Title

O-Level Topical Chemistry (PAPER-1)

MCQ's

Syllabus 2025-2026-2027

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PREFACE

IN THE NAME OF ALLAH, MOST GRACIOUS AND MOST MERCIFUL.

Excellence is not an art. It is the habit of practice. In this regard the concepts learnt can only be assessed when questions are answered. The perfect logical approach to this is to take one step at a time.

Chapter wise learning and sub topic by sub topic its application on exam-based questions provides exclusive comprehension. This booklet is the perfect resource for the practice of complete Chemistry O'Level syllabus 2025-2026-2027. This compilation has been refined by experts who have tried to make this book error free.

The book has been edited and checked to remove possible mistakes. However, constructive criticism is welcome. You may call us for your productive feedback and suggestions at this No. (0332-6682372) . This book is recommended by all renowned Chemistry teachers who contributed to make it effective and fruitful.

This book provides:

- Knowledge with understanding.
- Handling information and solving problems or Experimental skills and investigation.
- Sorted/separated questions or parts of questions, placed in related classified topics.
- Questions in order from the early years to most recent years.
- Answering Key/ Mark Scheme at the end of each topic.
- Actual spacing between consecutive questions and within options as per CAIE format which gives students a genuine feel of attempting questions. In addition to all this; review, feedback and contribution in this booklet by various experienced teachers of the subject belonging to popular school chains makes it a treasured resource for both the teachers and the students.

Special Thanks To
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Quality Policy

- Customer satisfaction is our priority and achieve this goal we will always, work as a team.
- Produce and supply finest quality goods meeting all the specification including Environmental concern and safety
- Every employee will influence to contribute towards
- Quality improvement to sustain through ideas and innovation.

- گاہک کا اطمینان ہماری اولین ترجیح ہے۔
- اپنے مقصد کے حصول کیلئے ہم ہمیشہ بحیثیت ایک ٹیم کام کرتے ہیں۔
- گاہک کی ضروریات اور ماحولیاتی حالات اور احتیاطی تدابیر کہ مدنظر رکھتے ہوئے معیاری اشیاء فراہم کرتے ہیں۔
- ہر فرد اپنے خیالات اور تخلیقات کے ذریعے بہتر کوالٹی اور اس کو برقرار رکھنے کیلئے موثر کردار ادا کرتا ہے۔

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Q34/11/M/J/18

1 Which pair of gases are both non-acidic?

A ammonia and methane
B carbon dioxide and ammonia
C methane and nitrogen dioxide
D nitrogen dioxide and carbon dioxide

Q4/12/O/N/19

2 Which three elements exist as diatomic molecules at room temperature?

A hydrogen, oxygen, helium
B nitrogen, chlorine, neon
C nitrogen, oxygen, fluorine
D oxygen, chlorine, helium

Q6/11/M/J/20

3 Which changes in pressure and temperature would both result in a decrease in the volume of a fixed mass of gas?

A Decrease the pressure and decrease the temperature.
B Decrease the pressure and increase the temperature.
C Increase the pressure and decrease the temperature.
D Increase the pressure and increase the temperature.

Q5/11/M/J/21 Q5/12/M/J/21 Q1/11/M/J/17

4 Gas X has the following properties.

1 colourless
2 no effect on either red or blue litmus papers
3 no effect on limewater
4 flammable

What is gas X?

A ammonia **B** chlorine **C** hydrogen **D** oxygen

Q6/12/M/J/21

5 Which statement about states of matter is correct?

A When a liquid freezes it becomes a solid and energy is released to the surroundings.
B When a liquid reaches its boiling point it becomes a gas. This process is called evaporation.
C When a solid changes directly to a gas the process is called condensation.
D When a solid melts the particles get further apart and have less energy.

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Q2/01/S/P/23

6 Which statements are correct?

1 The volume of a gas at constant pressure increases as the temperature increases.

2 When the pressure of a gas is increased the particles move closer together.

3 The pressure of a gas at constant volume decreases as the temperature increases.

A 1, 2 and 3 **B** 1 and 2 only **C** 1 and 3 only **D** 2 and 3 only

---

Q4/11/M/J/22

7 Which row correctly describes changes in the particles when a substance freezes?

	arrangement of the particles	energy change in the particles
A	particles become more ordered	particles gain energy
B	particles become more ordered	particles lose energy
C	particles become less ordered	particles gain energy
D	particles become less ordered	particles lose energy

Q31/11/M/J/22

8 Which gases are used in light bulbs?

1 argon

2 oxygen

3 neon

A 1 only **B** 1 and 2 only **C** 1 and 3 only **D** 1, 2 and 3

Q4/12/M/J/22

9 Which set of changes to the conditions increases the volume of a gas?

	pressure	temperature
A	decreases	increases
B	increases	decreases
C	increases	unchanged
D	unchanged	decreases

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Q4/12/O/N/22

10 Changes of state occur between solids, liquids and gases.

$$\text{gas} \underset{\text{R}}{\overset{\text{P}}{\rightleftharpoons}} \text{liquid} \underset{\text{S}}{\overset{\text{Q}}{\rightleftharpoons}} \text{solid}$$

Which changes are occurring at P, Q, R and S?

