

Multiple Choice Answers

Q19: C

Q20: D

Q21: B

Q23: A

Q28: B

Q30: A

Q32: D

Q38: B

Q39: B

Multiple Choice Answers

Q14: B

Q17: B

Q18: D

3(a)(i)	A denitrification ; B nitrification ;
3(a)(ii)	<i>any two from:</i> lightning ; bacteria ; AVP ;
3(a)(iii)	ammonia / ammonium (ions) ;
3(a)(iv)	liver ;
3(a)(v)	removal of nitrogen containing part (of amino acids / protein) ; urea is formed ;
3(b)	greenhouse effect ; rice ; carbon dioxide ; photosynthesis ; burning / combustion ;
3(c)	<i>any six from:</i> 1 untreated sewage / fertiliser / nutrients ; 2 increased availability of nitrates / ions / AW ; 3 causing algal bloom / algae reproduction ; 4 algae reduce (penetration of) sunlight (in the water) / AW ; 5 (so rooted) plants unable to photosynthesise ; 6 so plants die ; 7 bacteria, decompose / feed, on dead, plants or algae ; 8 so bacterial populations increase ; 9 bacteria respire aerobically ; 10 bacteria use up the oxygen in the water ; 11 organisms / fish , die / suffocate / migrate, due to lack of oxygen ;

2(a)(i)	<i>any two from:</i> multicellular / AW ; producer / <i>ref. to</i> photosynthesis / (presence of) chloroplasts or chlorophyll ; cellulose cell wall ; non-motile ; reproduces asexually, and / or, sexually ; AVP ;
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2(a)(ii)	<i>any two from:</i> animal ; fungi ; protocist ; prokaryote ;
2(b)	(vascular bundles) would be in a ring / AW ;
2(c)	root hair labelled ; xylem correctly drawn and labelled ; phloem correctly drawn and labelled ;
2(d)	<i>any two from:</i> transport / AW, of water ; transport / AW, of (mineral) ions / minerals ; support / AW ;
2(e)	<i>any five from:</i> 1 girdled trees produced a greater mass of fruit / ora ; 2 comparative data manipulation ; 3 phloem transports, <u>sucrose</u> / <u>amino acids</u> ; 4 leaves, photosynthesise / produce (named), carbohydrates / sugars ; 5 sugars / sucrose / amino acids, used for <u>growth</u> of fruit ; 6 <i>idea that</i> (in girdled tree) sucrose / sugar / amino acids, stays in the branch / cannot be transported downwards ; 7 <i>ref.</i> to translocation ; 8 leaves are the source ; 9 (growing) fruit is the sink ;
2(f)	pectinase ;

6(a)	20 ; 90 ; muscles / blood ; debt ; liver ; oxygen ; aerobic ;
6(b)(i)	liver ;
6(b)(ii)	kidney ;
6(c)	$C_6H_{12}O_6 \rightarrow$; $2C_2H_5OH + 2CO_2$;
6(d)	bread / AVP ;

1(a)(i)	table drawn with a minimum of two columns and a header line ; appropriate column / row headings, with units for height ; recording two (final) heights ; (1%) 13 ± 1 (mm) and (4%) 23 ± 1 (mm) recorded ;
1(a)(ii)	the higher concentration (of glucose solution) the, greater / faster, the (rate of) respiration (in yeast) ; ora
1(a)(iii)	<i>independent variable</i> : concentration of glucose ; <i>dependent variable</i> : height (of the yeast in the large test-tube) ;
1(a)(iv)	(use a) thermostatically controlled water-bath / AVP ;
1(a)(v)	to avoid, contamination / AW ;
1(b)	<i>glucose</i> : 3 (cm ³) and <i>distilled water</i> : 2 (cm ³) ;
1(c)	add Benedict's (reagent) ; heat ;
1(d)(i)	cloudy / white / milky ;
1(d)(ii)	<i>any one from</i> : keep away from, flames / fire / Bunsen / burner ; cover the container (to prevent evaporation) ; (use in a) well-ventilated area / fume cupboard / AW ; wear goggles ;