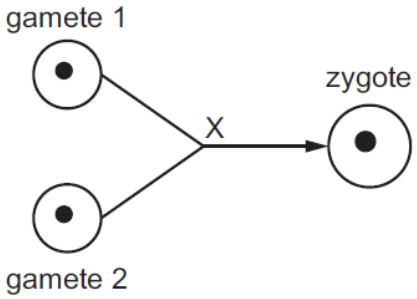
Reproduction – 2021 IGCSE 0610

1. March/2021/Paper_12/No.29

Which process is occurring at X?



A fertilisation

B mitosis

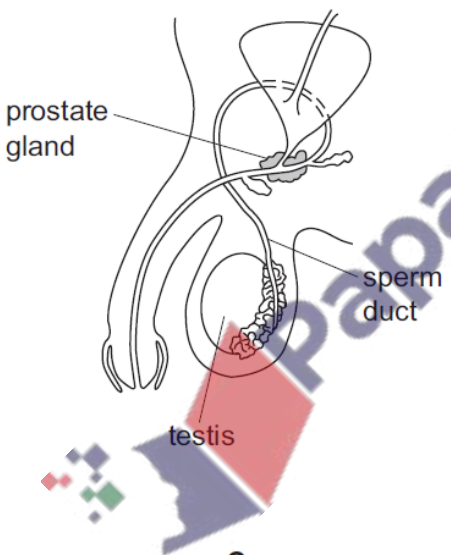
C pollination

D meiosis

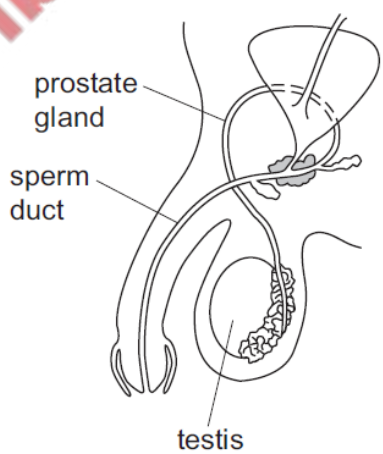
2. March/2021/Paper_12/No.30

Which diagram of the male reproductive system is correctly labelled?

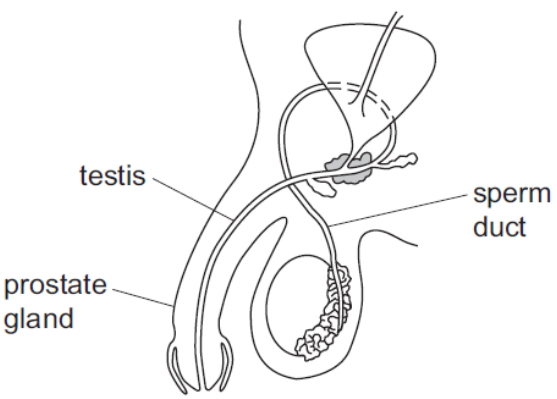
A



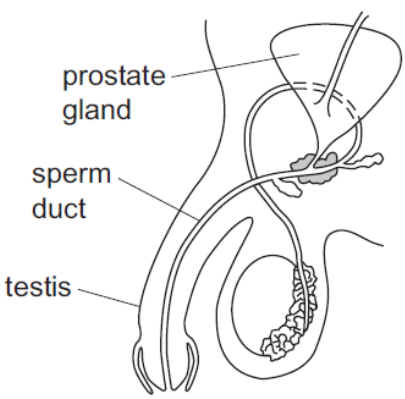
B



C



D



3. March/2021/Paper_12/No.31

Which method of birth control works by preventing an egg from being released?

A condom

B contraceptive pill

C monitoring body temperature

D vasectomy

4. March/2021/Paper_22/No.29

Some statements about asexual reproduction are listed.

1 Offspring are genetically identical.

2 Offspring are genetically different.

3 Only one parent is required.

4 Two parents are required.

Which statements are correct?

A 1 and 3 **B** 1 and 4 **C** 2 and 3 **D** 2 and 4

5. March/2021/Paper_22/No.30

Which types of contact between humans can spread HIV?

