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NIGHTMEW STUDIOS · PREMIUM EDITION · 2026

Cambridge IGCSE Biology 0610 Original Topical Practice Pack A+

Your download already contains a 112-page topical compilation. This pack tells you exactly what that file is, where it is thin against the current syllabus, and then fills every gap with fresh practice and full marking guides.

- ✓ **Part A** — an honest audit of the file you already have
- ✓ **Part B** — every block mapped onto the 21 syllabus topics
- ✓ **Part C** — 140 original questions across all 21 topics
- ✓ Marking guide for every single question, mark by mark
- ✓ Written for the gaps: gas exchange, excretion, immunity, biotechnology

The questions in Part C are original practice written by Nightmew Studios in the style of Cambridge IGCSE topical questions. They are not past-paper questions and are not reproduced from Cambridge materials. Cambridge Assessment International Education is not affiliated with, and does not endorse, this pack.

SYLLABUS TOPIC 2

Organisation of the organism

The compilation covers cell structure and a few specialised cells well. The cell-to-organism hierarchy and cell-size calculations are thin.

7 MULTIPLE CHOICE

Which structure is present in a root hair cell but absent from a red blood cell?

A large permanent vacuole

B dissolved protein in the cytoplasm

C cell surface membrane

D cytoplasm

[1]

8 MULTIPLE CHOICE

A plant cell measures 0.06 mm across its longest axis. A drawing of the cell is 90 mm across. What is the magnification of the drawing?

A x15

B x150

C x1500

D x15000

[1]

9 STRUCTURED

A leaf is described as an organ.

(a) Define the term *organ*. **[2]**

(b) Name two other organs found in a flowering plant. **[2]**

(c) Place these terms in order of increasing size: organ, organelle, tissue, cell, organ system. **[2]**

[Total: 6]

10 STRUCTURED

The data below describe four specialised cells and part of their structure.

Cell 1: long, thin, with a fatty sheath around it.
Cell 2: box-shaped, packed with chloroplasts, near the upper leaf surface.
Cell 3: has a tail and many mitochondria in its middle section.
Cell 4: has a long narrow extension that pushes between soil particles.

(a) Name each cell. **[4]**

(b) For cell 3, explain how the large number of mitochondria is related to its function. **[2]**

(c) For cell 4, explain how its shape helps it to carry out its function. **[2]**

[Total: 8]

Plant nutrition and transport

CORE questions

Core 1

(a) The chemical equation for photosynthesis shown below is incomplete.

$$\underset{\text{water}}{6H_2O} + \text{.....} \xrightarrow[\text{plant pigment}]{\text{energy}} \underset{\text{glucose}}{C_6H_{12}O_6} + \text{.....}$$

(i) Complete the equation in **either** symbols **or** words. [2]

(ii) State the source of energy for this reaction.

[1]

(iii) Name the plant pigment necessary for this reaction.

[1]

(iv) Which mineral is needed by a plant to form this pigment?

[1]

(b) (i) Name the tissue in which the sugar produced in photosynthesis is carried to other parts of the plant.

[1]

(ii) In many plants some of the sugar formed in photosynthesis is converted to starch for storage. Explain the advantage of storing starch rather than sugar.

..... [2]

(iii) Name the carbohydrate, formed from sugar produced in photosynthesis, which is used to build cell walls.

[1]

[Total : 9]

1.5 6 MARKS

A student places a small pad soaked in concentrated aqueous ammonia at one end of a dry glass tube of length 100 cm and, at the same moment, a pad soaked in concentrated hydrochloric acid at the other end. The tube is sealed and left still. After a few minutes a white solid, ammonium chloride, forms as a ring inside the tube.

(a) Write the equation for the reaction that produces the white solid. [1]

(b) Explain, in terms of particles, why the white ring forms nearer one end of the tube than the middle. [3]

(c) Calculate the distance of the white ring from the ammonia end of the tube. Use $M_r(NH_3) = 17$ and $M_r(HCl) = 36.5$, and the rule that the speed of diffusion is inversely proportional to the square root of M_r. [2]

1.6 4 MARKS

A gas syringe holds 250 cm³ of nitrogen at a pressure of 100 kPa. The temperature is kept constant while the plunger is pushed in until the pressure reads 250 kPa.

