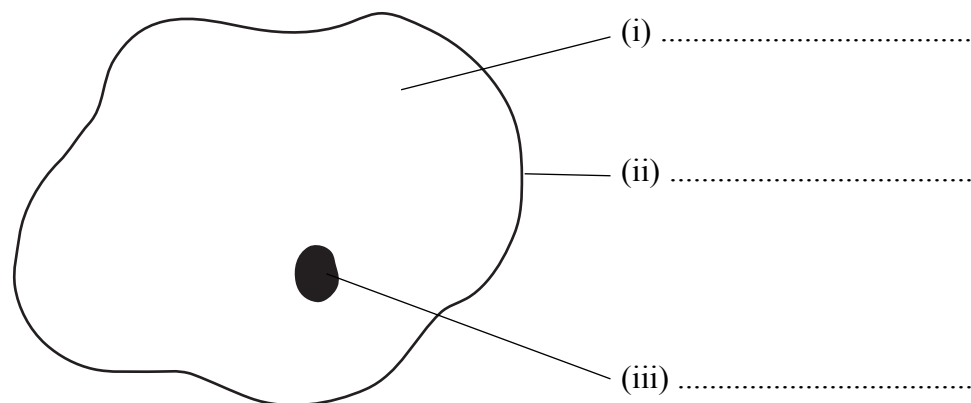


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1. (a) Complete the labels on the diagram of a human cheek cell.



(3)

(b) Name a type of cell in humans that does **not** have part (iii).

.....
(1)

(c) Name a type of cell in humans that has half the number of chromosomes of a cheek cell.

.....
(1)

(Total 5 marks)

Q1



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2. Draw **one** line from each part of the alimentary canal to its function.

small intestine

most water is absorbed

stomach

produces enzymes and hormones

pancreas

produces enzymes and acid

large intestine

most food is absorbed

Q2

(Total 3 marks)

3



Turn over

Leave
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3. Blood has many different functions.

Use words from the box to complete the sentences below.

antibiotics	antibodies	excrete	ingest		
nitrogen	oxygen	plasma	platelets	red	white

You may use each word once, more than once or not at all.

Red blood cells transport around the body.

White blood cells produce to destroy microorganisms.

White blood cells also microorganisms.

Urea is transported in the blood

The blood contains many more blood cells than

..... blood cells.

(Total 6 marks)

Q3



4. The boxes show some pollutants and the effects that they can have.

Draw **one** line from each pollutant to its possible effect.

pollutant

possible effect

raw sewage

puts disease causing microbes into waterways

nitrates and phosphates

causes rain to become acidic

carbon monoxide

destroys the ozone layer

sulphur dioxide

reduces the amount of oxygen blood can carry

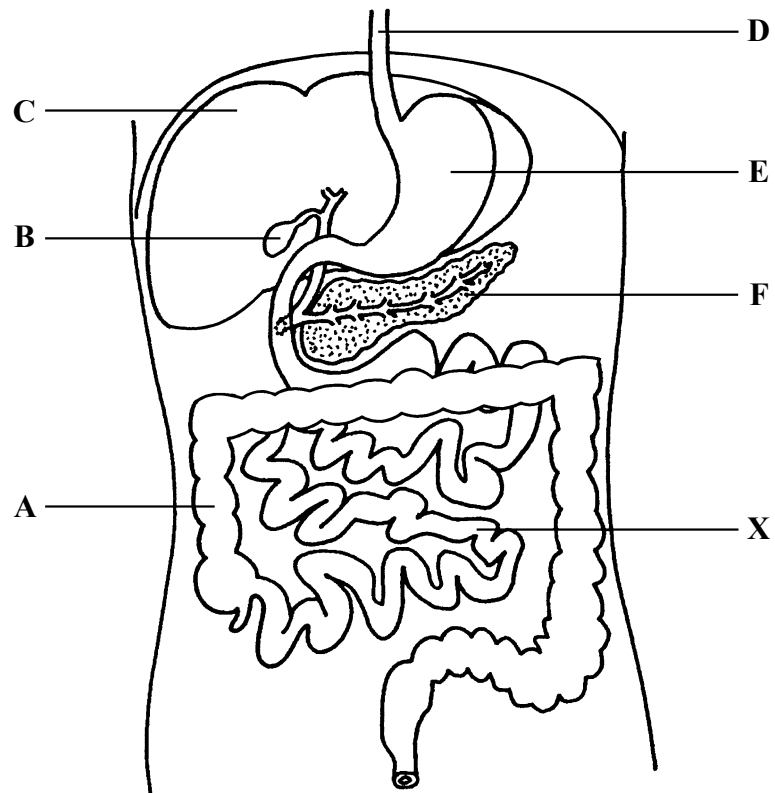
causes a rapid growth of algae in waterways

