Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel Level 1/Level 2 GCSE (9–1)

Tuesday 12 May 2026

Afternoon (Time: 1 hour 45 minutes)

Paper reference **1BI0/1F**

Biology
PAPER 1

Foundation Tier

You must have:
Ruler, calculator

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 100.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- In the questions marked with an **asterisk** (*), marks will be awarded for your ability to structure your answer logically, showing how the points that you make are related or follow on from each other where appropriate.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

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P 7 9 0 8 6 A 0 1 3 2

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Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 (a) Stone tools found in layers of rock can show evidence for human evolution.

Figure 1 shows four locations where stone tools were found.

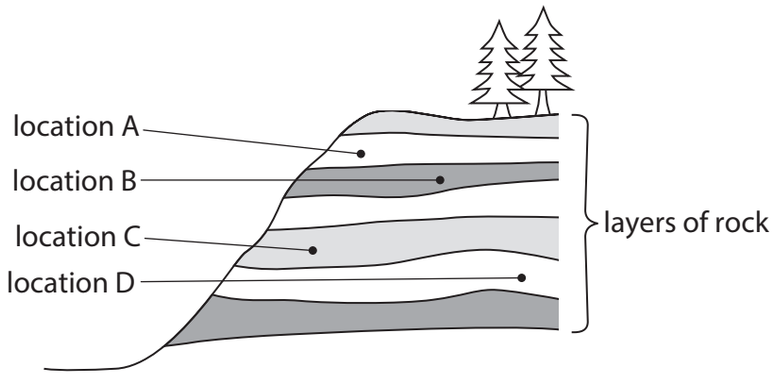


Figure 1

(i) Which location is most likely to contain the oldest tools?

(1)

☒ **A** location A

☒ **B** location B

☒ **C** location C

☒ **D** location D

(ii) Figure 2 shows two stone tools.



(Source: © Eduardo Estellez/Shutterstock)

tool X



(Source: © John Kepchar/Shutterstock)

Figure 2

State **one** feature of tool X that shows it is a more recent tool.

(1)

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(iii) Suggest **two** ways that our human ancestors used stone tools.

(2)

1 .....

.....

2 .....

.....

(b) Complete the sentences using words from the box.

(2)

Ardi	billion	Leakey
million	Lucy	thousand

Some fossilised bones of a human ancestor are estimated to be

4.4 ..... years old.

The fossil skeleton of a human ancestor was found in Kenya by a scientist called

..... .

(c) Humans domesticated animals such as cows, dogs and sheep.

State **one** reason for domesticating animals.

(1)

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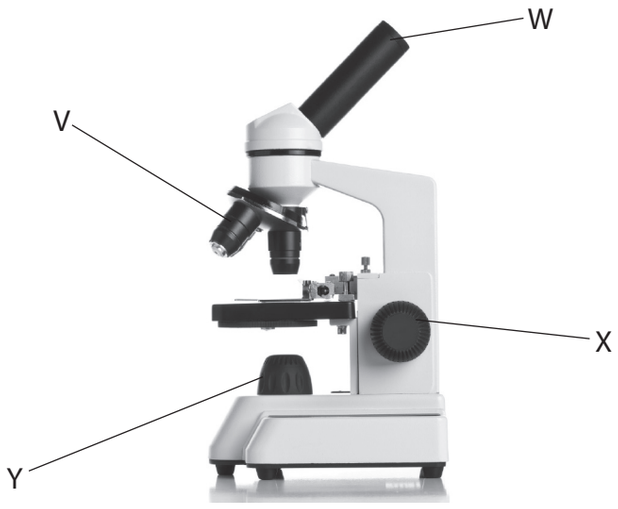
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(Total for Question 1 = 7 marks)

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2 Figure 3 shows a light microscope that can be used to study cells.



(Source: © Shawn Hempel/Shutterstock)

Figure 3

(a) (i) Which part of the microscope is the eyepiece lens?

(1)

- ☒ **A** part V
- ☒ **B** part W
- ☒ **C** part X
- ☒ **D** part Y

(ii) Which part of the microscope is the focus control?

(1)

- ☒ **A** part V
- ☒ **B** part W
- ☒ **C** part X
- ☒ **D** part Y

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(b) Describe how to prepare a microscope slide of plant cells.

Use Figure 4 to help you.