1 blood transfusions

2 sexual intercourse

3 saliva

A 1 and 2 only **B** 1 and 3 only **C** 2 and 3 only **D** 1, 2 and 3

6. March/2021/Paper_22/No.31

Which method of birth control works by preventing an egg from being released?

A condom

B contraceptive pill

C monitoring body temperature

D vasectomy

(a) Menstruation is the monthly loss of the lining of the uterus.

The age, in years, when the first menstruation occurred was recorded for one area.

Table 8.1 shows the results.

Table 8.1

age, in years, when the first menstruation occurred	number of females
8	3
9	15
10	62
11	212
12	298
13	251
14	173
15	18
16	11
17	1

(i) State the most common age of first menstruation.

..... [1]

(ii) State the number of females that had their first menstruation at 15 years of age.

..... [1]

(b) Describe what happens to the lining of the uterus during a typical menstrual cycle between:

days 1 to 5 .....

.....

days 8 to 14 .....

.....

[2]

(c) Describe what happens in the ovary on day 14 in a typical menstrual cycle.

..... [1]

(d) State the name of the hormone that causes the development of secondary sexual characteristics in boys.

..... [1]

(e) State **two** physical changes that occur in males **and** in females during puberty.

1 .....

2 .....

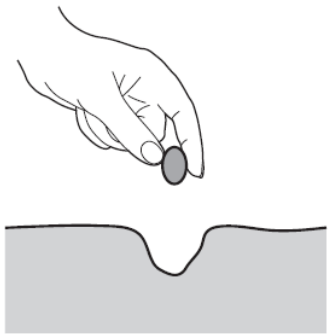
[2]

[Total: 8]

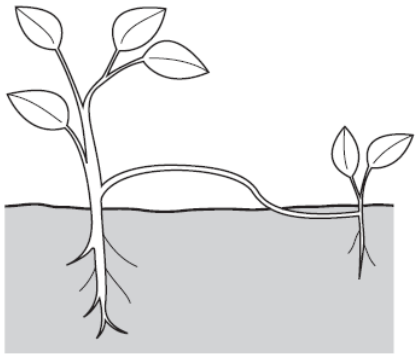
8. June2021/Paper_11/No.30

A gardener wants to produce many genetically identical plants from a single plant.

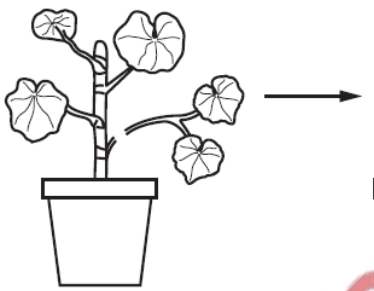
The diagram shows different methods of growing new plants.



1 planting seeds



2 runners



3 stem cuttings

Which methods will produce plants that are genetically identical to the parent plant?

A 1, 2 and 3 **B** 1 and 2 only **C** 1 and 3 only **D** 2 and 3 only

9. June2021/Paper_11/No.31

Which structure in the male reproductive system makes the fluid for sperm to swim in?

A penis

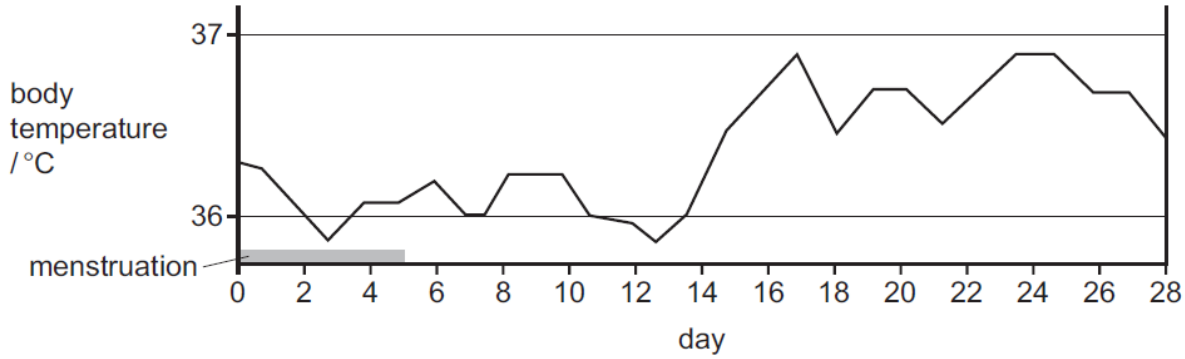
B scrotum

C prostate gland

D testis

10. June2021/Paper_11/No.32

The graph shows a woman's body temperature during the menstrual cycle.