(Total 4 marks)

Q4



5. The diagram shows some parts of the human alimentary canal.



(a) Use the letters to answer the following

(i) Which part is the pancreas?..... (1)

(ii) Which part makes bile? (1)

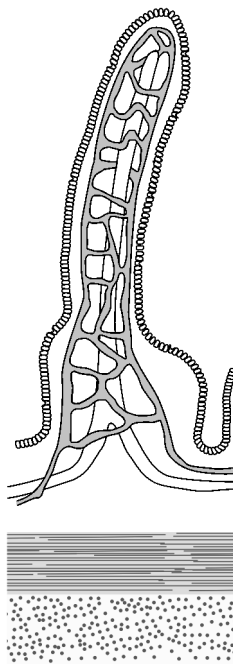
(iii) Which part stores bile?..... (1)

(b) Bile has two main functions.
State **one** of these functions.

..... (1)



(c) Food that has been digested is absorbed through the walls of part X.
The diagram shows a microscopic structure from the inside surface of X.



(i) Name this structure.

..... (1)

(ii) Describe **two** features of this structure that help it absorb food more quickly.

1

.....

2

.....

(2)

Q5

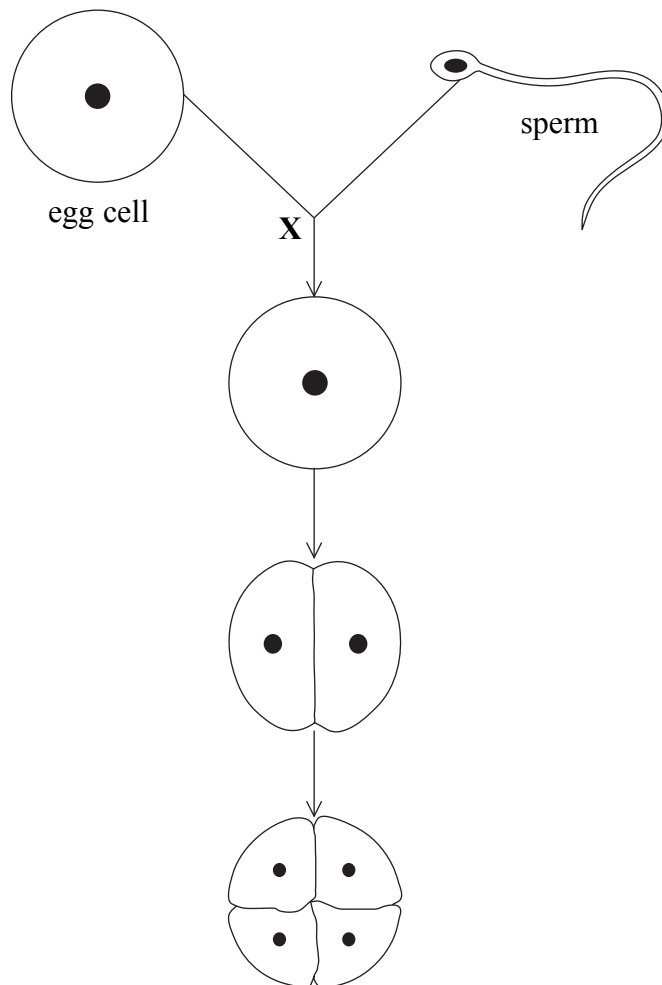
(Total 7 marks)



6. (a) Where are chromosomes found in human cells?

..... (1)

(b) The diagram shows cells during reproduction in humans.



(i) Underline the correct word in the box to complete the following sentence.

Sperm and egg cell are both

gametes
genes
zygotes

(1)



(ii) Name the process that happens at X.

..... (1)

(iii) What is the diploid number of chromosomes in human cells?

..... (1)

(iv) How many cells in the diagram are diploid?

