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) triple helix **;** **I** bonding
2(a)(ii)	*any **three** from* *collagen molecules arranged* **1** in parallel **;** **2** staggered / ends are not aligned / AW **;** *molecules held together by – max 2* **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:* *allow gly for glycine* **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 smallest R-group **;** **A** glycine is the smallest (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 polypeptide**s** **;** **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, and no change to the rest (of, sequence / order, of amino acids) **;** **A** only first amino acid is different