(3)

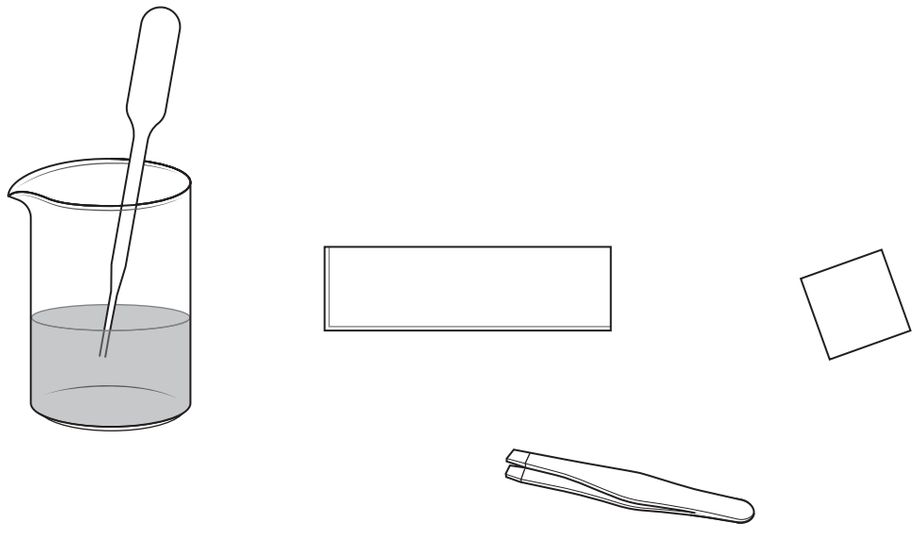


Figure 4

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(c) There are different types of microscopes.

Draw **one** straight line from each type of microscope to the advantage of using that microscope.

(2)

Type of microscope	Advantage of using the microscope
electron microscope	it is very large
	it can be used to look at living cells
	it produces a blurred image
light microscope	it is very expensive
	it has a higher resolution

(Total for Question 2 = 7 marks)

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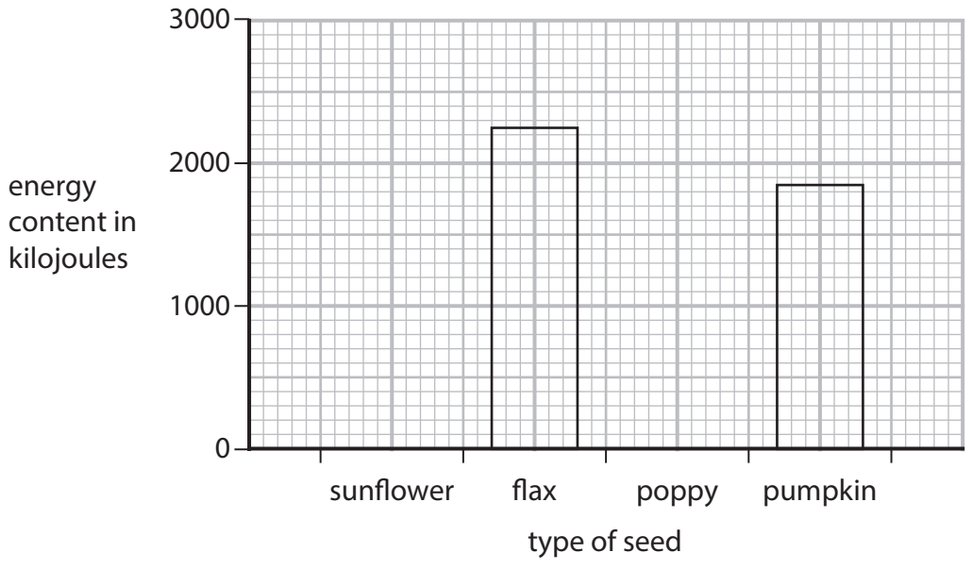
3 (a) Figure 5 shows the energy content for 100 g of different types of seeds.

type of seed	energy content in kilojoules
sunflower	2400
flax	2240
poppy	2200
pumpkin	1870

Figure 5

(i) Complete the bar chart to show the energy content of sunflower seeds and poppy seeds.

(1)



(ii) Give **one** method used to measure the energy content of a seed.

(1)

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(b) A student stated that sunflower seeds contain starch.

Describe a method to show that sunflower seeds contain starch.