..... (1)

(Total 5 marks)

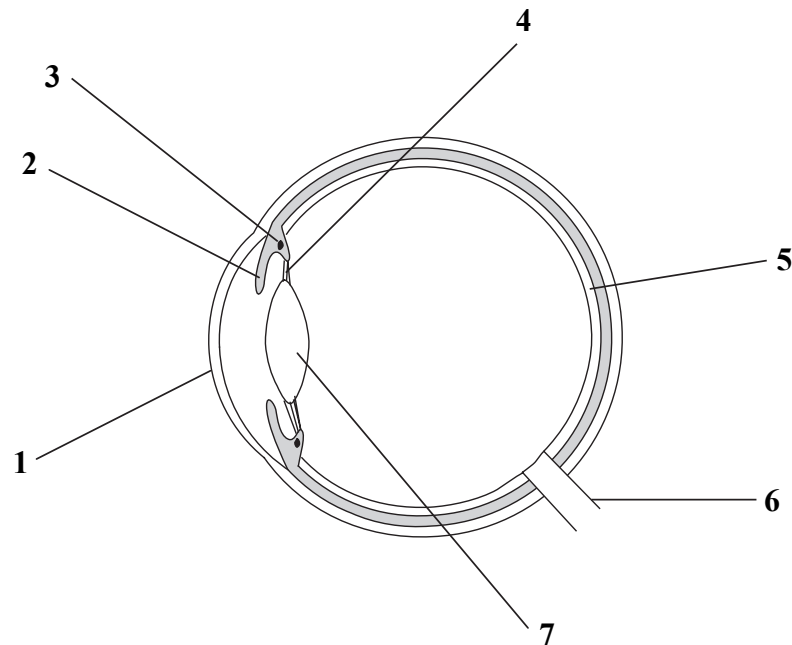
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Q6



N 2 5 7 1 9 A 0 9 1 6

7. The diagram shows a section through a human eye.



- (a) Which part is sensitive to light? (1)
- (b) Which part contains most receptors? (1)
- (c) Which two parts **must** be transparent? and (1)
- (d) Which part alters the amount of light reaching 5? (1)

(Total 4 marks)

Q7



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8. Cigarette packets have a government health warning printed on them.



Describe how smoking cigarettes damages human health.



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(Total 7 marks)

Q8



N 2 5 7 1 9 A 0 1 1 1 6

Leave
blank

9. Some hormones control sexual maturity and reproduction.

(a) Name the hormone that stimulates the production of sperm.

.....
(1)

(b) State **one** secondary sexual characteristic that is the same in both females and males.

.....
(1)

(c) The female sex hormones control the menstrual cycle.

(i) Describe the function of each of the following female hormones in this cycle.

Follicle stimulating hormone (FSH)

.....
.....
.....

Luteinising hormone (LH)

.....
.....
.....

Oestrogen

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.....
.....

Progesterone

.....
.....
.....
(4)

(ii) Which **two** of these sex hormones are released by the pituitary gland?

.....
(1)

Q9

(Total 7 marks)



10. Enzymes are essential for the digestion of food.

(a) Name **one** organ that produces amylase, lipase and protease enzymes.

..... (1)

(b) (i) Name the enzyme that digests fats.

..... (1)

(ii) Name the products of digestion of fat.

..... and (1)

