

Cambridge IGCSE™ (9–1)

CO-ORDINATED SCIENCES**0973/12**

Paper 1 Multiple Choice (Core)

May/June 2026**45 minutes**

You must answer on the multiple choice answer sheet.

You will need: Multiple choice answer sheet
Soft clean eraser
Soft pencil (type B or HB is recommended)

INSTRUCTIONS

- There are **forty** questions on this paper. Answer **all** questions.
- For each question there are four possible answers **A, B, C** and **D**. Choose the **one** you consider correct and record your choice in soft pencil on the multiple choice answer sheet.
- Follow the instructions on the multiple choice answer sheet.
- Write in soft pencil.
- Write your name, centre number and candidate number on the multiple choice answer sheet in the spaces provided unless this has been done for you.
- Do **not** use correction fluid or tape.
- Do **not** write on any bar codes.
- You may use a calculator.
- Take the weight of 1.0 kg to be 9.8 N (acceleration of free fall = 9.8 m/s^2).

INFORMATION

- The total mark for this paper is 40.
- Each correct answer will score one mark.
- Any rough working should be done on this question paper.
- The Periodic Table is printed in the question paper.

This document has **16** pages. Any blank pages are indicated.

- 1 A plant cell is viewed using a microscope.

The cell image is measured at 4 mm. The magnification is $\times 100$.

What is the actual size of the cell?

- A** 0.004 mm **B** 0.04 mm **C** 2.5 mm **D** 25 mm

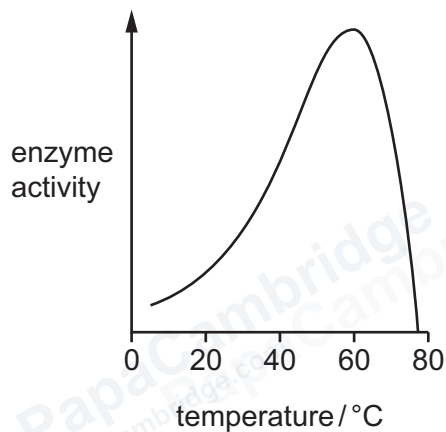
- 2 Which processes require energy from respiration?

- A** diffusion and osmosis
B osmosis only
C active transport and diffusion
D active transport only

- 3 Which type of biological molecule contains carbon, hydrogen, oxygen and nitrogen?

- A** fat
B protein
C reducing sugar
D starch

- 4 The graph shows the activity of an enzyme at different temperatures.



Which temperature has the maximum activity for this enzyme?

- A** 20 °C **B** 40 °C **C** 60 °C **D** 80 °C

5 Which process requires chlorophyll?

- A excretion
- B photosynthesis
- C respiration
- D transpiration

6 Citrus fruits such as oranges and lemons are a principal dietary source of which nutrient?

- A carbohydrate
- B protein
- C vitamin C
- D vitamin D

7 What is the pathway taken by water as it travels from the soil to a leaf?

- A root cortex cells → mesophyll cells → root hair cells → xylem
- B root cortex cells → root hair cells → mesophyll cells → xylem
- C root hair cells → root cortex cells → xylem → mesophyll cells
- D root hair cells → xylem → mesophyll cells → root cortex cells

8 Which component of blood transports urea?

- A plasma
- B platelets
- C red blood cells
- D white blood cells

9 Which row shows a characteristic of an insect-pollinated flower and of a wind-pollinated flower?

	insect-pollinated	wind-pollinated
A	anthers inside flower	anthers outside flower
B	petals small	petals large
C	smooth pollen	sticky pollen
D	stigma outside flower	stigma inside flower

- 10 A monohybrid cross between tall (TT) and short (tt) pea plants produces 100% tall (Tt) offspring.

What do the letters T and t represent?

- A alleles
- B chromosomes
- C genes
- D genotypes

- 11 A farmer wants sheep with a high yield of fleece that will give fine-quality wool.

The table shows six of the sheep available for breeding.

sheep number	sex of sheep	fleece yield	wool quality
1	female	medium	fine
2	female	medium	coarse
3	female	high	fine
4	male	low	fine
5	male	low	coarse
6	male	medium	fine

Which sheep should the farmer select to breed together?

- A 1 and 3
- B 1 and 4
- C 3 and 4
- D 3 and 6

- 12 The diagram shows a food chain.

phytoplankton → char → capelin → harbour seal → orca

Which statement about the food chain is correct?

- A The capelin is a carnivore.
- B The harbour seal is a herbivore.
- C The orca is a tertiary consumer.
- D The phytoplankton is a primary consumer.

