OCR GCSE 21ST CENTURY BIOLOGY B · J257

BIOLOGY



MARK SCHEME

B4.2 HOW DO WE KNOW ABOUT MITOCHONDRIA AND OTHER CELL STRUCTURES? (FOUNDATION)

SCORE	PERCENTAGE
/12	%

STEMUP

These questions belong to OCR, not to us.

The examination questions, mark schemes and examiner comments in this pack were written and published by OCR. They are past assessment materials, reproduced here so that students can revise from them.

What we do not own

STEMUP is not affiliated with OCR and does not own, and makes no claim to own, any of the question, mark scheme or examiner report material in this pack. OCR has not endorsed, approved or been involved in the production of it. OCR and the qualification titles used here belong to their respective owners and appear for identification only.

Where to find the originals

OCR publishes its past papers, mark schemes and examiner reports. Always check the current specification at ocr.org.uk before you revise, because content and wording can change between series.

If you hold the rights to any material in this pack and would like it amended or removed, contact admin@stemup.co.uk and we will act on it.

Question			Answer/Indicative content	Marks	Guidance
1			Any two from Run out of space / food ✓ Conditions may not stay the same ✓ Some will die ✓ Not all cells divide at the same rate ✓	2	
			Total	2	
2			atom molecule cell human hair	1	Examiner's Comments Surprisingly the question on ordering the sizes of various structures was poorly answered, many candidates were under the impression that the cell was the smallest structure.
			Total	1	
3		i	2×10^{6} m 20^{6} m **2×10^{-6} m** ✓ 20^{-6} m	1 (AO 2.2)	
		ii	80-6 µm **80 µm** ✓ 75 µm 40 µm 0.00008 µm	1 (AO 2.2)	
		iii	*No because:* 250 nm = 0.25 µm / is smaller than 1 µm ✓ (viruses are) too small for his light microscope to see/resolve ✓	2 (AO 3.2b) (AO 3.1a)	no mark for saying no; the mark is for the explanation
		iv	electron microscope ✓ because it provides greater magnification / higher resolving power / can see things smaller than 1 µm ✓	2 (AO 2.1) (AO 1.1)	IGNORE references to scanning or transmission DO NOT ALLOW "electron/electronic microscope" DO NOT ALLOW "sees smaller things" / "sees smaller details" Examiner's Comments In Higher Tier question 3 (d) suggest that candidates need to develop a better understanding of sizes, scale and the relationship between resolution and magnification. In addition, it was common to see incorrect references to "electric", "electrical" and "electronic" microscope in part (iv).

STEMUP.CO.UK

Question			Answer/Indicative content	Marks	Guidance
			Total	6	
4			All correct award 3 marks Any 3 or 4 correct award 2 marks Any 2 correct award 1 mark	3	Vacuole, nucleus, chloroplast, mitochondria, chromosome
			Total	3	

© OCR 2019.

STEMUP.CO.UK