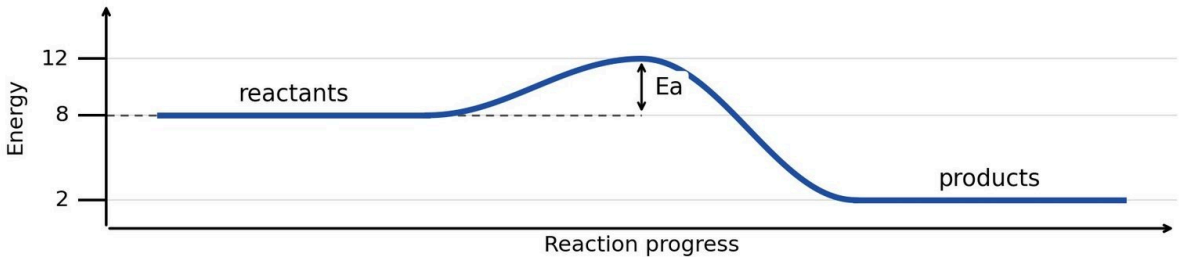
B a reaction that makes two products

C a reaction that never finishes

D a reaction that can go both ways

Understand It with Pulse | Flag a mistake

17 **The diagram shows the energy profile for a reaction. The reactants are at energy 8 and the products are at 2. Is the reaction exothermic or endothermic?**



A endothermic, energy is given out

B exothermic, energy is taken in

C exothermic, energy is given out

D endothermic, energy is taken in

Understand It with Pulse | Flag a mistake

18 **Nitrogen is 78 percent of the air. How much nitrogen is there in 100 litres of air?**

A 156 L

B 88 L

C 68 L

D 78 L

Understand It with Pulse | Flag a mistake

19 **An atom has 17 protons and 6 neutrons. What is its mass number?**

A 23

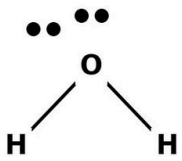
B 17

C 25

D 6

Understand It with Pulse | Flag a mistake

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



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

Understand It with Pulse | Flag a mistake

21 **What do acids produce in water?**

- **A** oxygen
- **B** chloride ions
- **C** hydrogen ions
- **D** hydroxide ions

Understand It with Pulse | Flag a mistake

22 **A metal is added to a salt solution and no reaction happens. What does that tell you?**

- A the salt is not soluble
- B the metal is less reactive than the metal in the salt
- C the metal is a gas
- D the metal is more reactive than the metal in the salt

Understand It with Pulse | Flag a mistake

23 **In an experiment, 60 cubic centimetres of gas are made in 10 seconds. What is the rate of the reaction?**

- A 12 cm^3/s
- B 600 cm^3/s
- C 3 cm^3/s
- D 6 cm^3/s

Understand It with Pulse | Flag a mistake

24 **A factory emits 50 tonnes of carbon dioxide per day. How much does it emit in one week?**

- A 700 tonnes
- B 360 tonnes
- C 350 tonnes
- D 340 tonnes

Understand It with Pulse | Flag a mistake

25 **What is the electronic structure of oxygen (atomic number 8)?**

- A 2,6
- B 2,7
- C 2,8
- D 2,4

Understand It with Pulse | Flag a mistake

26 **In a chromatogram, a spot moves 2 cm and the solvent moves 10 cm. What is the Rf value?**

A 0.2

B 0.35

C 0.3

D 0.4

Understand It with Pulse | Flag a mistake

27 **What gas is made at the anode when brine is electrolysed?**

A hydrogen

B oxygen

C nitrogen

D chlorine

Understand It with Pulse | Flag a mistake

28 **How can you tell that carbon dioxide is made in a reaction?**

A limewater turns cloudy

B a squeaky pop is heard

C a yellow flame is seen

D a glowing splint relights

Understand It with Pulse | Flag a mistake

29 **In the combustion of methane, the energy needed to break the bonds is 1000 kJ and the energy released when new bonds form is 1200 kJ. What is the overall energy change?**

