

## Multiple Choice Answers

Q8: D

## Multiple Choice Answers

Q10: B

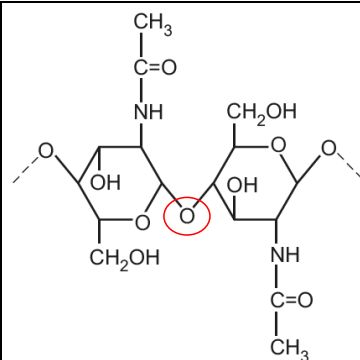
Q12: A

## Multiple Choice Answers

Q8: D

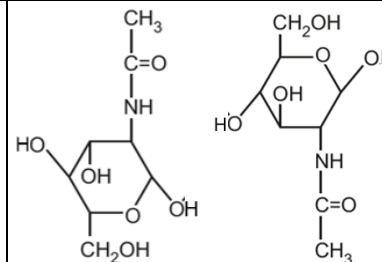
Q10: B

4(a)(i)



correct glycosidic bond circled ;

4(a)(ii)



—OH group shown on the monomer where the glycosidic bond connected the two monomers (C1) ;  
 —OH shown on C4 ;

4(b)

**any four from:**  
*ref. to* filtering helps prevent / AW, cholera ;  
 filtering water removed copepods (with bacteria on surface) from water ;  
 some bacteria were able pass through fabric / bacteria were found living free in water / some copepods were small enough to pass through fabric ;  
 cholera transmission could be from, other sources / food ;  
 people who filter water may have better personal hygiene ; **A** examples e.g. washing hands  
 AVP ; e.g. differences in other water treatment methods e.g. boiling water

4(c)(i)

**any one from:**  
 wash hands, qualified ;  
 e.g. more frequently  
 after, urination / defecation / using the toilet **I** non-scientific terms  
 before preparing food  
 before handling utensils  
 thoroughly / with soap / antibacterial gel

avoid eating, crops / food, grown with faeces used as fertiliser ;  
 wash fruit / vegetable (in, uncontaminated / AW, water) ;  
 cover food to prevent flies landing / kill flies before they land on food ;  
 AVP ; e.g.  
 don't share hand towels  
 use disposable hand towels  
 keep fingernails short

4(c)(ii)

**any two from:**  
*ref. to* active transport / *ref. to* efflux pumps ; *in correct context*  
 tetracycline transported out of the cell ;  
 AVP ; e.g. substance pumped out combined with tetracycline  
 (membrane) enzyme that breaks down tetracycline before entry to cell

4(c)(iii)

**any two from:**  
 vaccines may contain more than one antigen (so more than one type of antibody is present) ;  
 multiple mutations are needed to evolve, immune evasion / described ;  
 vaccines given to people before infection so secondary immunity acts quickly to kill pathogen before mutations arise ;  
 antibiotics used when person already infected so large population ; **ora**  
 more likely to be a mutation which causes resistance ; **ora**  
 antibiotics may target only one site in a bacterial cell ;  
 antibiotics more likely to be misused ;  
 AVP ; ;

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1(a)(i)   | 1 Benedict's <u>and</u> at least 80 °C ;                                                                                                                                                                                                                                                                                                                                                                                             |
| 1(a)(ii)  | 1 add acid <u>and</u> heat ;<br>2 add, sodium hydrogen carbonate / alkali ;                                                                                                                                                                                                                                                                                                                                                          |
| 1(a)(iii) | 1 heading for independent variable: sample / solution (before heading for dependent variable) ;<br>2 heading for dependent variable: colour / observation <u>and</u> reducing sugar, non-reducing sugar and starch ;<br>3 records correct observations for reducing sugar tests ;<br>4 records correct observations for non-reducing sugar tests ;<br>5 records correct observations for starch tests ;                              |
| 1(a)(iv)  | According to candidate's results:<br>1 two correct answers ;<br>2 four correct answers ;                                                                                                                                                                                                                                                                                                                                             |
| 1(a)(v)   | 1 biuret ;<br>2 purple ;                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1(b)(i)   | 1 x-axis: time / hours<br><u>and</u><br>y-axis: concentration of sugars / $\mu\text{mol}$<br><u>and</u><br>lines labelled leaves and phloem sieve tubes ;<br>2 x-axis: 5 h to 2 cm <u>and</u> labelled at least every 2 cm<br><u>and</u><br>scale on y-axis: 0.1 $\mu\text{mol}$ to 2 cm <u>and</u> labelled at least every 2 cm ;<br>3 correct plotting of points ;<br>4 plots joined with a thin line passing through all points ; |
| 1(b)(ii)  | <i>Any one of:</i><br>1 concentration of sugars decreases for 8 hours and then increases ;<br>2 concentration of sugars in leaves is higher than in phloem over 24 hours ;                                                                                                                                                                                                                                                           |
| 1(b)(iii) | <i>dark:</i><br>1 sugars not made in the leaves so less sugar transported by, the phloem sieve tubes / translocation ;<br><i>light:</i><br>2 sugars made in the leaves and, loaded into phloem sieve tubes / sugars move from leaves to phloem / sugars move by translocation ;                                                                                                                                                      |
| 1(b)(iv)  | 1 uses 0.24 <u>and</u> percentage concentration of sugars at 20 hours ;<br>2 shows percentage concentration of sugars at 20 hours minus 0.24 divided by 0.24 <u>and</u> multiplied by 100 ;                                                                                                                                                                                                                                          |