Question 7 (Answer: **D**)

- The repeating ring units joined by O bridges show it is a polysaccharide built from monomers.
- The many branch points identify it as a branched storage polysaccharide.
- Read the structure rather than the name: count the monomer units and look for side chains.

Question 8 (Answer: **D**)

- Polymers in eukaryotes are joined by condensation, each forming a specific covalent linkage.
- A peptide bond joins amino acids, a glycosidic bond joins sugars and a phosphodiester bond joins nucleotides.
- Pick the diagram showing one of those linkages rather than an ionic attraction between R groups.

Question 9 (Answer: **C**)

- Water potential depends on the number of dissolved solute particles.
- A storage polysaccharide is insoluble, so it contributes no dissolved particles at all.
- Being compact and branched helps with storage and rapid hydrolysis, but it is the insolubility that protects the water potential.

Question 10 (Answer: **B**)

- A saturated triglyceride has no C=C in its tails, but it does have three ester C=O groups.
- Collagen and haemoglobin are proteins, and every peptide bond contains a C=O.
- Count the C=O double bonds, not just C=C: the large proteins have far more than four.

Question 7 (Answer: **B**)

- All three are made of α-glucose with 1,4 bonds, so those features do not separate them.
- Only glycogen and amylopectin are branched, and glycogen is the more highly branched.
- Amylose is the unbranched helical one.

Question 9 (Answer: **A**)

- Collagen is a protein, so its monomer is the amino acid.
- Glycogen is a storage polysaccharide built from α-glucose.
- Cellulose is structural and built from β-glucose – that difference is the whole point.

Question 11 (Answer: **A**)

- Amylopectin is a storage polysaccharide, so its role is storage, not structure.
- Its chains use α-1,4 bonds, with α-1,6 bonds at the branch points.
- Having both bond types is what makes it branched rather than a simple helix.

Question 13 (Answer: **A**)

- A saturated 17-carbon tail attached at one end carries 35 hydrogens.
- Each C=C double bond removes two hydrogens.
- Three double bonds remove six: $35 - 6 = 29$.

Question 7 (Answer: **C**)

- Glucose has an aldehyde group in its open-chain form, which is a C=O.
- Every peptide bond in a protein contains a C=O.
- Glycerol has three –OH groups and no C=O at all.

Question 9 (Answer: **B**)

- Glycogen's many branch ends give enzymes many places to attack, so it is hydrolysed rapidly.
- It is insoluble, so it does not affect the cell's water potential.
- Being compact is a consequence of the coiling and branching, not simply of containing α-glucose.