

Reproduction – 2023 June IGCSE Biology 0610

1. [June/2023/Paper_0610/11/No.31](#)

Which statement about sexual reproduction is correct?

- A Fertilisation is involved.
- B Zygotes fuse.
- C Offspring are always genetically identical.
- D One female gamete fuses with many male gametes.

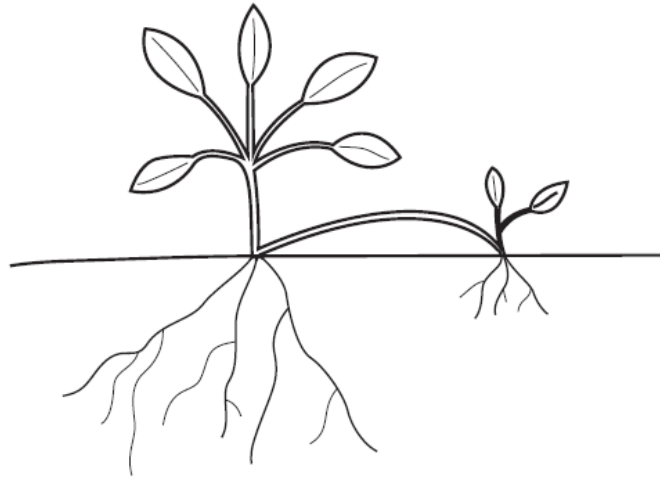
2. [June/2023/Paper_0610/11/No.32](#)

Which row about asexual reproduction is correct?

	number of parents	offspring identical to parents	offspring identical to each other
A	one	no	yes
B	one	yes	yes
C	two	no	no
D	two	yes	no

3. June/2023/Paper_0610/12/No.30

The diagram shows one way that a plant can reproduce.



What is a feature of this type of reproduction?

- A The offspring show genetic variation.
- B Only one parent is required.
- C Offspring are easily dispersed over a wide area.
- D Pollination by insects is required.

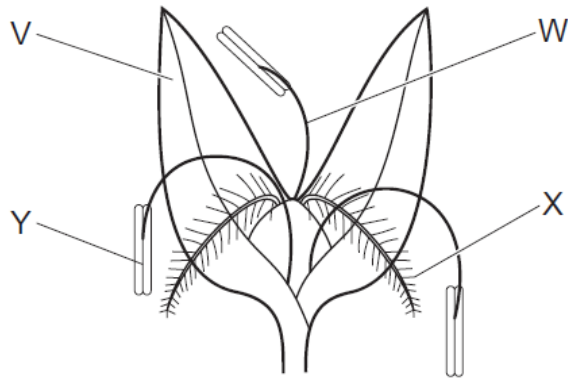
4. June/2023/Paper_0610/13/No.27

What is a correct statement about antibiotics?

- A Bacteria may become resistant to antibiotics as a result of artificial selection.
- B Bacteria may become resistant to antibiotics as a result of natural selection.
- C Viruses may become resistant to antibiotics as a result of artificial selection.
- D Viruses may become resistant to antibiotics as a result of natural selection.

5. June/2023/Paper_0610/13/No.28

The diagram shows a wind-pollinated flower.



Which labels are the stigma and anther?

- A** V and W **B** W and X **C** X and V **D** X and Y

6. June/2023/Paper_0610/13/No.29

During puberty, secretion of hormones causes the development of secondary sexual characteristics.

What is a characteristic caused by the secretion of testosterone?

- A** breast development
B deepening of voice
C start of the menstrual cycle
D widening of hips

7. June/2023/Paper_0610/21/No.28

Potatoes are stem tubers. A tuber can be placed in the ground to grow into another plant, which can grow many more tubers.



The diploid number of the potato plant is 24.

How many chromosomes will there be in the cells of the stem, the leaf and the pollen?

	stem	leaf	pollen
A	24	24	12
B	24	12	48
C	48	12	24
D	48	48	12

8. June/2023/Paper_0610/21/No.29

Which row about asexual reproduction is correct?

	number of parents	offspring identical to parents	offspring identical to each other
A	one	no	yes
B	one	yes	yes
C	two	no	no
D	two	yes	no

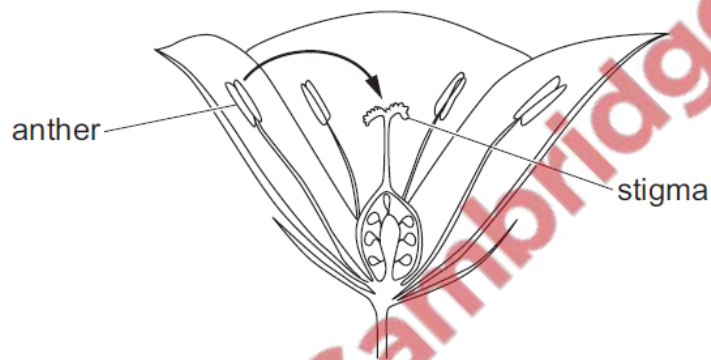
9. June/2023/Paper_0610/22/No.27

What is an advantage of asexual reproduction in a wild population?

