

Cell and Microscopy MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	A = nucleus B = cell wall		
Total marks			2

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	A = (cell) wall B = cytoplasm	ignore cellulose	2
a)ii)	any one from ✘ bacterial cell / it has no nucleus ✘ DNA free in cytoplasm ✘ has no vacuole / no vesicles	accept has DNA instead of a nucleus but not just has DNA allow no mitochondria ignore size ignore strands of DNA	1
Total marks			3

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	A nucleus B(cell) membrane C cytoplasm		1 1 1
b)	any two from: ✘ (contain) mitochondria ✘ many (mitochondria) ✘ respiration (occurs in mitochondria)		2
Total marks			5

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	A cytoplasm B nucleus	accept clear indications	2
a)ii)	any two from: P R T		1
b)	sperm cells need a lot of energy to swim		1
Total marks			4

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	cell membrane	allow membrane	1
a)ii)	cytoplasm		1
b)i)	A		1
b)ii)	B		1
Total marks			4

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)		<p>1 mark for each correct line mark each line from left hand box</p> <p>two lines from left hand box</p> <p>cancels mark for that box</p>	3
b)	energy		1
Total marks			4

QUESTION 7

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	makes / produces / synthesises protein / enzyme		1
a)ii)	plant cell has nucleus / vacuole / chloroplasts / chlorophyll or plant cell is much larger	<p>It' = plant cell</p> <p>allow correct reference to DNA or chromosomes</p> <p>allow plant cell has fewer ribosomes</p> <p>allow cellulose (cell wall)</p>	1
b)i)	200	<p>correct answer with or without working gains 2 marks</p> <p>if answer incorrect, allow 1 mark for $\frac{2 \times 50,000}{500}$ or $\frac{100,000}{500}$</p>	2
b)ii)	bacterial cell is too small / bacterial cell about same size as	ignore references to respiration	1

	a mitochondrion / 'no room'		
Total marks			5

QUESTION 8

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	contract / shorten to churn / move / mix food	ignore relax do not allow expand accept peristalsis / mechanical digestion ignore movement unqualified	1 1
b)	400	acceptable range 390-410 allow 1 mark for answer in range of 39 to 41 allow 1 mark for answer in range of 3900 to 4100	2
c)	to transfer energy for use by (aerobic) respiration or from glucose	allow to release / give / supply / provide energy do not allow to 'make' / 'produce' / 'create' energy allow to make ATP ignore to store energy do not allow anaerobic energy released for respiration = max 1 mark	1 1
d)i)	to make protein / enzyme	ignore 'antibody' or other named protein	1
d)ii)	too small / very small	allow light microscope does not have sufficient magnification / resolution allow ribosomes are smaller than mitochondria ignore not sensitive enough ignore ribosomes are transparent	1
Total marks			8