- 13** Little egrets are a type of bird originally found in Southern Europe, Africa, Asia and Australia. Since the 1990s, little egrets have spread to Northern Europe.

The statements give possible reasons for this spread north.

- 1 Monitoring of the population of little egrets in Southern Europe has increased.
- 2 The food source for little egrets has decreased in Southern Europe.
- 3 Climate change has made the northern climate warmer.

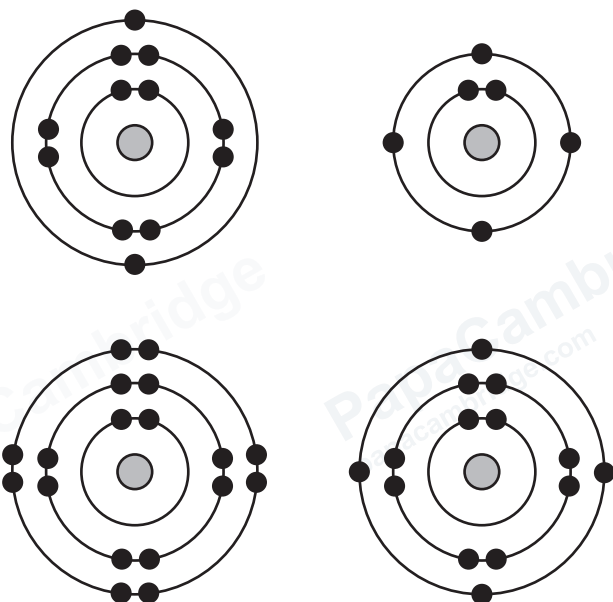
Which statements could explain the spread of little egrets?

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

- 14** Which statement about ions is correct?

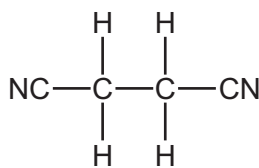
- A** Ions are charged atoms.
B Cations are negative ions.
C Metal ions are negatively charged.
D Non-metal ions are positively charged.

- 15** How many of the electronic configurations shown represent elements in Group IV of the Periodic Table?



- A** 0 **B** 1 **C** 2 **D** 3

- 16 A diagram of one molecule of an organic compound is shown.



What is the molecular formula of this organic compound?

- A** $\text{C}_2\text{H}_2\text{N}$ **B** $\text{C}_2\text{H}_4\text{N}_2$ **C** C_4H_6 **D** $\text{C}_4\text{H}_4\text{N}_2$

- 17 Aqueous potassium iodide contains ions.

What happens to aqueous potassium iodide during electrolysis?

- A** combustion
B decomposition
C neutralisation
D no reaction

- 18 Which row describes changes that occur during an endothermic reaction?

	temperature of surroundings	thermal energy
A	decreases	absorbed from the surroundings
B	decreases	released to the surroundings
C	increases	absorbed from the surroundings
D	increases	released to the surroundings

- 19 Which change is a physical change?

- A** combustion of ethanol
B rusting of iron
C dissolving sodium chloride in water
D polymerisation of ethene to poly(ethene)

- 20 Which row describes the colour observed when sodium hydroxide is added separately to litmus and to methyl orange indicators?

	litmus	methyl orange
A	red	yellow
B	blue	yellow
C	red	red
D	blue	red

- 21 Pure copper(II) chloride crystals are made from aqueous copper(II) chloride using the processes listed.

- 1 cool
- 2 dry
- 3 filter
- 4 heat to reduce volume of water

What is the order of the processes?

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

- 22 Which statements about the noble gases are correct?

- 1 They are in Group VIII of the Periodic Table.
- 2 Their outer-electron shells are full.
- 3 They exist as diatomic molecules.
- 4 They are reactive.

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

- 23 A metal reacts with hot water and is extracted from its oxide using carbon.

What is the metal?

- A** aluminium
B copper
C sodium
D zinc

- 24 A student measures the melting points and boiling points of samples of water.

The results are shown.

sample	temperature / °C
1	100
2	102
3	−6
4	0

Which samples of water are impure?

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

- 25 What is the approximate composition of clean, dry air?

	78%	21%	1%
A	oxygen	nitrogen	noble gases and carbon dioxide
B	nitrogen	oxygen	methane
C	nitrogen	oxygen	noble gases and carbon dioxide
D	oxygen	nitrogen	methane

- 26 Which molecules are hydrocarbons?