(3)

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(c) Plants produce seeds by sexual reproduction.

(i) Name the type of cell division that produces egg cells needed for sexual reproduction.

(1)

.....

(ii) An egg cell has a diameter of 0.1 mm.

Which is the diameter of this egg cell in micrometres (μm)?

(1)

☒ **A** 1 μm

☒ **B** 10 μm

☒ **C** 100 μm

☒ **D** 1000 μm

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(iii) Figure 6 shows the diameter, in mm, of some egg cells.

1.42	1.29	1.38	1.24	1.35

Figure 6

Give the median value of these diameters.

(1)

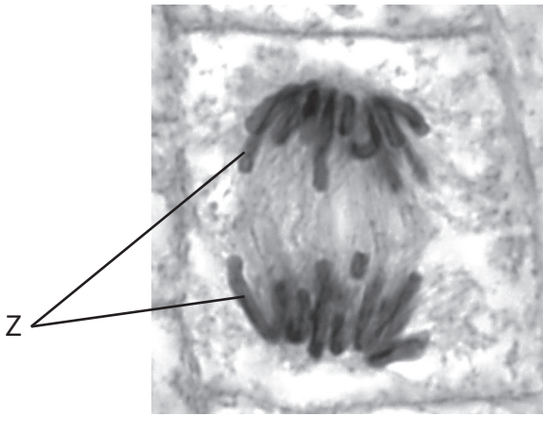
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4 (a) Figure 7 shows a stage of mitosis in a plant cell.



(Source: © Jose Luis Calvo/Shutterstock)

Figure 7

(i) Which stage of mitosis is shown in Figure 7?

(1)

- ☒ **A** interphase
- ☒ **B** metaphase
- ☒ **C** prophase
- ☒ **D** anaphase

(ii) Name the structures labelled Z in Figure 7.

(1)

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(iii) Describe what happens to the structures labelled Z in the telophase stage of mitosis.

(2)

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(iv) The cell in Figure 7 is from a root tip.

Explain why mitosis occurs in root tip cells.

(2)

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(b) The mitotic index can be used when studying mitosis.

The mitotic index is calculated using:

$$\text{mitotic index} = \frac{\text{number of cells in mitosis}}{\text{total number of cells}}$$

(i) A scientist observed 50 cells and noted that 14 of these cells were in mitosis.

Calculate the mitotic index for these cells.

Give your answer to one decimal place.

(3)

mitotic index = ...

(ii) A high mitotic index can show that cell division is uncontrolled.

Give **one** outcome of uncontrolled cell division.

(1)

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(Total for Question 4 = 10 marks)

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5 (a) Figure 8 shows a human brain.

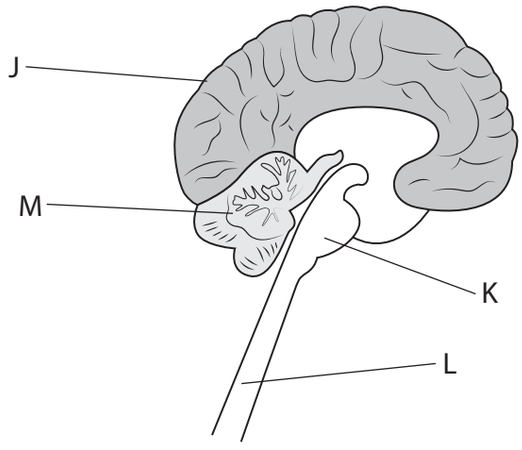


Figure 8

(i) Which part of the brain is labelled K?

(1)

- ☒ **A** cerebral hemisphere
- ☒ **B** medulla oblongata
- ☒ **C** cerebellum
- ☒ **D** spinal cord

(ii) Name the part of the brain that controls vision, memory and language.

(1)

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(b) Figure 9 shows a cross section of a human eye.

