1 (a) The table contains names and descriptions of processes involved in the digestive system.

Complete the table by filling in the missing names and descriptions.

(5)

Name of process	Description of process
	food enters the mouth
digestion	
	small food molecules move from the small intestine into the blood
	small food molecules are used to build large molecules
egestion	

(b) Describe the process of digestion in the mouth.

(3)

(c) A student carried out some food tests on two samples of food, A and B. The table shows the results.

Sample	Reagent used in food test	Colour seen after adding the reagent
A	iodine solution	blue black
B	Benedict's	brick red

The student concluded that both samples of food contained carbohydrates.

Do you agree with this conclusion?

Give reasons for your answer.

(2)

(Total for Question = 10 marks)

2 (a) Explain how plants absorb water from the soil and transport the water to their leaves.

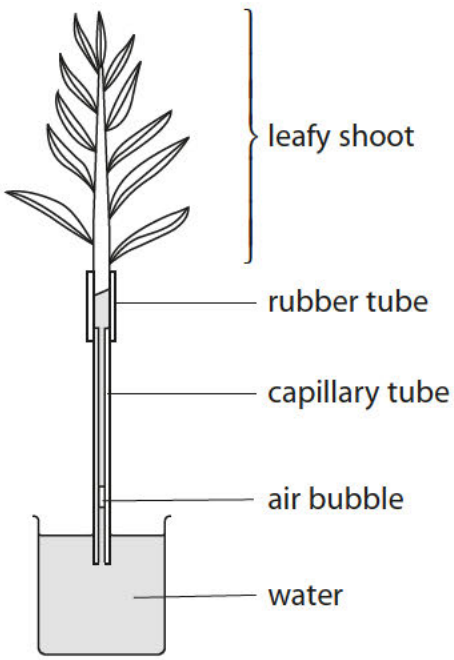
(4)

(b) Some useful substances are dissolved in the water that is taken up by plants.

Name one of these substances.

(1)

(c) This apparatus can be used to investigate the rate of water uptake by a leafy shoot.



(i) Describe one precaution you would take when setting up this apparatus.

(1)

.....

.....

(ii) Give two environmental conditions you could vary in the laboratory when investigating the rate of water uptake by a leafy shoot.

For each condition describe how you could obtain a range of different values.

(4)

Condition .....

How I could obtain a range of different values .....

.....

.....

.....

.....

.....

Condition .....

How I could obtain a range of different values .....

.....

.....

.....

.....

.....

(Total for Question = 10 marks)

3 Plants need water to survive.

(a) Name the two parts of a plant cell where most water is found.

(2)

1 .....

2 .....

(b) Plants absorb water from the soil through their roots.

(i) In the space draw a labelled diagram of a root hair cell.

(4)

(ii) Explain how the structure of the root hair cell is adapted to absorb water from the soil.

(2)

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(c) Plants also absorb mineral ions from the soil.

(i) What are magnesium ions used for in plants?

(1)

.....

(ii) What are nitrate ions used for in plants?

(2)

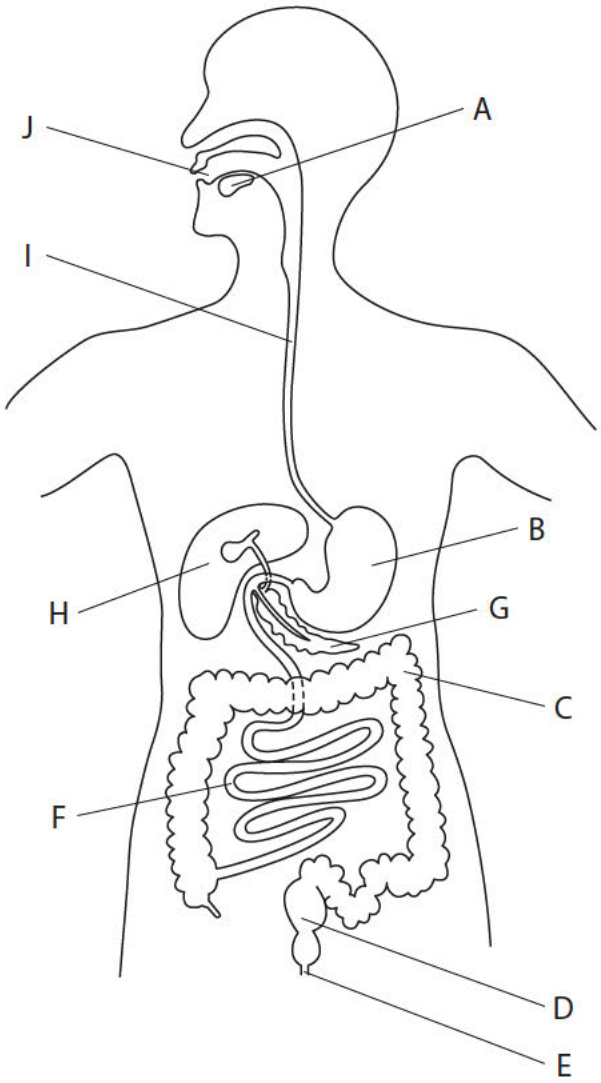
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(Total for Question = 11 marks)

4 The diagram shows the human digestive system.



(a) Use letters from the diagram to answer these questions.