- 1 CH₄
2 CH₂O₂
3 C₂H₂
4 H₂CO₃

- A** 1, 2, 3 and 4 **B** 1 and 2 only **C** 1 and 3 only **D** 2 and 4 only

- 27 Which process is used to separate petroleum into useful substances?

- A** chromatography
B crystallisation
C filtration
D fractional distillation

- 28 A stop-watch is used to measure a time interval.

When the stop-watch is started, it reads 0 minutes 45 seconds.

When the stop-watch is stopped, it reads 3 minutes 25 seconds.

How much time elapses between the two readings?

- A 2 minutes 40 seconds
 B 3 minutes 20 seconds
 C 3 minutes 40 seconds
 D 4 minutes 10 seconds
- 29 Which quantities are affected by gravitational field strength?
- A mass and weight
 B mass only
 C volume and weight
 D weight only
- 30 Which row shows the unit of work done and the unit of power?

	work done	power
A	joule	joule
B	joule	watt
C	watt	joule
D	watt	watt

- 31 When a beam of light shines into a room, dust is seen in the air.

Each dust particle has a rapid and random motion.

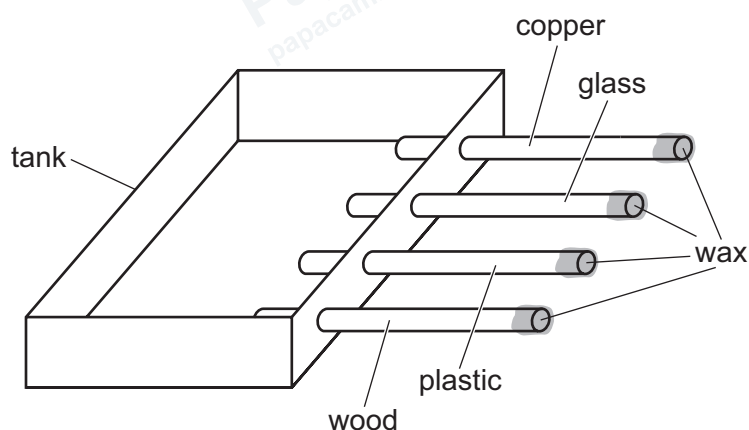
What does this random motion provide evidence for?

- A the dust particles are atoms
 B the dust particles are molecules
 C the kinetic particle model of matter
 D the transfer of energy by light

- 32** The diagram shows four rods with identical dimensions. The rods are made of copper, glass, plastic and wood.

One end of each rod is inside an empty tank.

The other end of each rod is outside the tank. These ends are covered with an equal amount of wax.



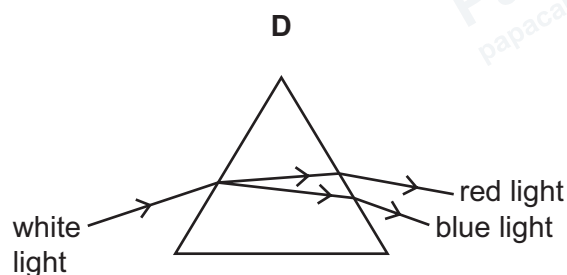
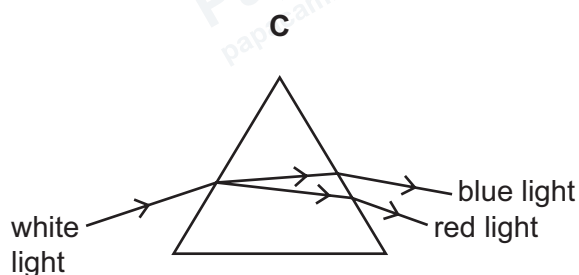
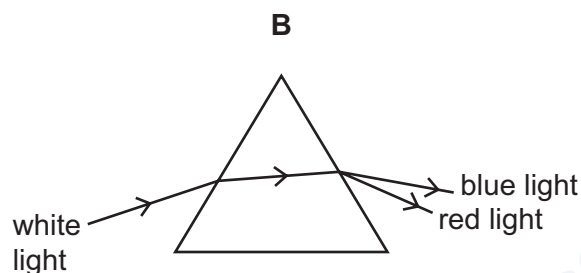
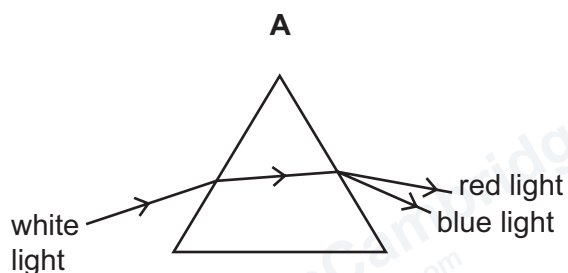
The tank is filled with boiling water.