On which days is the woman **most** likely to become pregnant?

A days 0–5

B days 6–12

C days 13–18

D days 19–28

11. June2021/Paper_12/No.30

The diagram shows the male human reproductive system.

What is X?

A bladder

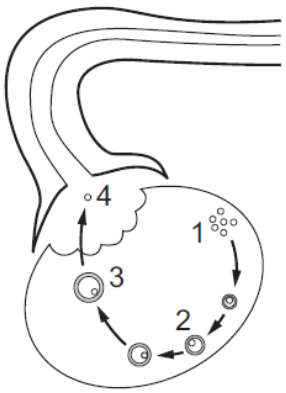
B prostate gland

C sperm duct

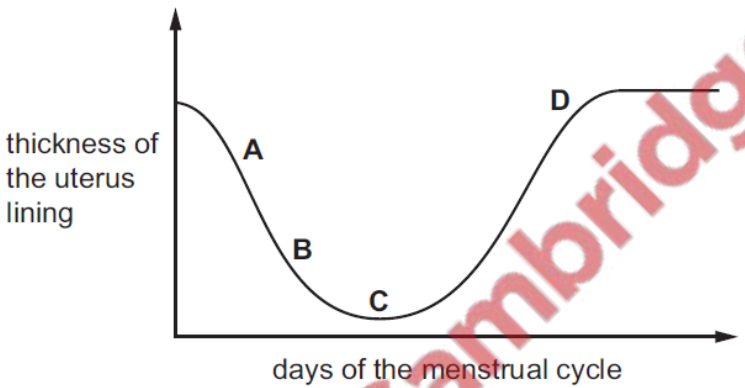
D urethra

12. June2021/Paper_12/No.31

The diagram shows changes in the ovary.



Which point represents the thickness of the uterus lining when the ovary is at stage 4?



13. June2021/Paper_13/No.30

Which statement about the process of asexual reproduction is correct?

A It produces genetically different offspring.

B It requires two parents.

C It produces gametes.

D It requires only one parent.

14. June2021/Paper_21/No.30

A zygote has ten chromosomes in its nucleus.

Which row shows the number of chromosomes in the cells of this species?

