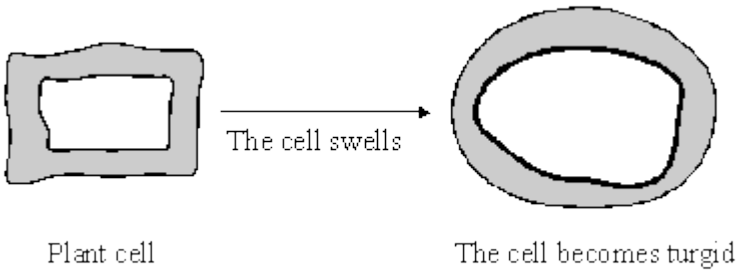
1 (a) The diagrams show what happens to the shape of a plant cell placed in distilled water.



(i) Explain why the cell swells and becomes turgid. Name the process involved.

.....

.....

.....

(2)

(ii) Give **one** feature of the cell wall which allows the cell to become turgid.

.....

(1)

(b) Describe the change which will occur if a piece of peeled potato is placed in a concentrated sugar solution and explain why this change occurs.

.....

.....

.....

.....

.....

.....

(3)
(Total 6 marks)

1

(a) (i) water (molecules) enter(s) (the cell)

or *water (molecules) pass(es) through the (semi-permeable) cell membrane*

1

by osmosis

or *because the concentration of water is*
greater outside (the cell than inside it
the vacuole)
accept because of the concentration
gradient provided there is no contradiction

1

(ii) any **one** from

(it is) elastic

(it is) strong

(it is fully) permeable (to water)

or *water can pass through it*
do not credit semi-permeable
do not credit cell membrane is semi-permeable

1

(b) (the piece of) potato shrinks

or *loses its turgor*
or *becomes flabby*
or *becomes flaccid*
or *plasmolysis occur*
or *cytoplasm pulls away from the cell wall*

(because) concentration of sugar

or *because concentration of water*

1

(solution) is greater than concentration inside the cell / vacuole

inside the cell / vacuole is greater than concentration (of water) outside

1

water is drawn out of the cell

1

[6]