

Mark scheme for essay: Describe the ultrastructure of the cell and how the development of microscopy contributed to this knowledge

Content			
Information about the cell ultrastructure and function.	Hand drawn and labelled diagrams of the 2 eukaryotic cells types to include all A level specific organelle for 4 marks then:		3
	Basic one sentence summaries about the structure for each organelle for 6 marks then:		4
	Explained functions of each part of the cells ultrastructure 10 marks and then:		4
	Related structure to function of each cellular organelle to explain how they are adapted for their function for 14 marks.		2
Information about the forms of microscopy used to determine cellular ultrastructure.	Basic outline of the differences between light and electron microscopy including magnification and resolving power for 3 marks then:		3
	Description of how to prepare and view specimens using light microscopes and the 2 electron microscope types for 9 marks (3 per microscope) and then:		4
	Explain the history of our understanding of cellular ultrastructure in terms of the development of microscopy technique (staining) and equipment for 12 marks and then:		4
	Outline 3 new types of microscopy and how they are being used in research and medicine for 15 marks.		2
Structure & Style			
Student needs to have a good structure to the report.	Student has a clear, good structure to the essay		5
	Student has an adequate structure to the essay		3
	Student has poor structure to the essay		1
Student needs good use of scientific terminology and to show understanding for the wording that they use. They also need to spell these terms correctly consistently. Grammar also needs to be of good standard.	Good use of scientific terminology, good spelling and good grammar,		5
	Adequate terminology, spelling and grammar		3
	Poor terminology, spelling and grammar		1
Referencing			
Students need to have used a variety of sources showing that they have read around the subject.	Student has used a variety of sources including books and websites, at least 4		5
	Student has used a variety of 1 type of source (i.e. only websites or only books), at least 4		3
	Student has used only a few sources (1 or 2)		1
References need to be linked into text and all pictures need to be referenced as well.	All references linked into text either as footnotes or numbering relating to bibliography. All pictures referenced		5
	Some references linked into text, some cut and pasting. Not all pictures referenced		3
	No linking references in text although bibliography present. No referencing of pictures		1
Students need to evaluate the quality of the sources that they have used. They need to assess the reliability of the information that they have researched and decide whether their evidence is supported.	Student has evaluated at least 3 of their sources clearly and evaluated for reliability with reasons!		5
	Student has evaluated 1 or 2 of their sources with reasons		3
	An effort has been made to evaluate sources however no reason		1
Total content /29	Total Structure & style /10	Total referencing /15	Total /54

A* = 46

A = 41

B = 36

C = 29

D = 25

E = 20