	body cells	sperm cells	embryo cells
A	5	5	10
B	5	10	20
C	10	5	10
D	10	10	20

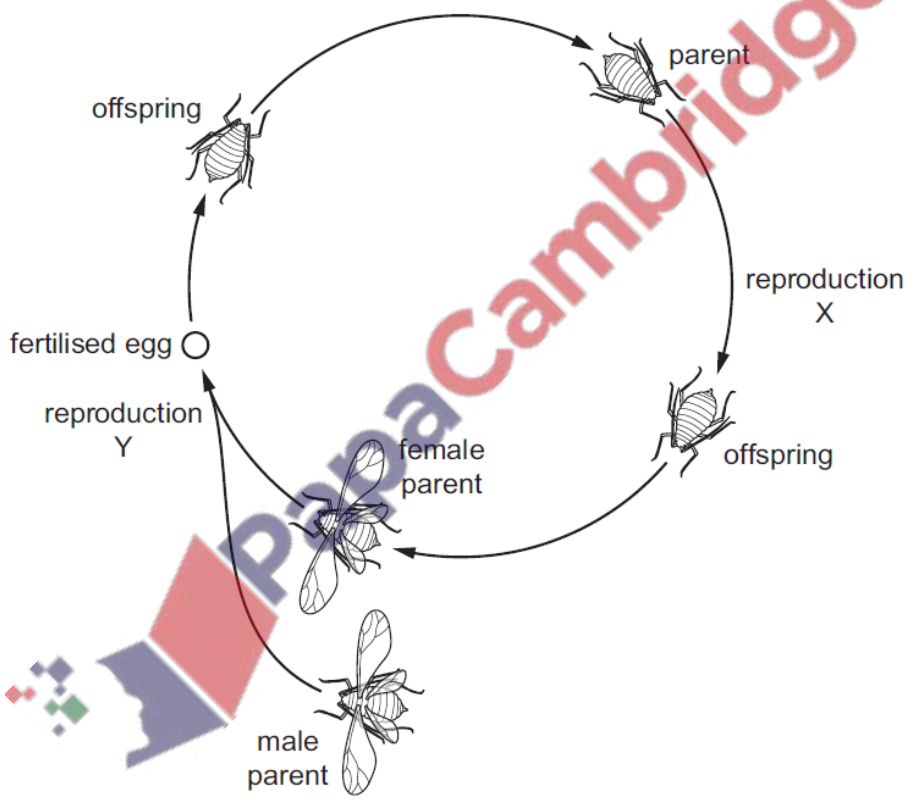
15. June2021/Paper_21/No.31

How will the composition of a pregnant woman's blood change as it passes through the placenta?

	concentration of dissolved oxygen	concentration of urea
A	decreases	decreases
B	decreases	increases
C	increases	decreases
D	increases	increases

16. June2021/Paper_22/No.30

The life cycle of aphids includes both sexual and asexual reproduction.



Which statement is correct?

A X shows asexual reproduction, which produces genetic variation in the offspring.

B Y shows asexual reproduction, which produces genetic variation in the offspring.

C X shows asexual reproduction, which produces genetically identical offspring.

D Y shows asexual reproduction, which produces genetically identical offspring.

17. June2021/Paper_22/No.31

Modern agricultural methods often use artificial insemination (AI) to breed dairy cattle.

Which statement describes the process of artificial insemination?

A Sperm is collected from a bull and frozen. The sperm is later inserted into the vagina of a cow.

B Eggs are removed from a cow and fertilised using sperm from a bull. The fertilised eggs are reinserted into the uterus of the cow.

C Male and female cows with desired characteristics are chosen to mate.

D Embryos are removed from the uterus of the cow. The embryos are frozen and stored for future use.

18. June2021/Paper_23/No.30

What is a disadvantage of asexual reproduction when a new crop disease appears on a farm?

A Asexual reproduction only requires one parent plant.

B Asexual reproduction does **not** require a pollinator.

C Asexual reproduction does **not** lead to genetic variation in offspring.

D Asexual reproduction does **not** disperse offspring over a wide area.

19. June2021/Paper_23/No.31

Where is progesterone produced in the late stages of pregnancy?

A ovaries

B pancreas

C placenta

D uterus

20. June2021/Paper_31/No.2

(a) Fig. 2.1 is a front view diagram of the male reproductive system in humans.

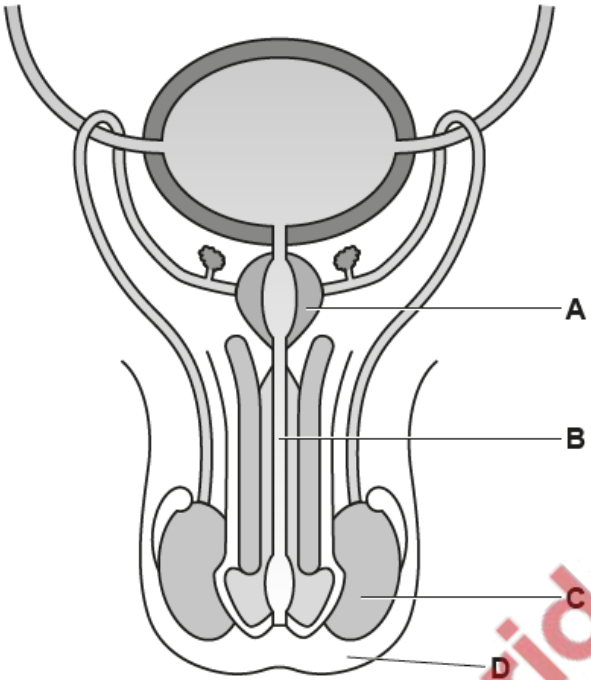


Fig. 2.1

The boxes on the left show the letters identifying the parts in Fig. 2.1.

