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CAMBRIDGE
International Education

Cambridge IGCSE™

COMBINED SCIENCE **0653/33**

Paper 3 Theory (Core) **May/June 2026**

MARK SCHEME

Maximum Mark: 80

Published

This mark scheme contains the instructions and marking guidance that our examiners used to mark candidate responses for this component.

Before they start marking, examiners complete a standardisation process. They review a range of candidate responses and discuss the mark scheme in detail to agree which answers can and cannot be accepted. Examiners award marks where it is clear that candidate responses have met the requirements of the mark scheme. These requirements may vary between different components or different versions of the same component, depending on the exact requirements of the question and the candidate responses seen during the standardisation process.

Sometimes, our mark schemes may allow marks to be awarded to responses which contain elements that are factually incorrect or for content not covered by the syllabus. We do this in response to the demands of a specific question to support candidates and make sure that our assessments are fair. However, these allowances should not be used as a guide for teaching and learning.

We cannot discuss the mark scheme with schools, and we recommend that schools read the mark scheme together with the assessment material and the Principal Examiner Report for Teachers.

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General marking principles

All examiners must apply these marking principles when marking candidate responses.

1	Examiners must award marks for each response in line with: • the specific **content** defined in the mark scheme • the specific **skills** defined in the mark scheme or in the level descriptions • the **standard of response** required as exemplified by the standardisation scripts.
2	Examiners must award **whole marks** (not half marks, or other fractions).
3	Examiners must award marks **positively**. This means that: • marks are not deducted for errors or omissions • marks are awarded for correct/valid answers as defined in the mark scheme and also for **other valid answers** which go beyond the scope of the syllabus and mark scheme referring to your team leader as appropriate • the quality of spelling, punctuation and grammar are judged **only** when the mark scheme indicates that these features are **specifically assessed** in the question. However, the meaning of all responses must be unambiguous.
4	Examiners must **consistently** apply the requirements of the mark scheme and any rules for what to do when candidates have not followed instructions correctly.
5	Examiners must use the **full range of marks** defined in the mark scheme, unless limited by the quality of the candidate responses seen.
6	Examiners must award marks according to the mark scheme and **must not** award marks with grade thresholds or grade descriptions in mind.

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Science-Specific Marking Principles

1	Examiners should consider the context and scientific use of any keywords when awarding marks. Although keywords may be present, marks should not be awarded if the keywords are used incorrectly.
2	The examiner should not choose between contradictory statements given in the same question part, and credit should not be awarded for any correct statement that is contradicted within the same question part. Wrong science that is irrelevant to the question should be ignored.
3	Although spellings do not have to be correct, spellings of syllabus terms must allow for clear and unambiguous separation from other syllabus terms with which they may be confused (e.g. ethane / ethene, glucagon / glycogen, refraction / reflection).
4	The error carried forward (ecf) principle should be applied, where appropriate. If an incorrect answer is subsequently used in a scientifically correct way, the candidate should be awarded these subsequent marking points. Further guidance will be included in the mark scheme where necessary and any exceptions to this general principle will be noted.
5	‘List rule’ guidance For questions that require ***n*** responses (e.g. State **two** reasons …): • The response should be read as continuous prose, even when numbered answer spaces are provided. • Any response marked *ignore* in the mark scheme should not count towards ***n***. • Incorrect responses should not be awarded credit but will still count towards ***n***. • Read the entire response to check for any responses that contradict those that would otherwise be credited. Credit should **not** be awarded for any responses that are contradicted within the rest of the response. Where two responses contradict one another, this should be treated as a single incorrect response. • Non-contradictory responses after the first ***n*** responses may be ignored even if they include incorrect science.

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6 Calculation specific guidance

Correct answers to calculations should be given full credit even if there is no working or incorrect working, **unless** the question states 'show your working'.

For questions in which the number of significant figures required is not stated, credit should be awarded for correct answers when rounded by the examiner to the number of significant figures given in the mark scheme. This may not apply to measured values.

For answers given in standard form (e.g. $a \times 10^n$) in which the convention of restricting the value of the coefficient (a) to a value between 1 and 10 is not followed, credit may still be awarded if the answer can be converted to the answer given in the mark scheme.

Unless a separate mark is given for a unit, a missing or incorrect unit will normally mean that the final calculation mark is not awarded. Exceptions to this general principle will be noted in the mark scheme.

7 Guidance for chemical equations

Multiples / fractions of coefficients used in chemical equations are acceptable unless stated otherwise in the mark scheme.

State symbols given in an equation should be ignored unless asked for in the question or stated otherwise in the mark scheme.

