

Cell Structure

Mark Scheme 1

Level	IGCSE(9-1)
Subject	Biology
Exam Board	Edexcel IGCSE
Module	Double Award (Paper 1B)
Topic	Structure and Functions in Living Organisms
Sub-Topic	Cell Structure
Booklet	Mark Scheme 1

Time Allowed: 41 minutes

Score: /34

Percentage: /100

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>90%	80%	70%	60%	50%	40%	30%	20%	10%

Question number	Answer	Notes	Marks
1 (a) (i)	cell <u>membrane</u> ; nucleus (must be lobed); cytoplasm;	ignore shape of cell must be labelled if cell wall no credit for membrane	3
(ii)	nucleus / bigger / irregular / not (bi)concave / eq / no haemoglobin;	allow converse	1
(b)	1 ingest / engulf / surround / phagocytosis / eq; 2 enzymes; 3 digest / breakdown / eq; 4 lymphocytes; 5 antibodies / antitoxins; 6 specific / eq; 7 antigen: 8 memory / memory cell / eq;		Max 5
		Total	9

Question number	Answer	Marks
2 (a) (i)	A: palisade (cell) / mesophyll / vacuole; R spongy B: <u>guard</u> cell;	2
(ii)	reduce water loss/transpiration/evaporation; prevent entry of microorganisms; Ignore waterproof	1
(iii)	carbon dioxide + water; glucose + oxygen; allow correct chemical formula	2
(iv)	diffusion / diffuses; stomata / pores / holes; concentration gradient / eq;	2
(b)	reduce water loss; less light; less photosynthesis; conserve energy / eq;	Max 2
(c)	named organ and substance: lungs + carbon dioxide / water kidney + urea / urine / water / salts / eq skin + sweat / water / salts / urea / eq liver + bile;;	2

Total 11 Marks

Question number	Answer	Marks										
3 (a)	<table border="1"> <thead> <tr> <th>Characteristic</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>nutrition</td> <td>feeding / eating / nutrients / energy / eq;</td> </tr> <tr> <td>respiration;</td> <td>releasing energy in cells</td> </tr> <tr> <td>reproduction;</td> <td>producing offspring</td> </tr> <tr> <td>growth and development</td> <td>increase in size / more cells / cell division / eq;</td> </tr> </tbody> </table>	Characteristic	Description	nutrition	feeding / eating / nutrients / energy / eq;	respiration;	releasing energy in cells	reproduction;	producing offspring	growth and development	increase in size / more cells / cell division / eq;	4
Characteristic	Description											
nutrition	feeding / eating / nutrients / energy / eq;											
respiration;	releasing energy in cells											
reproduction;	producing offspring											
growth and development	increase in size / more cells / cell division / eq;											
(b) (i)	cell wall / cellulose; vacuole; chloroplast / chlorophyll; starch;	Max 2										
(ii)	cell wall / (no) protein coat; cell membrane; cytoplasm / cell organelles; Ignore nucleus plasmids / <u>only</u> DNA; flagellum; larger; slime capsule;	Max2										

Total 8 Marks

Question number	Answer	Notes	Marks
4 (a) (i)	correctly labelled;	ignore other labels if label line goes to wall and membrane = 0	1
(ii)	cell wall; chloroplast; vacuole;	ignore chlorophyll	3
(b) (i)	LHS / water level lower than RHS / sucrose level;	labelling not required	1
(ii)	<u>osmosis</u> ;	ignore diffusion	1
		Total	6