The boxes on the right show the functions of some of the parts of the male reproductive system.

Draw lines to link each letter to its function. Draw **four** lines.

letter from Fig. 2.1	function
	gland that secretes fluid for sperm to swim in
A	
	produces sperm
B	
	sac that holds the testes
C	
	tube carrying semen and urine
D	
	tube carrying sperm to urethra

[4]

(b) Sperm are the male gametes in humans.

(i) State the name of the female gamete in humans.

..... [1]

(ii) State the name of the cell that is formed at fertilisation.

..... [1]

(iii) State the usual site of fertilisation in humans.

..... [1]

(c) The human reproductive system is involved in sexual reproduction.

Compare **asexual** reproduction with **sexual** reproduction.

.....

.....

.....

.....

.....

.....

..... [3]

[Total: 10]

21. June2021/Paper_32/No.3

(a) Fig. 3.1 is a diagram showing stages during the development of a human embryo and fetus.

Fig. 3.1

(i) Put a tick (✓) in the box that describes a human embryo.

a ball of cells	☐
a cell with energy stores and a jelly coating	☐
a cell with a flagellum	☐
is made of cells that have a cell wall	☐

[1]

(ii) Table 3.1 shows some of the events (**D** to **J**) that occur between fertilisation and birth.

The events are not in the correct order.

Table 3.1

D	a baby is born
E	complexity of the fetus increases more than size
F	a zygote is formed
G	embryo implants into the wall of the uterus
H	size of the fetus increases more than complexity
J	the zygote divides by mitosis to produce two cells

Put the events into the correct sequence by ordering the letters.

One has been done for you.

	J				

[3]

(b) Complete the sentences using the words and phrases from the list.

Each word or phrase may be used once, more than once or not at all.

afterbirth **amniotic sac** **amniotic fluid** **cervix**

oviduct **penis** **umbilical cord** **uterus wall** **vagina**

Birth begins when the strong muscles of the ..... start to contract. This causes the ..... to dilate. The ..... can break at this stage. The muscles start to push the baby out. The baby moves through the ..... . The ..... is tied and cut. Finally the ..... is delivered.

[6]

[Total: 10]

22. June2021/Paper_33/No.6

Fig. 6.1 is a section of a flower that has both male and female parts.

Parts of the flower are labelled with the letters **L** to **S**.