- A The population has reduced ability to respond to changes in the environment.
- B The population can increase rapidly when conditions are suitable.
- C The population shows a lot of variation.
- D The whole population may be killed by a disease pathogen.

10. June/2023/Paper_0610/22/No.28

The diagram shows the structure of part of a flower.



The arrow represents the transfer of pollen.

Which statement about the arrow is correct?

- A The arrow represents cross-pollination in an insect-pollinated flower.
- B The arrow represents cross-pollination in a wind-pollinated flower.
- C The arrow represents self-pollination in an insect-pollinated flower.
- D The arrow represents self-pollination in a wind-pollinated flower.

11. June/2023/Paper_0610/22/No.29

In a sperm cell, which structure contains enzymes that can digest the jelly coat of an egg cell?

- A acrosome
- B flagellum
- C mitochondria
- D nucleus

12. June/2023/Paper_0610/23/No.27

Where are the hormones oestrogen and progesterone produced during pregnancy?

- A amniotic sac
- B oviducts
- C placenta
- D umbilical cord

13. June/2023/Paper_0610/23/No.28

The umbilical artery takes blood from the fetus to the placenta.

The umbilical vein carries blood from the placenta to the fetus.

How do the contents of the umbilical artery differ from those of the umbilical vein?

	carbon dioxide	oxygen	urea
A	less	more	less
B	less	less	more
C	more	more	less
D	more	less	more

(a) Fig. 7.1 is a diagram of part of the male reproductive system.

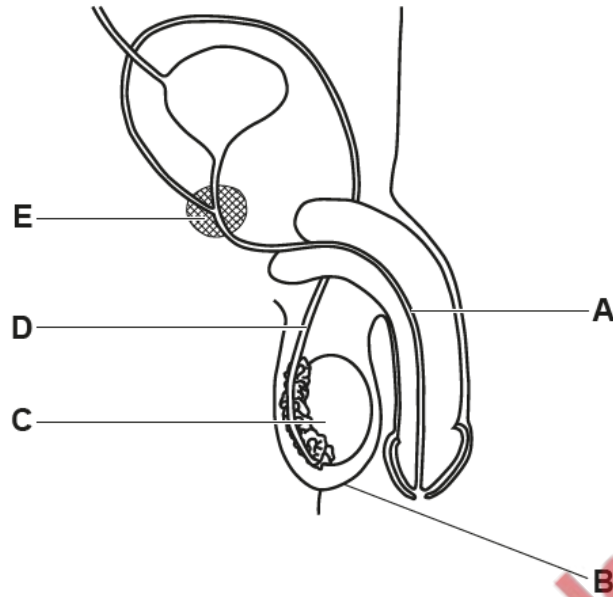


Fig. 7.1

Complete Table 7.1 by writing in the letter of the structure identified in Fig. 7.1 that carries out each function.

Each letter can be used once, more than once or not at all.

Table 7.1

function	letter on Fig. 7.1
carries sperm only	
contains the testes and keeps them cool	
makes the fluid that sperm cells swim in	
produces testosterone	
where sperm are made	

[5]

(b) State the name of the hormone that controls development of secondary sexual characteristics in females.

..... [1]

(a) Describe the role of progesterone in pregnancy.

.....

.....

.....

.....

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.....

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..... [3]

(b) Fig. 5.1 shows a drawing of a section of a human placenta. The arrows show the direction of blood flow.

