

Multiple Choice Answers

Q11: A

Multiple Choice Answers

Q10: C

Q11: D

Q12: C

Multiple Choice Answers

Q11: D

Q12: D

2(a)(i)	any two from each polypeptide is a (left-handed), helix / helical shape ; R alpha helix (three) polypeptides are tightly, coiled / wound (around each other) / AW ; (three polypeptides form a) <u>triple helix</u> ; I bonding
2(a)(ii)	any three from <i>collagen molecules arranged</i> 1 in parallel ; 2 staggered / ends are not aligned / AW ; <i>molecules held together by – max 2</i> 3 covalent, bonds / links ; I hydrogen bonds R if part of a list that includes other bonds in proteins 4 between R-groups of amino acids on different molecules ; A side chains 5 AVP ; e.g. covalent bonds between lysine / hydroxylysine (residues)
2(b)(i)	provides (high tensile) strength to, help keep trachea open / support trachea ; A provides strength to prevent trachea collapsing allows flexibility for, breathing / change of diameter of trachea / bending of trachea / AW ;
2(b)(ii)	any one from: (inhalation) allow, stretching / expansion, without, rupture / AW ; A prevent overstretching elastic fibres recoil to help, expel air / exhalation / expiration ; R to empty
2(c)(i)	(gly)-pro-met-gly-pro-arg-gly-pro-pro-gly ;
2(c)(ii)	any three from: <i>allow gly for glycine</i> 1 glycine is every third amino acid ; 2 glycine, allows tight folding for the polypeptides / makes it easy for polypeptides to fit closely together / AW ; A compactness A glycine allows the turning points (of the polypeptide) 3 glycine has <u>smallest</u> R-group ; A glycine is the <u>smallest</u> (amino acid) / glycine has H as R-group or side chain 4 NH in glycine can form hydrogen bonds (with carboxyl group on another amino acid residue) 5 (so) allows many hydrogen bonds between polypeptides ; 6 AVP ; ala / pro, also has a small R-group / AW
2(c)(iii)	P deletion of first nucleotide pair changes the, sequence / order, of amino acids (in primary structure) ; I shorter A (GTC CAA TGG GTC CCC GAG GTC CCC CAG GT_) val gln trp val pro glu val pro gln (val) Q substitution in first triplet (GGT to TGT in non-transcribed strand) cys (instead of gly) is first amino acid, <u>and</u> no change to the rest (of, sequence / order, of amino acids) ; A <u>only</u> first amino acid is different