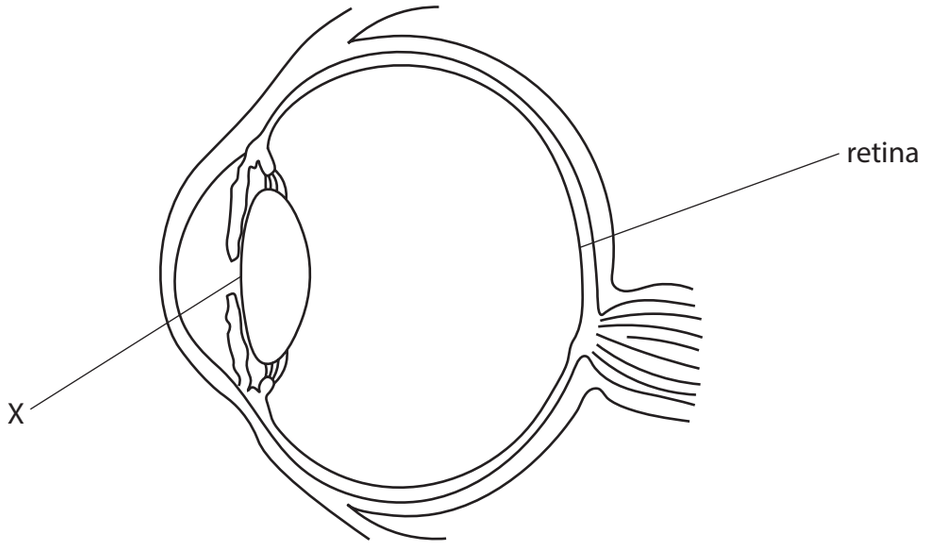


Figure 9

(i) Name **one** type of cell that is stimulated by light in the retina.

(1)

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(ii) Explain the function of the part of the eye labelled X.

(3)

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(c) The eye is involved in some of our reflex responses.

Figure 10 shows how a ruler can be used to measure reaction time.

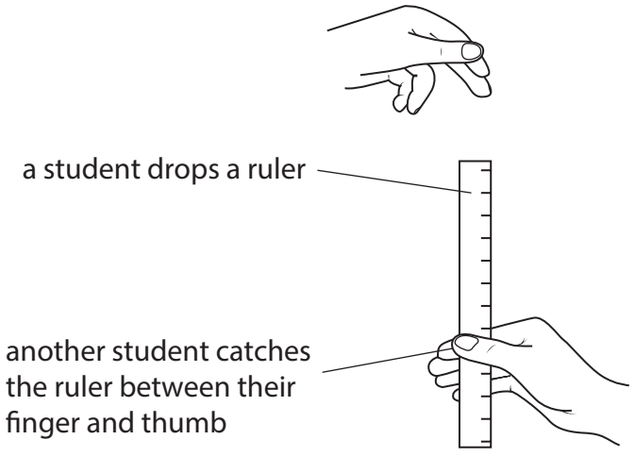


Figure 10

Figure 11 shows some results from an investigation that used this method.

student	distance the ruler fell in cm		
	first catch	second catch	third catch
1	23	20	14
2	25	21	17
3	24	18	12

Figure 11

(i) Explain **one** conclusion that can be made from the results shown in Figure 11.

(2)

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(ii) Name **one** defect of the eye that could affect a person's ability to read the numbers on the ruler.

(1)

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(Total for Question 5 = 9 marks)

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6 (a) Some tomato plants produce red tomatoes and some produce yellow tomatoes.

A gardener crossed tomato plants as shown in Figure 12.

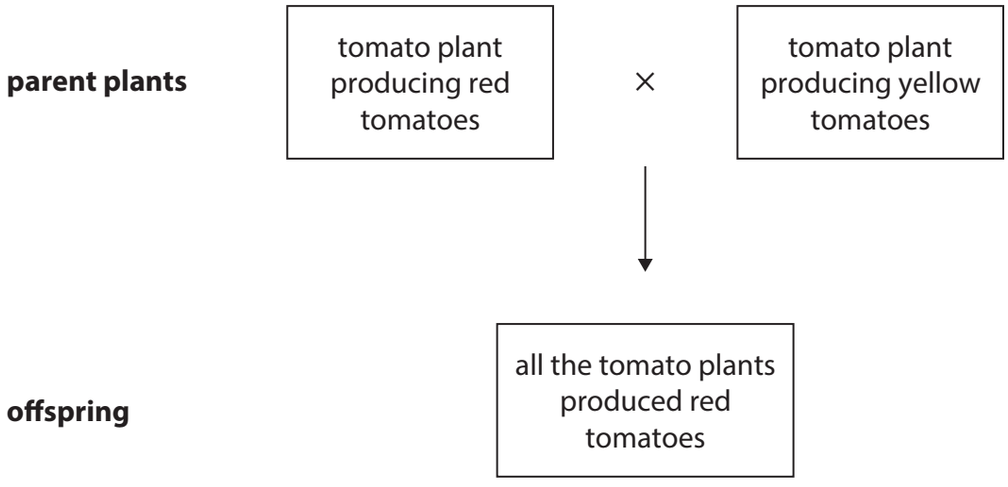


Figure 12

(i) Which conclusion can be made from this cross about the characteristic for red tomatoes?