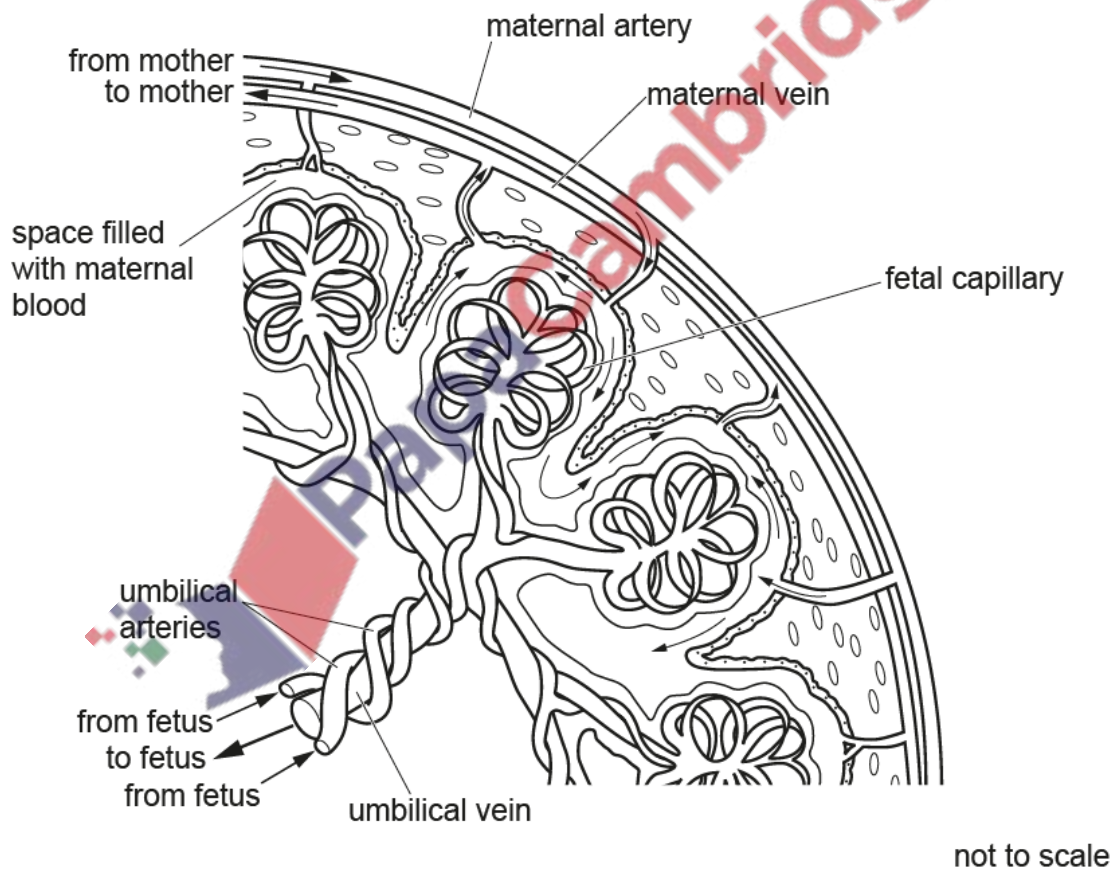


Fig. 5.1

Substances move across the placenta by diffusion.

- (i) State the names of **two useful** substances that move from the blood of the mother to the blood of the fetus.

1

2

[2]

- (ii) Using the information in Fig. 5.1, suggest how the placenta is adapted for efficient diffusion.

.....

 [3]

- (c) The Rhesus (Rh) factor is a protein that is found on the surface of red blood cells in some people. If the protein is present then the individual is Rh positive.

The allele for the presence of the Rh factor is dominant and is represented by the letter **D**. The recessive allele is represented by the letter **d**.

If a mother is Rh negative and the fetus is Rh positive there can be problems during pregnancy.

A Rh negative mother and a heterozygous Rh positive father have a child.

Complete the Punnett square and determine the probability of the child being Rh positive.

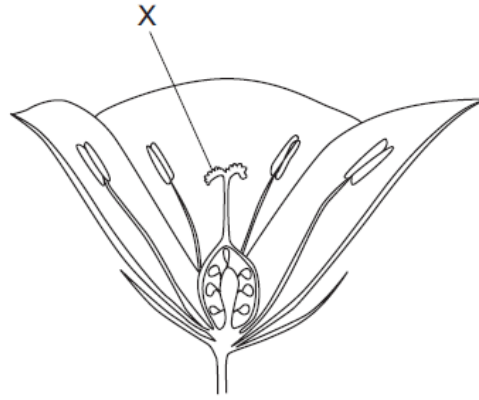
		father's gametes	
mother's gametes			

probability

[3]

[Total: 11]

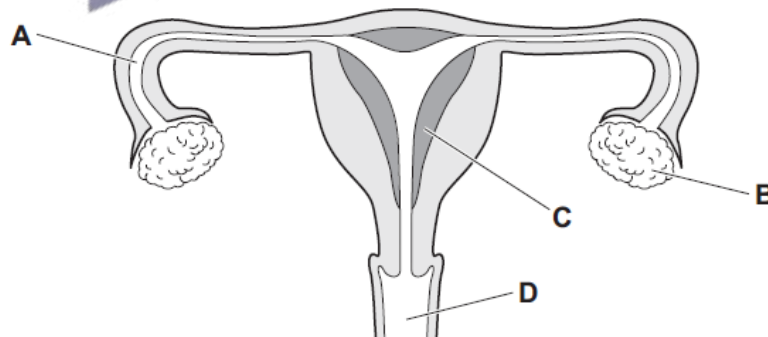
16. March/2023/Paper_0610/12/No.30
The diagram shows part of a flower.



What is the part labelled X?