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Annotations guidance for centres

Examiners use a system of annotations as a shorthand for communicating their marking decisions to one another. Examiners are trained during the standardisation process on how and when to use annotations. The purpose of annotations is to inform the standardisation and monitoring processes and guide the supervising examiners when they are checking the work of examiners within their team. The meaning of annotations and how they are used is specific to each component and is understood by all examiners who mark the component.

We publish annotations in our mark schemes to help centres understand the annotations they may see on copies of scripts. Note that there may not be a direct correlation between the number of annotations on a script and the mark awarded. Similarly, the use of an annotation may not be an indication of the quality of the response.

The annotations listed below were available to examiners marking this component in this series.

Annotations

Annotation	Meaning
	correct point or mark awarded
	incorrect point or mark not awarded
	information missing or insufficient for credit
	incorrect or insufficient point ignored while marking the rest of the response
	contradiction in response, mark not awarded
	benefit of the doubt given
	error carried forward applied
	response is too vague or there is insufficient detail in response
	incorrect point or mark not awarded
	key point attempted / working towards marking point / incomplete answer / response seen but not credited / blank page seen

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Annotation	Meaning
BP	blank page
?	unclear response
LNK	two statements are linked
FT	follow through
IR	irrelevant material that does not answer the question

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Question	Answer	Marks	Guidance
1(a)	**C** ; **A** ;	**2**	
1(b)	vagina ; oviduct ; nuclei ;	**3**	
1(c)	*any **two** from:* movement ; respiration ; sensitivity ; growth ; excretion ; nutrition ;	**2**	**I** reproduction (as given in question stem) **A** irritability instead of sensitivity **I** egestion **I** eating
1(d)	*any **two** from:* highest percentage in age group 20–24 (years) ; lowest percentage in age group 40+ (years) ; idea that percentage numbers increase then decrease with age ; quotes maximum and minimum percentages 2.5 and 0.1% ;	**2**	**A** in age groups < 20 and 20–24/5 the percentage is higher **A** 1 mark for saying after the peak the rate of infection decreases with age if the highest percentage (20–24 age group) is identified

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Question	Answer	Marks	Guidance
2(a)(i)	40 ÷ 0.008 / magnification = image size ÷actual size ; 5000 (×) ;	**2**	**Correct answer = 2 marks** **R** incorrect substitution
2(a)(ii)	net ; high(er) **and** low(er) ;	**2**	**A** overall correct order
2(b)	*any **two** from:* plasma ; white blood cells ; platelets ;	**2**	**I** red blood cells **A** WBC **I** lymphocytes / phagocytes
2(c)(i)	any coronary artery labelled ;	**1**	
2(c)(ii)	lumen ;	**1**	
2(d)(i)	proteins ;	**1**	**A** (poly)peptide **I** enzymes
2(d)(ii)	carbon **and** hydrogen **and** oxygen ;	**1**	any order **A** formula C H O List rule applies **R** H_2 and O_2

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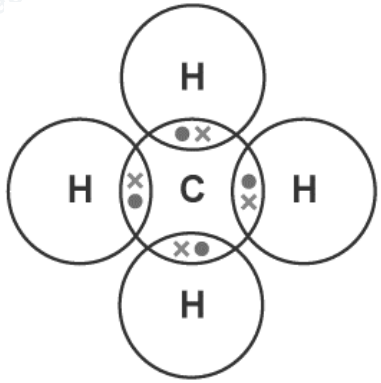
Question	Answer	Marks	Guidance
3(a)(i)	transport mineral ions ; support ;	2	**A** transports minerals / nutrients **R** downward transport / transport towards root **A** provides strength / stability / keeps the plant upright **I** structure / shape
3(a)(ii)	(root) cortex (cells) ; mesophyll (cells) ;	2	 **I** spongy / palisade
3(b)(i)	oxygen ;	1	**A** O_2
3(b)(ii)	decreases ; light ;	2	**A** lowers / gets lower / slows **R** sunlight / solar
3(c)	chlorophyll :	1	**R** chloroplast

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Question	Answer	Marks	Guidance
4(a)	3 ; Na ; K ; 20 **and** 19 ;	**4**	
4(b)	metallic basic decreases increases ; ; ; *All 4 correct = 3 marks* *2 or 3 correct = 2 marks* *1 correct = 1 mark*	**3**	**A** basic for metallic
4(c)(i)	a <u>mixture</u> of a <u>metal</u> with other elements ;	**1**	**A** a mixture of metals / a mixture of a metal with a non-metal / a mixture of named metals **I** a mixture of metal / mixed metal **R** compound / bonded / combined
4(c)(ii)	stronger / hard<u>er</u> ;	**1**	**A** more useful / improved properties **A** lighter / less dense **I** cheaper / more durable / hardwearing **I** compound / bonded / combined **R** references to rusting