After a short time, the wax on one of the rods melts.

On which rod does the wax melt?

- A** copper
- B** glass
- C** plastic
- D** wood

- 33** Which diagram shows the dispersion of white light through a glass prism?



- 34 Two regions of the electromagnetic spectrum are radio waves and X-rays.

Which row shows the region with the smaller wavelength and the region that is ionising radiation?

	smaller wavelength	ionising radiation
A	radio waves	radio waves
B	radio waves	X-rays
C	X-rays	radio waves
D	X-rays	X-rays

- 35 Massive explosions in the Sun release energy.

On Earth, humans see the light from the Sun. The humans do **not** hear the sound from the explosions.

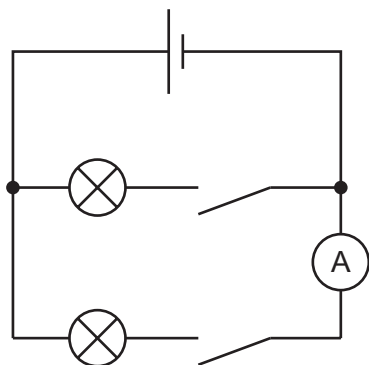
Which statement explains this?

- A Sound waves **cannot** travel through a vacuum.
 - B Sound waves travel slower than light waves.
 - C The amplitudes of the sound waves are too small.
 - D The frequencies of sound waves are lower than the frequencies of light waves.
- 36 A magnetic material is held close to the north pole of a magnet and then close to the south pole of the same magnet.

Which statement about the magnetic material is correct?

- A It is attracted to both poles.
- B It is attracted to the north pole but **not** to the south pole.
- C It is attracted to the south pole but **not** to the north pole.
- D It is **not** attracted to either pole.

- 37 Two lamps are connected in the circuit shown.



Which statements about the circuit are correct?

- 1 There is a separate switch to control each lamp.
- 2 The ammeter measures the current in both lamps when both switches are closed.
- 3 The circuit is a series circuit.

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

- 38 What is the purpose of a 3 A fuse in an electrical circuit?

- A** It keeps the current at a constant value of 3 A.
- B** It prevents the current increasing above 3 A.
- C** It reduces the resistance of the circuit.
- D** It varies the voltage of the supply.

- 39 Which statement explains why scientists use long tongs to move radioactive sources?

- A** It decreases the half-life of the source.
- B** It increases the distance between the source and the scientists.
- C** It decreases the exposure time for the scientists.
- D** It prevents the source from being damaged.

- 40 The nearest star to the Earth after the Sun is Proxima Centauri.

Proxima Centauri is 4.2 light-years from the Earth.

Which statement about Proxima Centauri is correct?

- A** It takes 4.2 years for light from Proxima Centauri to reach the Earth.
- B** It takes 4.2 years for Proxima Centauri to orbit the Sun.
- C** It would take 4.2 years for humans to travel to Proxima Centauri from the Earth.
- D** It takes 4.2 years for the Earth to orbit Proxima Centauri.

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The Periodic Table of Elements

Group																				
I	II											III	IV	V	VI	VII	VIII			
		Key atomic number atomic symbol name relative atomic mass										1 H hydrogen 1							2 He helium 4	
3	4											5	6	7	8	9				
Li lithium 7	Be beryllium 9											B boron 11	C carbon 12	N nitrogen 14	O oxygen 16	F fluorine 19	Ne neon 20			
11	12											13	14	15	16	17	18			
Na sodium 23	Mg magnesium 24											Al aluminium 27	Si silicon 28	P phosphorus 31	S sulfur 32	Cl chlorine 35.5	Ar argon 40			
19	20											31	32	33	34	35	36			
K potassium 39	Ca calcium 40											Ga gallium 70	Ge germanium 73	As arsenic 75	Se selenium 79	Br bromine 80	Kr krypton 84			
37	38											49	50	51	52	53	54			
Rb rubidium 85	Sr strontium 88											In indium 115	Sn tin 119	Sb antimony 122	Te tellurium 128	I iodine 127	Xe xenon 131			
55	56											81	82	83	84	85	86			
Cs caesium 133	Ba barium 137											Tl thallium 204	Pb lead 207	Bi bismuth 209	Po polonium	At astatine	Rn radon			
87	88											113	114	115	116	117	118			
Fr francium	Ra radium											Nh nihonium	Fl flerovium	Mc moscovium	Lv livermorium	Ts tennessine	Og oganeson			