- A anther
 - B ovary
 - C sepal
 - D stigma
17. March/2023/Paper_0610/12/No.31
Which statement about the hormones involved in human puberty is correct?
- A Oestrogen causes body hair and facial hair to grow in males.
 - B Oestrogen causes breasts to develop in females.
 - C Testosterone causes the menstrual cycle to begin in females.
 - D Testosterone causes the hips to get wider in males.
18. March/2023/Paper_0610/12/No.32
The diagram shows the human female reproductive system.

In which structure does fertilisation usually occur?



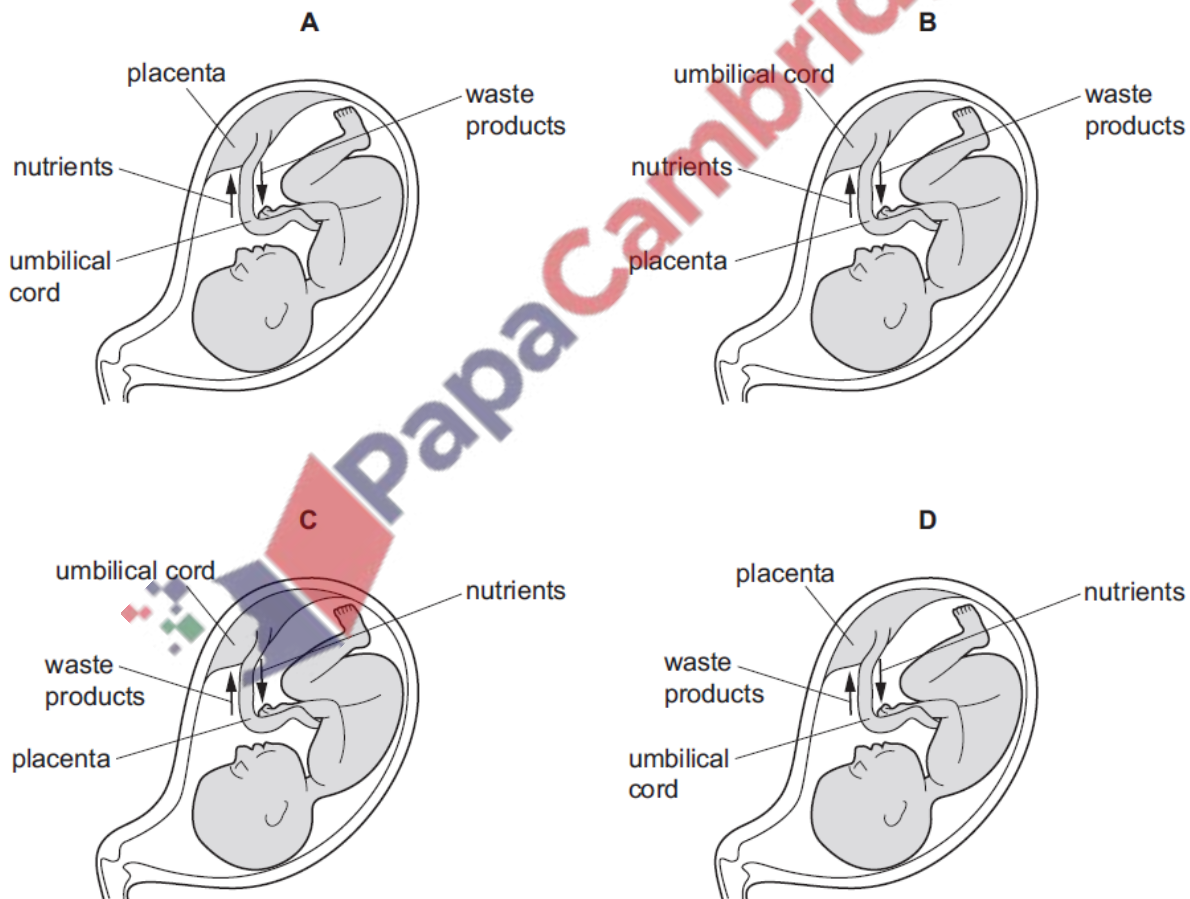
19. March/2023/Paper_0610/22/No.28

What is the order of flower parts through which the pollen tube must grow to reach the egg cell nucleus during fertilisation?

- A stigma → style → ovule → ovary
- B stigma → style → ovary → ovule
- C style → stigma → ovule → ovary
- D style → stigma → ovary → ovule

20. March/2023/Paper_0610/22/No.29

Which diagram, showing the exchange of products between mother and fetus, is correctly labelled?



Each statement describes cell division by mitosis or meiosis in humans.

- 1 It produces cells that show variation.
- 2 It produces cells that are diploid.
- 3 It produces cells that are haploid.
- 4 It involves reduction division.

Which statements describe meiosis?

	1	2	3	4
A	x	✓	x	x
B	✓	x	x	✓
C	x	✓	✓	x
D	✓	x	✓	✓

key

✓ = yes

x = no