(1)

☒ **A** this characteristic is environmental

☒ **B** this characteristic is recessive

☒ **C** this characteristic is dominant

☒ **D** this characteristic is a mutation

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(ii) A gardener crossed two tomato plants that produced red tomatoes.

Both of these tomato plants had the same genotype.

Complete the Punnett square to show the possible genotypes of the offspring.

Show the percentage of tomato plants that produce yellow tomatoes in your answer.

(3)

		plant producing red tomatoes: **R**	plant producing red tomatoes: **r**
plant producing red tomatoes			
plant producing red tomatoes			

percentage of tomato plants that produce yellow tomatoes = ... %

(iii) Which term describes the genotype Rr?

(1)

- ☒ **A** monohybrid
- ☒ **B** homozygous recessive
- ☒ **C** heterozygous
- ☒ **D** homozygous dominant

(b) Describe the meaning of the term **allele**.

(2)

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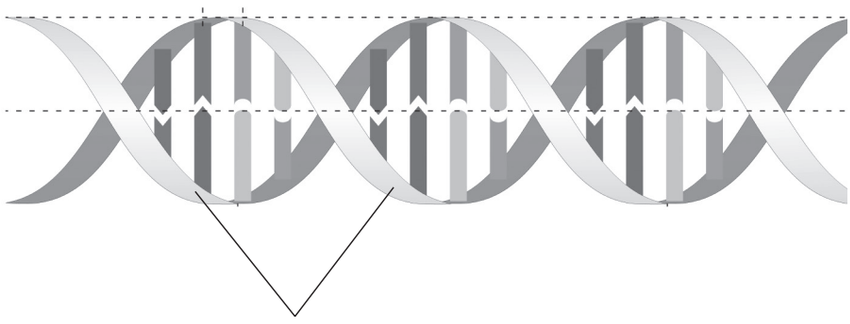
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(c) Figure 13 shows part of a DNA molecule.



(Source: © Dee-sign/Shutterstock)

Figure 13

(i) Describe the structure of a DNA molecule.

(4)

(ii) Give the term used to describe the entire DNA of an organism.

(1)

(Total for Question 6 = 12 marks)

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7 (a) A scientist investigated how fertiliser and compost affect the growth of rice plants.

Four pots of soil were used. Each pot contained five rice plants.

Figure 14 shows the contents of each pot and the mean height of the rice plants after nine weeks.

pot	contents of the pot	mean height of rice plants in cm
1	soil	16.8
2	soil + fertiliser	18.3
3	soil + compost	19.0
4	soil + fertiliser + compost	20.2

Figure 14

(i) State **two** factors that should be kept the same in this investigation.

(2)

1 .....

.....

2 .....

.....

(ii) Compare the effect of fertiliser and the effect of compost on the growth of the rice plants in these four pots.

(3)

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(iii) Give **one** reason for increasing the number of rice plants used in this investigation.

(1)

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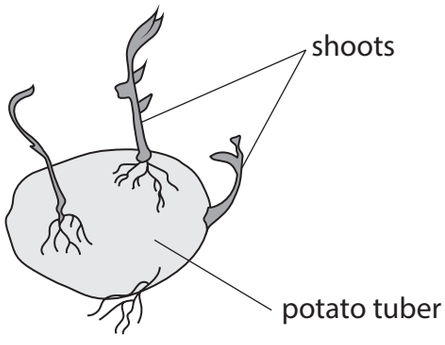
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*(b) Potatoes are an important food crop.

Figure 15 shows some information about reproduction in potato plants.





(Source: © Tomasz Klejdysz/Shutterstock)

Asexual reproduction
New plants can be grown from shoots on potato tubers

Sexual reproduction
Flowers are needed to produce seeds

Figure 15

Explain the advantages and disadvantages of asexual reproduction and sexual reproduction in potato plants.