A -200 kJ

B -1000 kJ

C 200 kJ

D 1200 kJ

Understand It with Pulse | Flag a mistake

30 **A cup of coffee is hot. How is energy transferred to the air?**

A by conduction and convection

B by condensation on the cold cup

C by radiation only, from the surface

D by evaporation only, from the top

Understand It with Pulse | Flag a mistake

31 **An atom of oxygen gains 2 electrons. What is the charge on the ion formed?**

A 0

B -2

C +2

D -1

Understand It with Pulse | Flag a mistake

32 **How many spots does a pure substance give on a chromatogram?**

- A one spot
- B two spots side by side
- C three spots in a row
- D no spots at all

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

34 **What gas is made when magnesium reacts with dilute acid?**

A oxygen

B carbon dioxide

C hydrogen

D chlorine

Understand It with Pulse | Flag a mistake

35 **What does a steep graph of gas volume against time show?**

A a slow rate of reaction

B a reaction that has finished

C a fast rate of reaction

D a reaction with no gas made

Understand It with Pulse | Flag a mistake

36 **Why is stainless steel used for cutlery?**

- **A** it is magnetic and light
- **B** it is very soft to shape
- **C** it is very cheap to make
- **D** it does not rust

Understand It with Pulse | Flag a mistake

37 **An atom has 8 protons and 10 neutrons. What is its mass number?**

- **A** 20
- **B** 18
- **C** 10
- **D** 8

Understand It with Pulse | Flag a mistake

38 **What are fullerenes?**

A solid blocks of carbon atoms

B flat sheets of carbon one atom thick

C molecules of carbon in hollow shapes

D long chains of carbon atoms in a row

Understand It with Pulse | Flag a mistake

39 **What decides the voltage of a chemical cell?**

A the colour of the metals

B the temperature of the room

C the metals used

D the size of the cell

Understand It with Pulse | Flag a mistake

40 **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

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

A 3 mol

B 5 mol

C 4 mol

D 8 mol

Understand It with Pulse | Flag a mistake

42 **What is one piece of evidence for climate change?**

A the Moon is getting closer

B global temperatures are rising

C volcanoes are erupting more

D the Sun is getting brighter each year

Understand It with Pulse | Flag a mistake

43 **What was Thomson's plum pudding model?**

A a cloud of electrons with no centre

B a small nucleus with shells around it

C a tiny solid ball that cannot be divided at all

D a ball of positive charge with electrons in it

Understand It with Pulse | Flag a mistake

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

A 0.67

B 0.33

C 0.48

D 0.43

Understand It with Pulse | Flag a mistake

45 **What forms at the cathode during the electrolysis of copper sulfate solution?**

A lead

B bromine

C copper

D hydrogen

Understand It with Pulse | Flag a mistake

46 **Lemons contain citric acid. What is the pH of lemon juice likely to be?**

- A 14
- B 12
- C 2
- D 7

Understand It with Pulse | Flag a mistake

47 **In a second experiment, 50 cm cubed of gas are made in 30 seconds. What is the rate of the reaction?**

- A 1.6667 cm^3/s
- B 3.1667 cm^3/s
- C 2.1667 cm^3/s
- D 1.1667 cm^3/s

Understand It with Pulse | Flag a mistake

48 **A forest absorbs carbon dioxide. Which process does this?**

- A combustion of the wood
- B decomposition in the soil
- C respiration in the trees
- D photosynthesis

Understand It with Pulse | Flag a mistake

49 **Which element has the electronic structure 2,8,1?**

- A chlorine, which has seven outer electrons
- B magnesium, which has two outer electrons
- C argon, which has a full outer shell
- D sodium

Understand It with Pulse | Flag a mistake

50 **Glass marbles are used to model atoms. What is a limitation of the model?**

A marbles are much bigger than atoms

B marbles cannot be counted accurately at all

C marbles are the wrong colour for atoms

D marbles are too small to see properly

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ANSWER KEY

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

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