	P	Q	R	S
A	boiling	melting	freezing	condensing
B	condensing	freezing	boiling	melting
C	freezing	condensing	boiling	melting
D	melting	boiling	condensing	freezing

Q1/11/O/N/23

11 In which changes do the particles move further apart?

1 A gas is heated from 0 °C to 25 °C.

2 Pressure is applied to a gas at a constant temperature.

3 Steam condenses to form water.

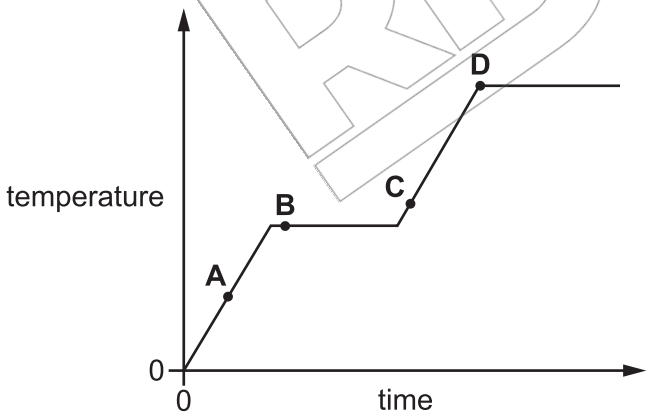
4 Water evaporates at room temperature.

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

Q1/12/O/N/23

12 A solid substance is placed in a flask.

The flask is gently heated and the temperature of the substance is recorded at regular time intervals.
The diagram shows a graph of temperature against time for this experiment.
At which point does the flask contain both a solid and a liquid?



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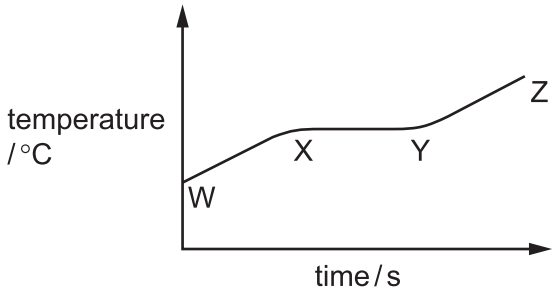
Q1/11/M/J/24

13 A scientist heats a sample of a liquid. The scientist measures the temperature of the sample and plots a graph of the temperature against time.



Which statements are correct?

1 Between points W and X, the temperature increases and the particles move faster.

2 Between points X and Y, there is no change in the temperature because energy is needed to change a liquid into a gas.

3 Between points Y and Z, the particles move further apart.

A 1, 2 and 3 **B** 1 and 2 only **C** 1 and 3 only **D** 2 only

---

Q1/12/M/J/24

14 Which physical changes are both exothermic?

A condensation and evaporation

B evaporation and melting

C freezing and condensation

D melting and freezing

Q28/11/O/N/24

15 The domestic water supply is treated to make it safe to drink.

Which row identifies the treatment and its effect?

	chlorination	filtration	sedimentation
A	removes nitrates	removes solids	removes nitrates
B	kills microbes	removes soluble compounds	removes solids
C	removes solids	kills microbes	removes soluble compounds
D	kills microbes	removes solids	removes solids

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Q1/12/M/J/25

16 At temperature X, the volume of samples of hexane and pentane are **not** affected by changing the pressure from 1 atm to 2 atm.

At temperature X, the pentane molecules are free to move.

At temperature X, the hexane molecules are in fixed positions.

What are the states of hexane and pentane at temperature X?

	hexane	pentane
A	liquid	solid
B	liquid	gas
C	solid	liquid
D	solid	gas

Q2/12/M/J/25

17 A gas is produced by a chemical reaction at one side of a laboratory.

After a few minutes, the gas is detected at the other side of the laboratory.

Which process explains why the gas is detected at the other side of the laboratory?

A condensation

B diffusion

C dissolving

D evaporation

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