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Question	Answer	Marks	Guidance
5(a)	 ;	1	**A** all dots or all crosses or any combination **R** additional electrons / atoms
5(b)	–162 °C ;	1	
5(c)	oxygen ; CO_2 ; water and H_2O ;	3	In correct places **A** CO2 and H2O **R** $2CO_2$ **R** CO^2 / H^2O **I** dihydrogen oxide
5(d)	*any **two** from:* causes (increased) global warming ; which leads to climate change ; sea level rise, melting of ice caps, extreme weather events, flooding, crop failure ;	2	 **M1 A** (enhanced) greenhouse gas/effect/less thermal energy/heat lost (to space) **R** natural disasters e.g. tsunamis **R** incorrect impacts e.g. ozone layer / acid rain / toxicity
5(e)	methane is saturated / not an alkene ;	1	**A** does not contain a carbon-carbon double bond / C=C / only contains single bonds; **I** does not contain a double bond alone **I** unreactive

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Question	Answer	Marks	Guidance
6(a)	sedimentation **and** filtration ; adding carbon ; chlorination ;	**3**	mp1 either order
6(b)	(distilled water) is pure / contains no (dissolved) impurities ;	**1**	**A** (distilled water) contains only water / contains no other substances **A** reverse argument in terms of tap water **I** 'clean' / 'not contaminated' / references to microbes / it is not a mixture alone
6(c)(i)	**H** does **not** contain water and **J** contains water / only **J** contains water ;	**1**	**A H** is not water and **J** is water **I** references to aqueous / not aqueous alone
6(c)(ii)	silver nitrate ;	**1**	
6(d)(i)	sulfur dioxide is produced (when petrol burns) ; (which causes) acid rain / respiratory difficulties / respiratory irritation ;	**2**	**Mark independently** **R** other pollutant gases named **A** damage to buildings **I** irritation alone **I** climate change / global warming / greenhouse gas / toxic **R** incorrect impacts e.g. ozone layer
6(d)(ii)	(acts as a) catalyst ;	**1**	

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Question	Answer	Marks	Guidance
7(a)(i)	at rest / stationary ;	**1**	**A** not moving / stopped / resting / still
7(a)(ii)	unit conversion for time,15 × 60 / 900 (s) ; (distance = 2400 – 1100 =) 1300 ; evidence of *speed* = *distance* ÷ *time* / 1300 ÷ 900 / $v = s \div t$ / $s = d \div t$; 1.4 (m / s) ;	**4**	**Correct answer = 4 marks** **A ECF** from incorrect or omitted unit conversion e.g. 1300 ÷ 15 (min) = 87 / 86.7 (3 marks) **A ECF** from incorrect value of *d* if working to calculate *d* is clearly shown **M3 A** equation in any form / evidence of $s = d \div t$ where *d* is in range 1100–2400 **R** incorrect substitution e.g. values of $t \div d$
7(b)(i)	friction ;	**1**	**R** air resistance / drag / air friction
7(b)(ii)	moving at constant speed ; moving in a straight line ;	**2**	List rule applies

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Question	Answer	Marks	Guidance
8(a)(i)	melting ;	**1**	
8(a)(ii)	*arrangement:* particles are regularly arranged ; *separation:* particles are close together / touching / (tightly) packed together ;	**2**	**A** answers on either answer line **I** references to particle movement / vibration **I** in fixed positions **A** AW for regular arrangement e.g. in a lattice **I** references to bonded / held together / connected
8(a)(iii)	in a solid particles vibrate / remain in fixed positions ; in a gas particles gas move at (high) speed / move randomly ;	**2**	**I** references to arrangement / separation of particles Answer must mention particles **A 1 mark** for particles in a solid do not move around and / or particles in a gas move around **I** particles in a solid do not move **A** particles move freely / move faster / move erratically **I** particles are random
8(b)(i)	helium ; hydrogen ;	**2**	Either order **A** correct formulae, He and H_2
8(b)(ii)	infrared, visible and ultraviolet ; ; *1–2 correct = 1 mark* *all 3 correct* = 2 marks	**2**	List rule applies
8(b)(iii)	100 000 ÷ 2 ;	**1**	

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Question	Answer	Marks	Guidance
9(a)(i)	principal axis ; principal focus / focal point ; focal length ;	3	**I** normal **A** focus **A** 1 mark if RHS box labels are reversed
9(a)(ii)	0.04 ÷ 0.25 ; 0.16 (kW h) ;	2	**Correct answer = 2 marks**
9(a)(iii)	evidence of $P = IV$ / 2.4 × 15 ; 36 (W) ;	2	**Correct answer = 2 marks** **A** equation in any form **R** incorrect substitution
9(b)	diminished ; inverted ;	2	List rule applies

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