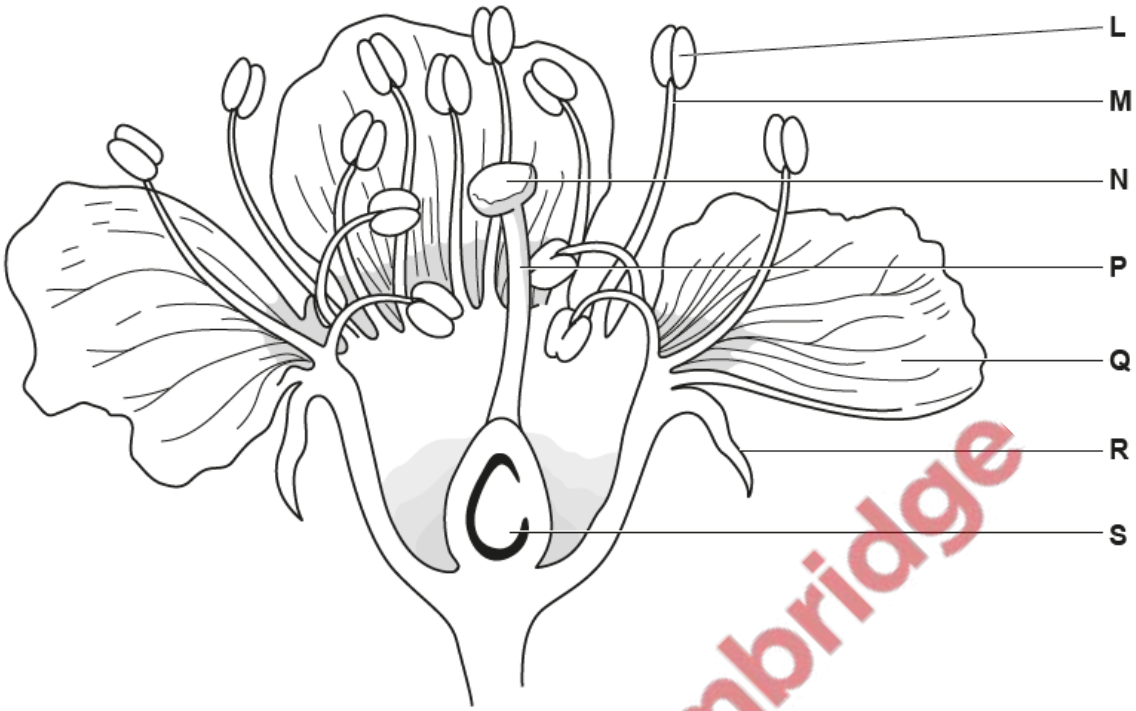


Fig. 6.1

(a) (i) Describe a **function** of each of the parts labelled **L**, **N** and **Q**.

L .....

.....

N .....

.....

Q .....

.....

[3]

(ii) State the names of parts **M**, **P**, **R** and **S**.

M .....

P .....

R .....

S .....

[4]

(b) Fig. 6.2 shows a mature maize plant. Maize plants have separate male and female flowers.

Maize plants are pollinated by the wind.

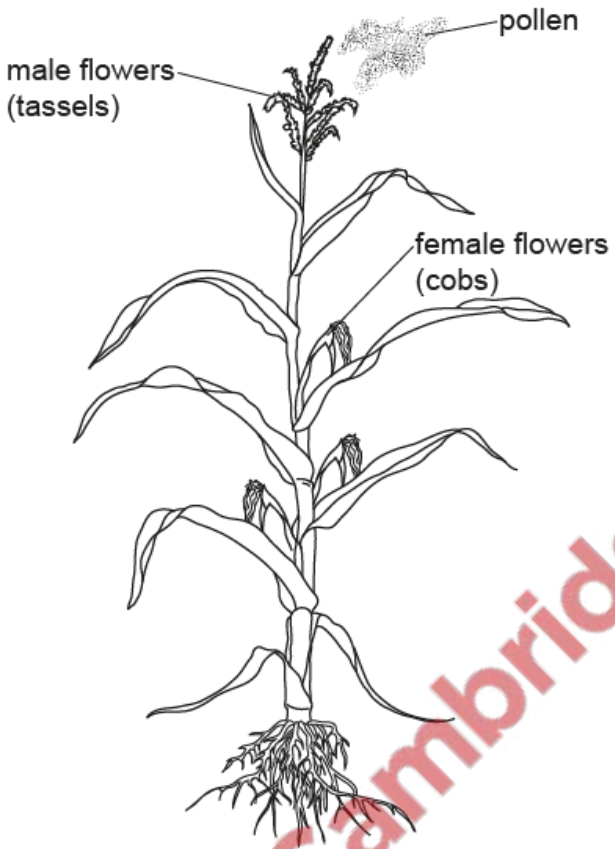


Fig. 6.2

(i) Use the information in Fig. 6.2 to describe how the **position** of the male and female flowers can increase the chance of pollination taking place.

.....

.....

..... [1]

(ii) Describe **two** ways pollen from an insect-pollinated flower differs from pollen from a wind-pollinated flower.

1 .....

.....

2 .....

.....

[2]

[Total: 10]

23. June2021/Paper_41/No.5

(a) Fig. 5.1 shows the female reproductive system.