(6)

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(Total for Question 7 = 12 marks)

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8 (a) Physical barriers and chemical defences in the human body protect us from infections by pathogens.

(i) Name **one** physical barrier.

(1)

.....

(ii) Name **one** chemical defence.

(1)

.....

(b) Different types of pathogen cause diseases.

Which disease is caused by a protist?

(1)

- ☒ **A** tuberculosis
- ☒ **B** malaria
- ☒ **C** cholera
- ☒ **D** AIDS

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(c) Measles infections are caused by a virus.

A student researched the number of cases of measles for different age groups in one year.

Figure 16 shows the data collected by this student.

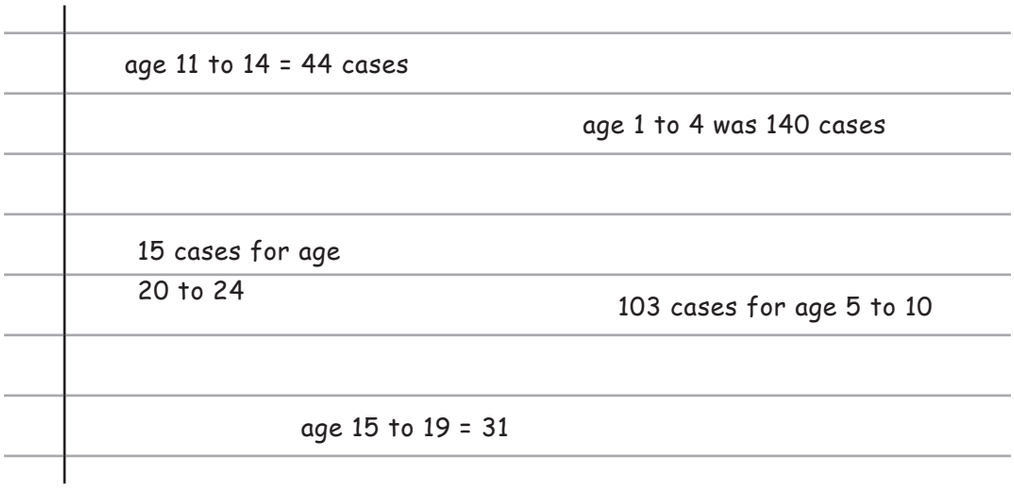


Figure 16

(i) Complete the table to show this data.

(2)

(ii) State the trend shown by the data.

(1)

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(d) (i) Describe how the immune system responds to an infection.

(3)

(ii) Some infections are spread by tiny droplets in the air.

Figure 17 shows some symptoms of an infection.

- high body temperature
- runny nose
- sneezing
- coughing

Figure 17

Explain **one** way of reducing the risk of spreading this infection.

(2)

(Total for Question 8 = 11 marks)

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9 (a) Which structure controls the movement of substances into and out of cells?

(1)

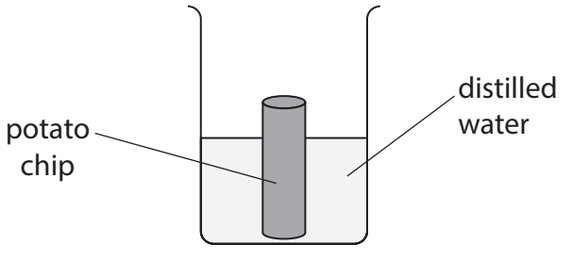
- ☒ **A** cell membrane
- ☒ **B** ribosome
- ☒ **C** nucleus
- ☒ **D** chloroplast

(b) A student measured the mass of a potato chip.

The potato chip was placed in a beaker of distilled water.

The mass of the potato chip was measured again after 60 minutes.

Figure 18 shows part of the method and the results.



Results

mass of potato chip at the start = 5.0 g

mass of potato chip after 60 minutes = 5.4 g

Figure 18

(i) Calculate the percentage change in mass of the potato chip.

(2)

Use the equation

$$\text{percentage change in mass} = \frac{\text{change in mass}}{\text{mass at start}} \times 100$$

percentage change in mass = ... %

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(ii) Explain the change in mass of this potato chip.

(3)

(iii) Give **one** way of improving the method shown in Figure 18.

