

Question Number	Answer	Acceptable answers	Mark
1(a)(i)	<p>Any two of the following points:</p> <p>(yeast cell)</p> <ul style="list-style-type: none"> • has a nucleus (1) • does not have a flagellum (1) • does not have a plasmid (1) <p>(bacterial cell)</p> <ul style="list-style-type: none"> • has chromosomal DNA / circular DNA (1) • has a capsule (1) • has a slime coat (1) • does not have mitochondria (1) 	<p>Accept: has a vacuole</p> <p>accept: named bacterial feature e.g pilli, small ribosome, if not labelled in yeast cell</p>	(2)

Question Number	Answer	Acceptable answers	Mark
1(a)(ii)	does not have chloroplasts/chlorophyll	cannot photosynthesise	(1)

Question Number	Answer	Acceptable answers	Mark
1(b)(i)	7×10^9 (-) 5×10^{10} (1) $=$ (-) 4.3×10^{10} or (-) 43×10^9	<p>two marks for correct bald answer</p> <p>accept 43 000 000 000</p> <p>allow one mark for correct subtraction from wrongly selected numbers</p> <p>only accept the numbers in the table with a correct minus calculation</p>	(2)

Question Number	Answer	Acceptable answers	Mark
1(b)(ii)	<p>A description including any two of the following points:</p> <ul style="list-style-type: none"> involved in defence against disease / part of immune system (1) phagocytosis (1) antibody / antitoxin production (1) 	<p>accept: (fight pathogen / harmful microorganism / named microorganism)</p> <p>accept: engulf / ingest / surround / digest cells</p> <p>reject: <u>make</u> antigens</p> <p>ignore: refs to role of red blood cells or platelets</p>	(2)

Question Number	Answer	Acceptable answers	Mark
1(b)(iii)	tired / lack of energy / lethargy / short of breath	<p>anaemia / fainting / less oxygen / increased anaerobic respiration</p> <p>reject: references to asthma</p>	(1)

Question number	Answer	Mark
2(a)(i)	Any one variable from <ul style="list-style-type: none"> • temperature • amount of drying • type of potato • age of potato 	(1)

Question number	Answer	Mark
2(a)(ii)	To get an accurate reading of mass	(1)

Question number	Answer	Mark
2(a)(iii)	An explanation that combines identification via a judgement (1 mark) to reach a conclusion via justification/reasoning (1 mark): any one identification point from: <ul style="list-style-type: none"> • there is no change in mass at 0.3 mol dm^{-3} (check once drawn) (1) • this is the isotonic salt concentration in the potato (1) Plus reasoning/justification <ul style="list-style-type: none"> • because there is no net movement of water/no salt concentration gradient (1) 	(2)

Question number	Answer	Mark
2(a)(iv)	<ul style="list-style-type: none"> • repeat the test using intermediate concentrations (between 0.2 and 0.4 mol dm^{-3}) 	(1)

Question number	Answer	Mark
2(b)	B	(1)

Question number	Answer	Additional guidance	Mark
2(c)	<ul style="list-style-type: none"> • $68 \div 8000$ (1) • 0.0085 (1) • $8.5 \text{ } (\mu\text{m})$ (1) 	award full marks for correct numerical answer without working	(3)