Each answer may be one letter or more than one letter.

(3)

(i) Where is amylase made? .....

(ii) Where are faeces stored? .....

(iii) Where is protein digested? .....

(b) Describe and explain how the structure of the small intestine is adapted for absorbing digested food.

(5)

(c) A balanced diet is important to maintain good health.

(i) Suggest the consequences of having a diet that lacks fresh fruit and fibre.

(2)

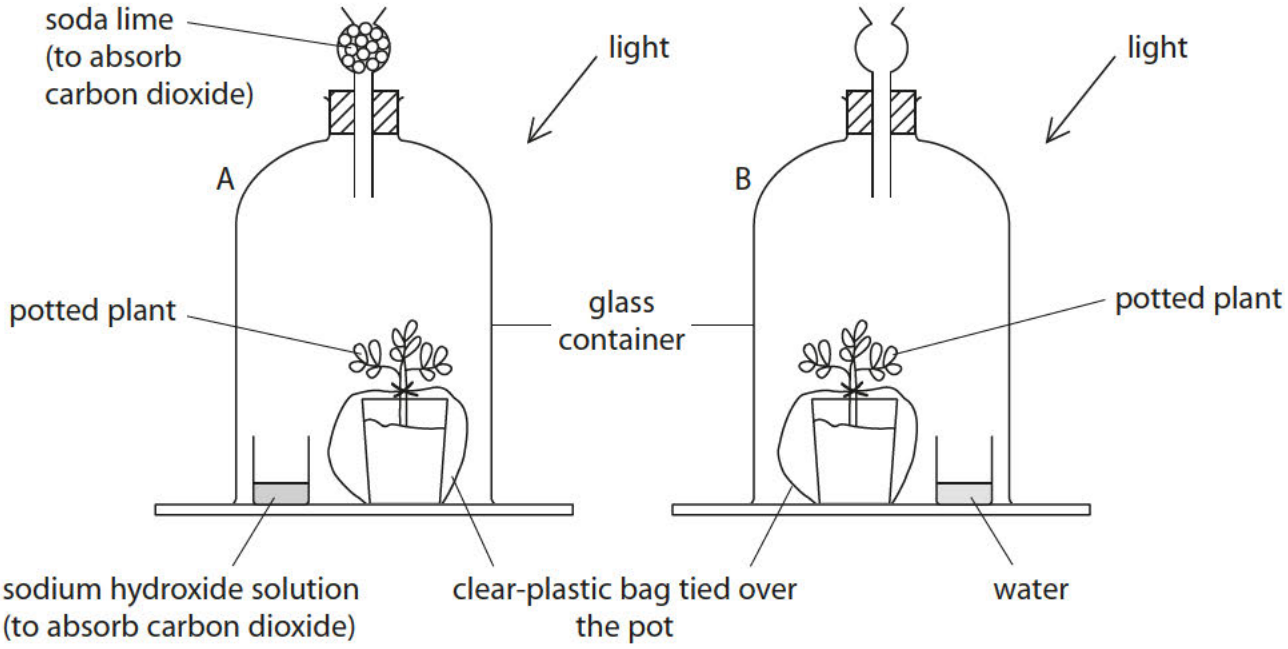
(ii) Suggest the consequences of having a diet that contains too much fat.

(3)

(Total for Question = 13 marks)

5 An experiment is set up to find out if carbon dioxide is needed by plants for photosynthesis. Two plants were destarched and then put in glass containers A and B as shown in the diagram.

After two days in the containers the plant leaves are tested for starch.



(a) (i) Suggest why the pots were covered with clear-plastic bags.

(2)

.....

.....

.....

.....

(ii) What is the purpose of container B?

(1)

.....

(iii) The plant species and the time were kept the same in the experiment.

Suggest two other variables that should be kept the same for the experiment to be valid.

(2)

1 .....

2 .....

(b) The table describes the stages used to test the leaves for starch. It also gives the reason for each stage.

(i) Complete the table by describing stage 2 and giving the reason for stage 4.

(2)

Stage	Reason
1. boil leaf in w er	make cell membranes permeable and prevent any starch digestion
2.	remove chlorophyll
3. dip leaf in w er	hydrate leaf for iodine diffusion
4. add iodine solution o leaf	....

(ii) Explain how stage 1 will prevent any starch digestion.

(1)

.....

.....

(iii) What is meant by the term **diffusion** mentioned in stage 3?

(1)

.....

.....

(iv) Describe the colour of the leaves you would expect after a starch test on

(2)

a leaf from container A.....

.....

a leaf from container B.....

.....

(Total for Question = 11 marks)