Name of the Student:_____
Max. Marks : 15 Marks **Time : 15 Minutes**

Mark Schemes

Q1.

(a) 1. Sucrose actively transported into phloem (cell);
OR
Sucrose is co-transported/moved with H^+ into phloem (cell);
Accept sieve (element/tube/cell) for phloem (cell)

2. (By) companion/transfer cells;

3. Lowers water potential (in phloem) **and** water enters (from xylem) by osmosis;

4. (Produces) high(er) (hydrostatic) pressure;
OR
(Produces hydrostatic) pressure gradient;
Accept description of gradient, eg higher WP

5. Mass flow **to** respiring cells
OR
Mass flow to storage tissue/organ;
Accept transport OR movement for flow
Accept buds/young leaves/fruit/seeds/shoot tip/root tip/ meristems/root

6. Unloaded/removed (from phloem) by active transport;
Accept facilitated diffusion

5 max

(b) 1. Both polysaccharides;
OR
Both are glucose polymers
OR
Both are made of glucose monomers;

2. Both contain glycosidic bonds (between monomers);

3. Both contain carbon, hydrogen and oxygen/C, H and O;

4. Starch made of α-glucose **and** cellulose made of β-glucose;

5. Starch (molecule) is helical/coiled **and** cellulose (molecule) is straight;

6. Starch (molecule) is branched **and** cellulose is not/unbranched;

7. Cellulose has (micro/macro) fibrils **and** starch does not;
Must include 1, 2 OR 3 to achieve 6 marks

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All statements must be clearly comparative or linked by the candidate, not inferred from separate statements

Additional mark point

*Starch has 1−6 glycosidic bonds **and** cellulose does not*

OR

*Starch contains two types of molecule **and** cellulose contains one type of molecule*

OR

*Starch is amylose and amylopectin **and** cellulose is one type of molecule;*

6 max

(c) 1. Hydrolysis;

2. (Of) glycosidic bonds;

3. (Starch) to maltose by amylase;

4. (Maltose) to glucose by disaccharidase/maltase;

5. Membrane-bound (disaccharidase/maltase);

Other than 5., do not penalise incorrect site for digestion or incorrect site of enzyme production

Accept microvilli for membrane

4 max

[15]

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