(1)

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*(c) Figure 19 shows some information about a modern variety of carrot and a wild variety of carrot found growing in hedgerows.

feature of the carrot	modern variety of carrot	wild variety of carrot
photograph	 (Source: © Nattika/Shutterstock)	 (Source: © imageBROKER.com GmbH & Co. KG / Alamy Stock Photo)
root colour	orange	pale yellow
root shape	one large root	thin branched roots
taste	sweet	bitter

Figure 19

Wild carrots show variation in colour, root shape and taste.

Describe how the modern variety of carrots could have been produced from wild varieties of carrots.

(6)

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(Total for Question 9 = 13 marks)

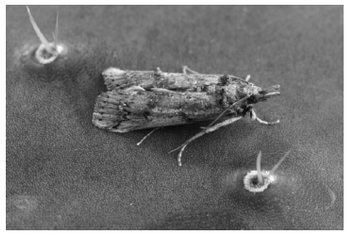
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10 (a) Figure 20 shows a prickly pear cactus and a cactus moth.



(Source: © MARK WILLIAMSON/ SCIENCE PHOTO LIBRARY)

prickly pear cactus



(Source: © Peggy Greb,USDA/ ARS/Science Source/SCIENCE PHOTO LIBRARY)

cactus moth

Figure 20

The prickly pear cactus was introduced into Australia.

This cactus spread rapidly across farmland.

The cactus moth feeds on prickly pear cacti, causing the plants to die.

Releasing these cactus moths into an area is used to reduce the number of prickly pear cacti.

(i) Which method is being used to reduce the number of prickly pear cacti?

(1)

- ☒ **A** aseptic technique
- ☒ **B** biological control
- ☒ **C** decomposition
- ☒ **D** selective breeding

(ii) Give **one** disadvantage of using the cactus moth to reduce the number of prickly pear cacti.

(1)

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(b) Chalara ash dieback is caused by a pathogen that affects ash trees.

(i) Give **one** effect of this pathogen that can be seen on infected ash trees.

(1)

.....

.....

(ii) When studying Chalara ash dieback, scientists spread the pathogen on growth medium in a Petri dish.

State why an autoclave was used to prepare the growth medium.

(1)

.....

.....

(iii) A scientist investigated the effect of two antibiotics and an antifungal chemical on the growth of this pathogen.

Paper discs soaked in each of these substances were added to the Petri dish containing this pathogen.

A disc soaked in water was also included.

Figure 21 shows the results.

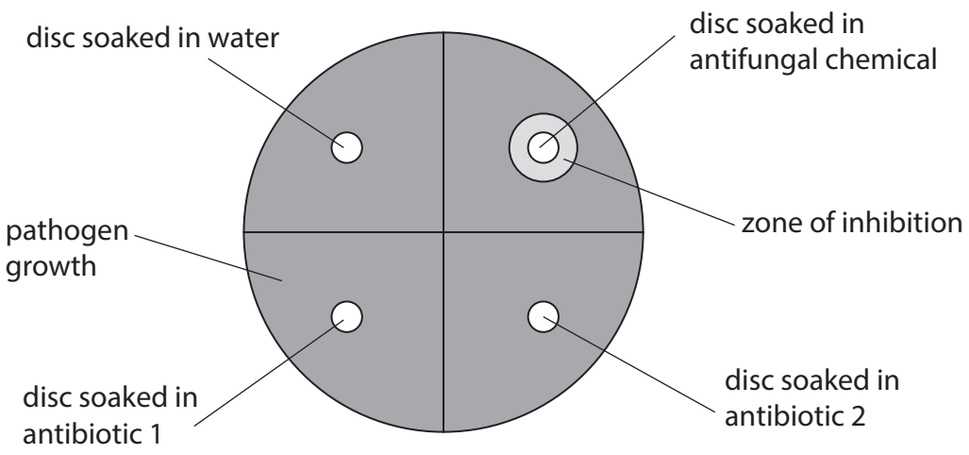


Figure 21

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The diameter of the zone of inhibition for the antifungal chemical was 14 mm.

Calculate the area of the zone of inhibition using the equation πr^2.

Use the value of 3.14 for π.

Give your answer to one decimal place.

(3)

area of the zone of inhibition = ... mm^2

(iv) State the role of the disc soaked in water.

(1)

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(v) Explain how the results from Figure 21 help to identify the type of pathogen that causes Chalara ash dieback.

(3)

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(Total for Question 10 = 11 marks)

TOTAL FOR PAPER = 100 MARKS

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