(a) Calculate the new volume of the nitrogen. [2]

(b) Explain, using the particle model, why the pressure rose. [2]

1.7 4 MARKS

A fixed mass of helium occupies 60.0 cm³ at 27 °C. The gas is warmed to 127 °C at constant pressure.

(a) Convert both temperatures to kelvin. [1]

(b) Calculate the new volume of the helium. [2]

(c) State one assumption you made in part (b). [1]

1.8 5 MARKS

A sealed plastic syringe contains 20 cm³ of air. A second identical syringe contains 20 cm³ of water. Both plungers are pushed with the same force.

(a) State which syringe's plunger moves further. [1]

(b) Explain your answer in terms of the arrangement of the particles in the two syringes. [2]

(c) The air syringe is then cooled in a freezer at constant pressure. Predict and explain what happens to the volume of the air. [2]

1.9 4 MARKS

A crystal of purple potassium manganate(VII) is dropped into a beaker of still cold water. After one hour the water immediately around the crystal is deep purple and the colour has spread part-way up the beaker. A second identical crystal is dropped into hot water and the whole beaker turns pale purple within minutes.

(a) Name the process that spreads the colour through the water. [1]

(b) Explain why the process is faster in the hot water. [2]

(c) State what you would eventually see in the cold beaker if it were left for several days. [1]

Electricity 1

CORE questions

Core 1

A laboratory technician wants to make a resistor of value 64 Ω, using some resistance wire. He takes 1.0 m of this wire. The wire is shown in Fig. 1 as AC. He connects up the circuit shown.

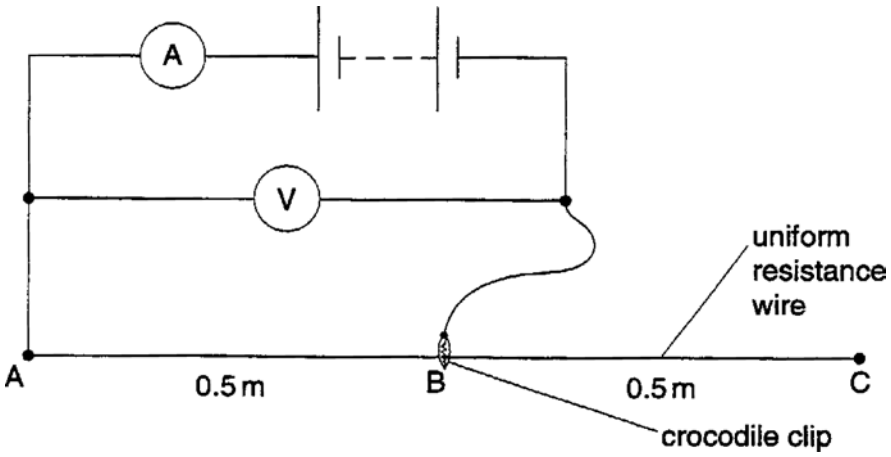


Fig. 1

(a) He connects the crocodile clip at B, which is 0.5 m from A.
Here are the readings he gets.

voltmeter reading 12 V

ammeter reading 1.5 A

Calculate the resistance of wire AB.

ANSWER: resistance of AB = ……..Ω [3]

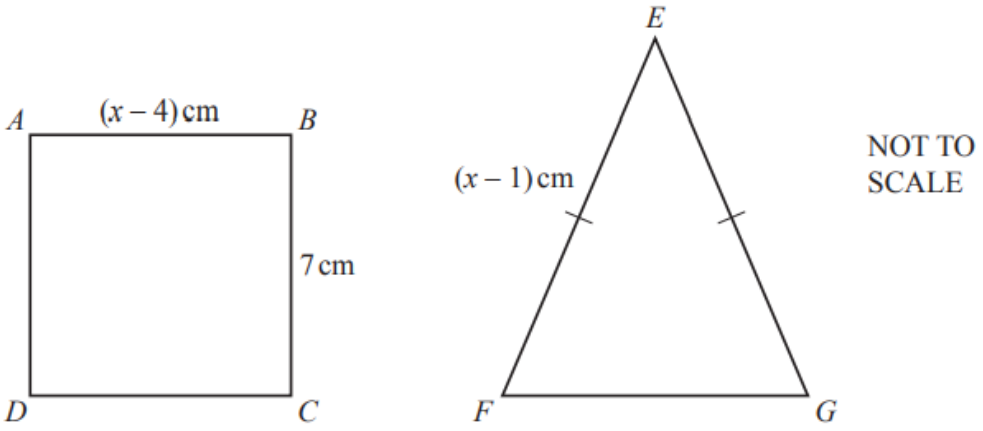
(b) The laboratory technician now connects the crocodile clip to C, to measure the resistance of 1 m of the wire. The wire has constant thickness.