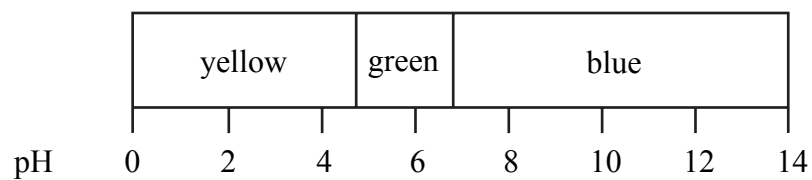
QUESTION 10 CONTINUES OVERLEAF



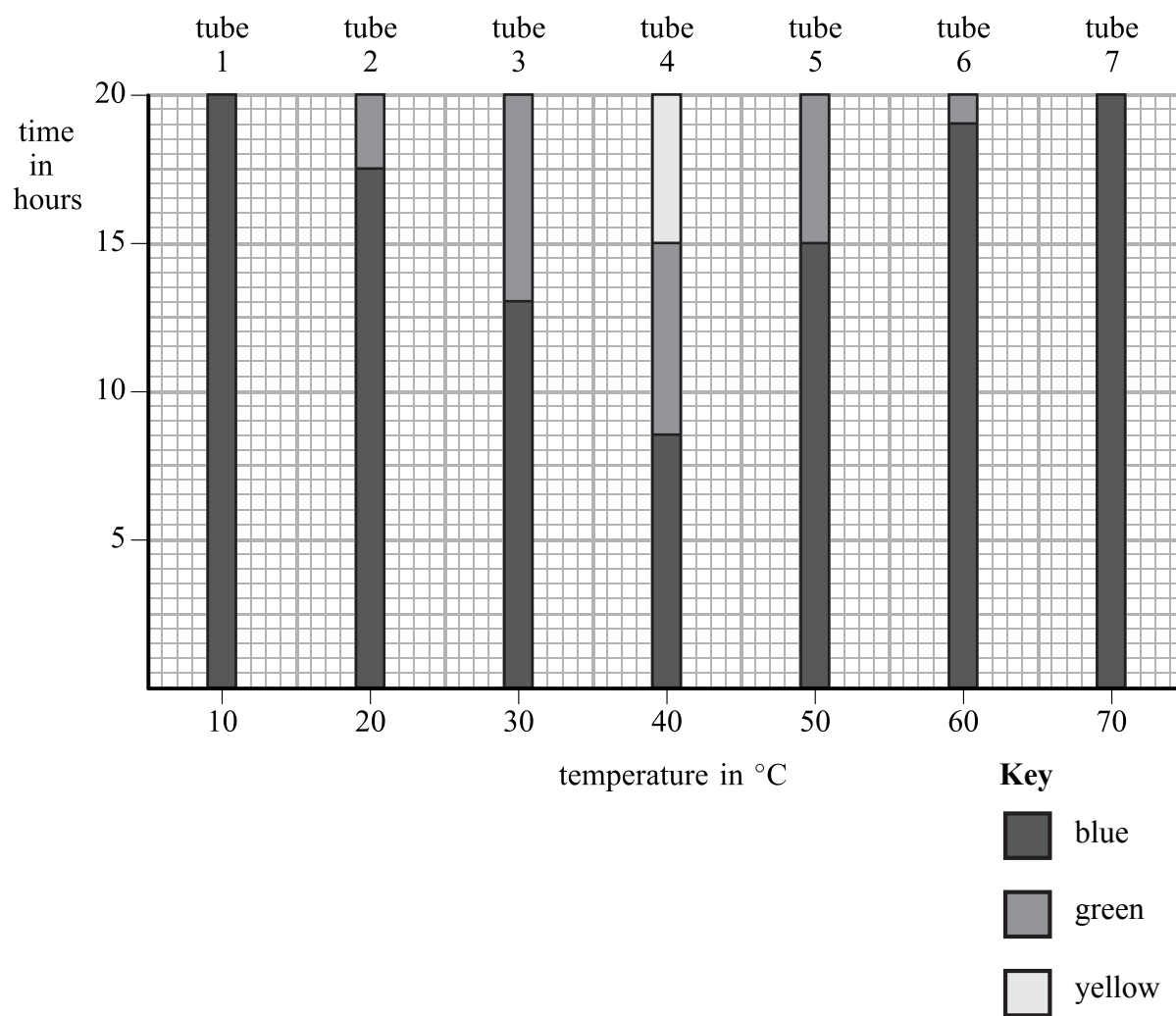
(c) Seven test tubes were set up, each containing the same quantities of olive oil, a digestive enzyme, bile salts and a pH indicator.

The seven tubes were kept at different temperatures.

The indicator changes colour as the pH changes. This is shown in the diagram below.



The colour of the indicator in each tube was recorded every hour and the results are shown in the bar chart.



(i) State the temperature at which the reaction happened most quickly.

..... (1)



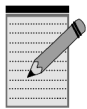
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(ii) Explain why the indicator changes from blue to yellow in one of the tubes.

.....
.....
.....
.....

(2)

(iii) Tubes 1 and 7 were then kept at 40 °C for an extra 20 hours.
Suggest, with reasons, the colour or colours you would expect to observe in each tube after the extra 20 hours.



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(6)

Q10

(Total 12 marks)

TOTAL FOR PAPER: 60 MARKS

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