



Rewarding Learning

General Certificate of Secondary Education
2017–2018

Centre Number

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Candidate Number

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Science: Single Award

Unit 1 (Biology)
Foundation Tier

ML

[GSS11]

WEDNESDAY 21 FEBRUARY 2018, MORNING

TIME

1 hour, plus your additional time allowance.

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.
Answer **all ten** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is 60.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

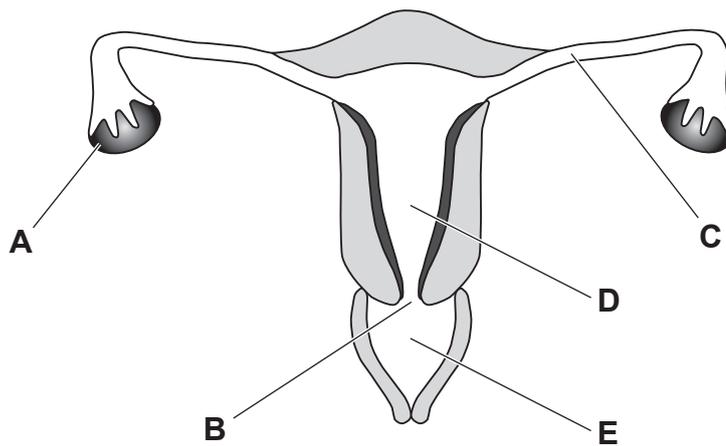
Quality of written communication will be assessed in Question **10**.

For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Total Marks	
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2 (a) The diagram below shows the female reproductive system.



Source: CCEA

(i) Complete the table using the letters **A, B, C, D** or **E**. Give the position of each named part.

Name	Letter
oviduct	
uterus	
vagina	

[3]

(ii) Use the letters **A, B, C, D** or **E** to complete the sentences below.

During sexual intercourse, sperm are placed in _____ and from there they swim up through the female reproductive system.

If there is an egg in _____ fertilisation can take place. [2]

Examiner Only	
Marks	Remark

(b) There are several methods of contraception.

(i) Two of these methods are given below. Use lines to join each method with the description of how it works.

Method	Description
condom	changes hormone levels and stops an egg being released
vasectomy	the sperm tubes are cut
	forms a barrier to stop sperm entering the female

[2]

(ii) Name the most reliable method of contraception.

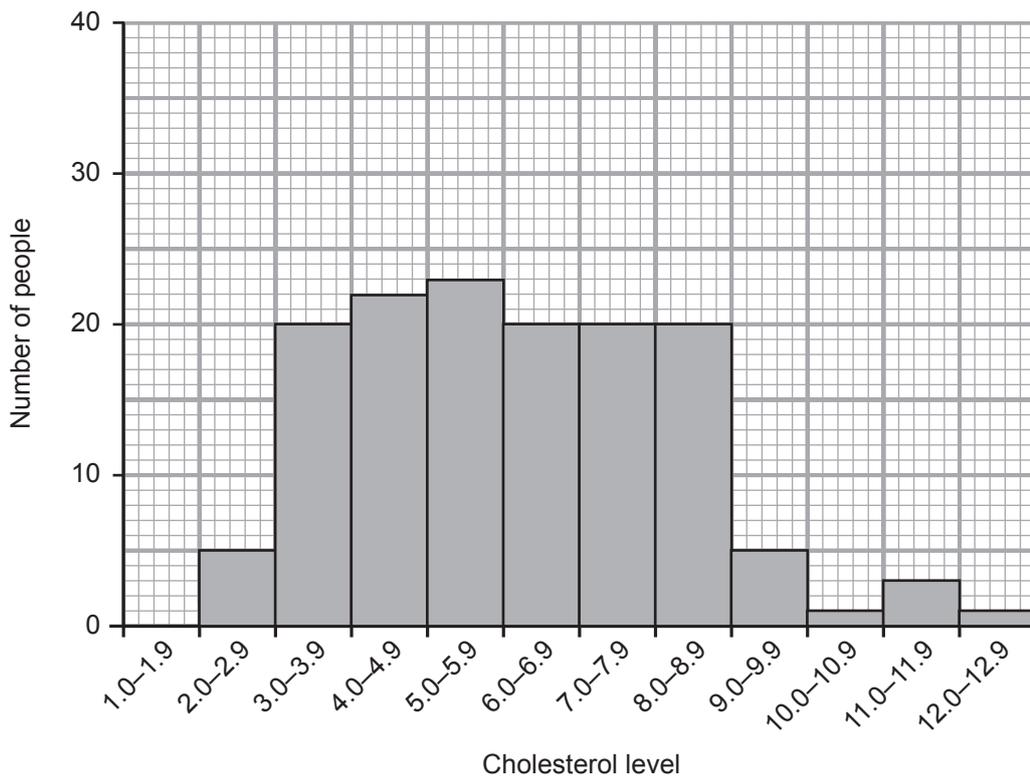
Choose from:

sterilisation **pill** **condom**

_____ [1]

Examiner Only	
Marks	Remark

- 3 (a) The graph below shows the cholesterol levels of 140 people who were tested at a clinic in one day.