(i) In the spaces below, write the readings he obtains. Ignore the effects of the resistance of the ammeter, voltmeter and battery.

voltmeter reading ……. V

ammeter reading ……. A

13



(a) *ABCD* is a square.

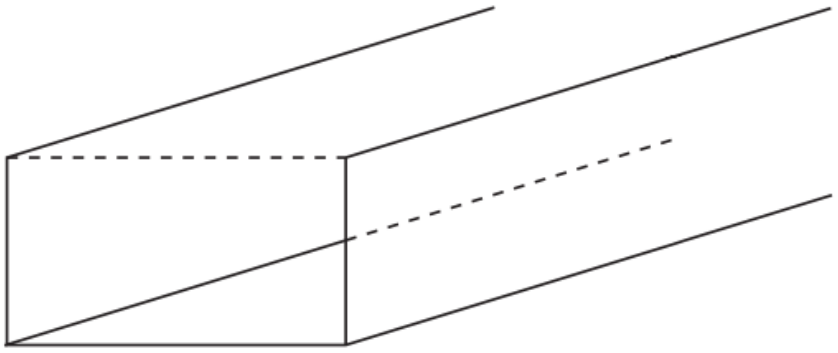
Find the value of x.

(b) Square *ABCD* and isosceles triangle *EFG* have the same perimeter.

Work out the length of *FG*.

6

14



The diagram shows a channel for water.
The channel lies on horizontal ground.
This channel has a constant rectangular cross section with area 0.95 m^2.
The channel is full and the water flows through the channel at a rate of 4 metres/**minute**.

Calculate the number of cubic metres of water that flow along the channel in 3 **hours**.

N14

(a) $a = 3/2$

M1 for multiplying numerator and denominator by $\sqrt{5} + 1$

A1 for 3/2

(b) 4.85

A1 for 4.85

Common error: Multiplying by $\sqrt{5} - 1$ instead of the conjugate $\sqrt{5} + 1$.

N15

30%

M1 for profit ÷ cost price

A1 for 30

Common error: Dividing the profit by the selling price instead of the cost price.

N16

10

M1 for $n(F \cup G) = 40 - 7 = 33$

M1 for $n(F \cap G) = n(F) + n(G) - n(F \cup G)$

A1 for 10

Common error: Forgetting the 7 students in neither set, which makes the union 40 instead of 33.

P0 By Day 30 you will…

- **Know exactly which pages of your compilation are still worth revising** — and which are not — the Alignment Guides in this pack audit the source files honestly, topic by topic.
- **Have practised the current-syllabus topics the old compilations cannot cover at all** — with original practice written in the same topical style, every question with a full marking guide.
- **Separate careless marks from don't-know marks** — the two need completely different medicine, and Bonus 4 keeps the count for you.
- **Write answers the way marking guides actually reward** — command words, key terms, units and working — Bonus 2 and Bonus 3 exist for exactly this.
- **Sit a full timed block** — on Day 29, at your own desk, before it matters.
- **Carry three named repeat mistakes** — written down — that is your entire revision list in the last week, not “revise everything”.

Why this works (and why “revise more” does not)

Your compilations are real topical questions and every one of them comes with its answers. That is the secret. A student who works questions and never marks them learns nothing. A student who marks the same day, against the real answers, and writes down *why* the mark was lost — that student fixes the mistake permanently. This Premium pack is simply the system that makes the second thing happen every day for 30 days, so you do not have to invent it.

An honest word about your source files

The Biology, Chemistry and Physics compilations in this pack are Cambridge teacher-support booklets from 2014, and the Mathematics bank collects questions from sessions between 2011 and 2016. Most of the content is unchanged and still exactly right to revise from — but not all of it. That is why each Premium Practice Pack opens with a source audit and an alignment map that tells you, topic by topic, which pages to trust and which current topics the old files simply cannot cover. Then it gives you original practice on those gaps. Nobody else selling these files tells you this.

EVERY DAY YOU WAIT

This plan is 30 days long and your exam date does not move. Every day you wait is a day cut off the plan, not off the exam. Do the First Win on the next page today. It takes 20 minutes and a pen.

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