Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B2 Organisation

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Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

(a) The table shows the effect of exercise on the action of one person's heart.

	At rest	**During exercise**
Heart rate in beats per minute	72	165
Volume of blood leaving the heart in each beat in cm^3	75	120
Heart output in cm^3 per minute	5400	

(i) Calculate the heart output for this person during exercise.

Show clearly how you work out your answer.

_____

_____

_____

_____

Answer = _____ cm^3 per minute

(2)

(ii) During exercise, more oxygen is carried to the working muscles.

Explain why this is helpful during exercise.

_____

_____

_____

_____

_____

(2)

(b) Give **two** other changes in the body that help to increase the amount of oxygen delivered to the working muscles during exercise.

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1. _____

_____

2. _____

_____

(2)
(Total 6 marks)

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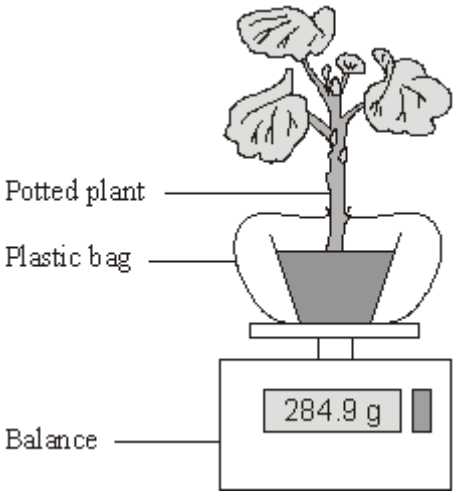
Q2.

(a) Name the process by which water is lost from plant leaves.

_____

(1)

(b) Some students set up the apparatus shown in the diagram to measure the water loss from a potted plant.



The apparatus was placed in different environmental conditions:

A in still air at 20 °C.
B in still air at 25 °C.
C in a wind at 20 °C.
D in a wind at 25 °C.

Readings from the balance were recorded by a datalogger at 10-minute intervals.

The results are given in the table.

Time in minutes	Balance reading in grams			
	A	**B**	**C**	**D**
0	285.6	284.6	282.9	280.9
10	285.3	284.2	282.4	280.2
20	284.9	283.8	281.9	279.4
30	284.7	283.4	281.4	278.8

(i) Under which conditions, **A**, **B**, **C** or **D**, was water lost most rapidly? ☐

(1)

(ii) Explain, as fully as you can, why water was lost most rapidly under these conditions.

_____

_____

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_____

_____

_____

(2)

(Total 4 marks)

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Q3.

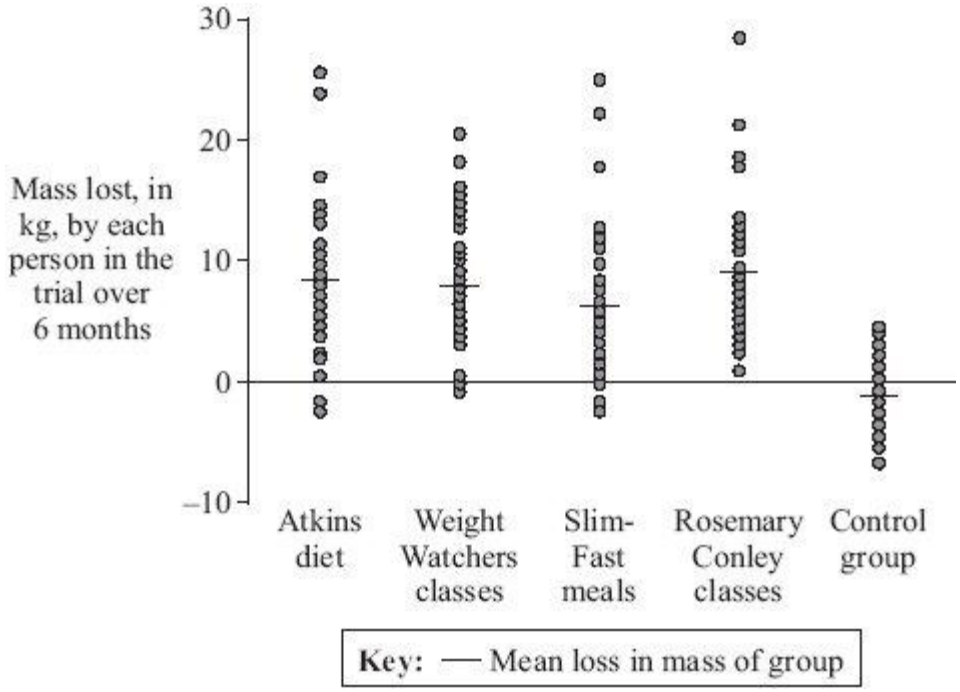
Many people who are overweight try slimming programmes.

A research study evaluated four different slimming programmes over 6 months.

Scientists selected a group of 40 people for each slimming programme and a control group.

Each of the five groups was matched for age, gender and mass.

The graph shows the results of the study.



Adapted from British Medical Journal, 2006, volume 332, pages 1309 –1314.

(a) Give **two** control variables that were used in this study.

1. _____

2. _____

(2)

(b) Give **two** conclusions that can be drawn from the results of this study.

1. _____

_____

2. _____

_____

(2)

(c) The costs of the four programmes were:

- Atkins book cost £3
- Rosemary Conley classes cost £140 for 6 months
- Weight Watchers classes cost £170 for 6 months
- Twice-daily Slim-Fast meal replacements cost £240 for 6 months.

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Use this information and the graph to answer this question.

Which is the most cost effective of the four programmes?

_____

Explain the reason for your answer.

_____

_____

_____

_____

(2)

(d) Some slimming programmes include daily exercise.

Explain how daily exercise helps a person to lose mass.

_____

_____

_____

_____

(2)

(Total 8 marks)

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