It is recommended that adults have a cholesterol level of less than 6.

- (i) How many people had a cholesterol level of less than 6?

Answer _____ [1]

- (ii) Calculate the **percentage** of people who had a cholesterol level of less than 6.

Show your working out.

Answer _____ % [2]

Examiner Only	
Marks	Remark

(iii) The data for cholesterol level shows continuous variation. What is the evidence for this?

_____ [1]

(b) High cholesterol levels are regarded as a dietary risk factor for heart disease.

(i) Give one other **dietary** risk factor for heart disease.

_____ [1]

(ii) Give one **lifestyle** factor that can increase the risk of heart disease.

_____ [1]

Examiner Only	
Marks	Remark

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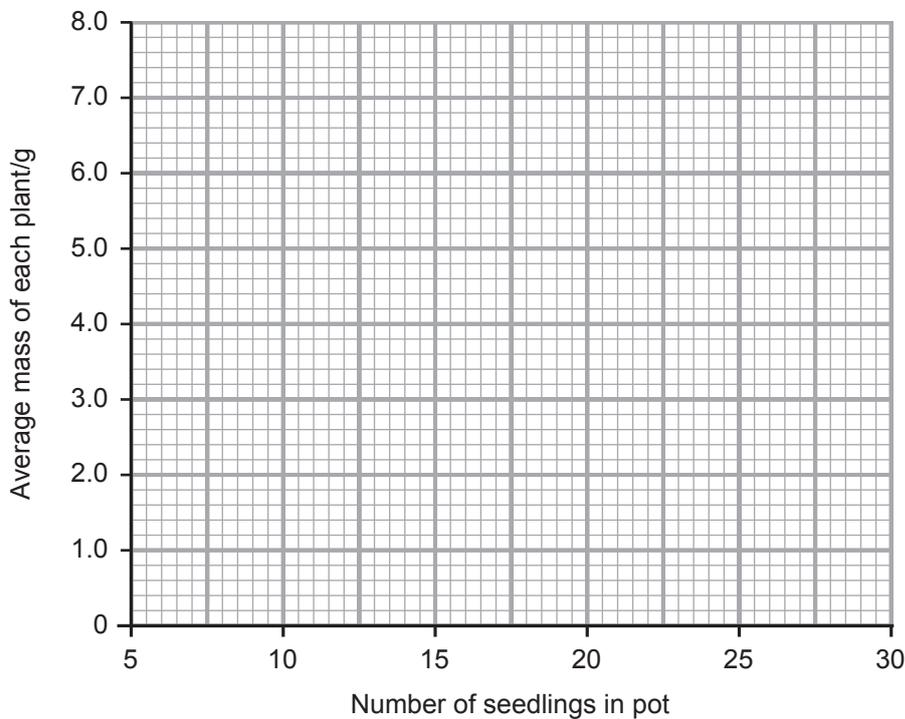
(Questions continue overleaf)

- 5 Some students investigated the effect of seedling numbers on the mass of plants after they had grown. Their results are shown below.

Examiner Only	
Marks	Remark

Number of seedlings in pot	Average mass of each plant/g	Total mass of plants/g
5	7.0	35
10	6.8	68
15	6.2	93
20	4.4	88
25	3.2	80
30	2.0	

- (a) Complete the table by calculating the total mass when there were 30 seedlings in the pot. [1]
- (b) On the grid below, plot and draw a **line** graph of **average** mass against number of seedlings in the pot.



[3]

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(Questions continue overleaf)

(b) People with Type 1 diabetes have to inject themselves with insulin every day for life. They are advised to take regular exercise and eat a balanced diet.

They have to monitor their blood glucose regularly using special instruments so they know how much insulin to inject.

People who have had diabetes for many years or those who have not controlled their blood glucose well are at risk of complications.

Around 10% of the NHS budget is spent on diabetes.

(i) Using the information provided and your knowledge, suggest **two** reasons why the treatment of diabetes is so expensive.

1. _____

2. _____ [2]

(ii) State **one** long-term effect (complication) of diabetes.

_____ [1]

(iii) Give **one** difference between Type 1 and Type 2 diabetes.

_____ [1]

Examiner Only

Marks

Remark

BLANK PAGE

(Questions continue overleaf)

9 (a) Vaccinations involve injecting dead or modified microorganisms into people. Normally the vaccination makes individuals immune to the disease that the microorganism causes.

(i) Why must the microorganisms in the vaccination be dead or modified?

[1]

(ii) Explain fully how a vaccination helps provide immunity.

[3]

(b) Colds and flu are caused by viruses. There are many different types of flu and cold viruses. Catching the flu can make people feel very unwell whereas a cold usually has much less of an effect. Elderly people and people with conditions such as diabetes are offered a flu vaccination each year.

(i) Suggest why elderly people are offered a flu vaccination each year.

[1]

(ii) Use the information provided to suggest **one** reason why a vaccination to protect against colds has not been developed.

[1]

Examiner Only	
Marks	Remark

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