

Name of the Student: _____

Max. Marks : 23 Marks

Time : 23 Minutes

Mark Schemes

Q1.

- (a)
1. (when light intensity is increased) tension in the xylem becomes greater / more negative / stronger;
 2. (this increase) takes place over ≈ 100 second;
 3. then levels out;
 4. stomata open (more);
 5. increased evaporation / transpiration;
 6. therefore the water potential of leaf cells becomes more negative / lower;
 7. therefore more water moves from xylem to surrounding cells;
 8. down a water potential gradient;
 9. correct ref. to hydrogen bonds / cohesion;
- (b) humidity will affect (the rate of) evaporation / transpiration;
increased humidity / humid conditions decreases rate of water loss;

5 max

2

[7]

Q2.

- (a) Two marks for correct answer of 64.285 / 64.3 / 64;
(allow 1 mark for (8100 / 100 × 30) / 37.8) 2
- (b) dissolve in / add ethanol then mix with water;
emulsion / white colour indicates triglycerides present; 2
- (c) (i) increase the surface area for absorption;
(ignore wrong ref. to name) 1
- (ii) **R** = tissue fluid / interstitial fluid / extracellular fluid / intercellular space;
S = lymph(atic) vessel / lymph capillary / lacteal; 2
- (iii) proteins are synthesised by **U**;
involvement of ribosomes;
protein isolation / transport (inside RER);
vesicle formation; 2 max
- (iv) exocytosis / description of;
because of size / too large to leave by other methods; 2
- [11]

Q3.

- (a) increasing carbon dioxide concentration / partial pressure;
(*decrease in oxygen negates*)

1

- (b) (oxygen is used in) respiration therefore diffuses (from tracheae) to tissues;
oxygen unable to enter organism;

2

- (c) spiracles not open all the time;
therefore there is less water loss
(by diffusion through spiracles);

2

[5]