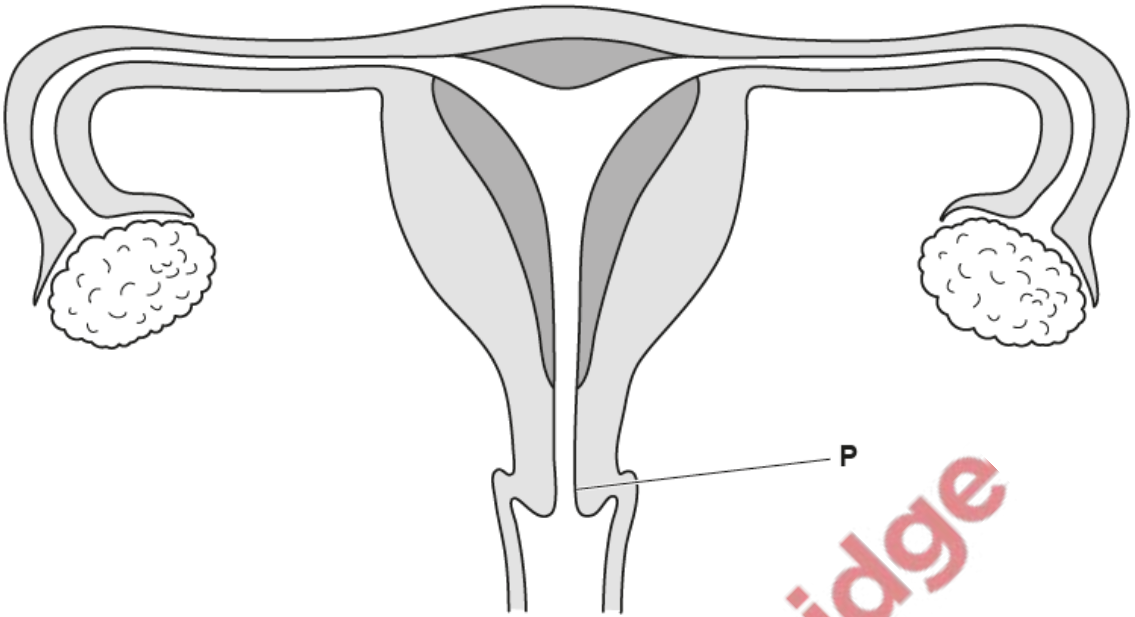


Fig. 5.1

Label Fig. 5.1 using the letters listed to show the position of the organs that are identified by their functions.

The first one (**P**) has been completed for you.

P site of secretion of mucus

Q site of fertilisation

R site of implantation

S site of oestrogen secretion

T site where sperm are deposited during sexual intercourse

[4]

(b) Fig. 5.2 shows a section through an egg cell at the time of ovulation.

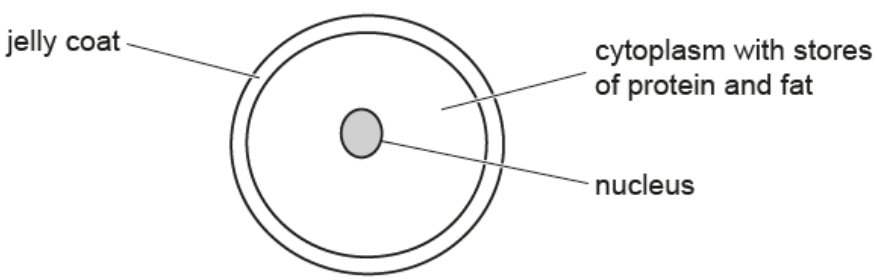


Fig. 5.2

(i) Explain why the egg cell contains stores of protein and fat.

.....

.....

.....

.....

.....

.....

..... [3]

(ii) Describe the function of the jelly coat.

.....

.....

.....

.....

..... [2]

(c) Fertilisation results in the formation of a zygote.

Describe how an embryo is formed from a zygote.

.....

.....

.....

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.....

.....

.....

.....

..... [4]

[Total: 13]

24. June2021/Paper_42/No.3

(a) Fig. 3.1 shows some of the events that occur in the menstrual cycle.

A	follicle is fully developed
B	gamete is released into the oviduct
C	lining of the uterus is removed from the body
D	lining of the uterus reaches a maximum thickness
E	lining of the uterus gets thicker

Fig. 3.1

(i) Put the events shown in Fig. 3.1 into the correct sequence.

One has been done for you.

		B		

[1]

(ii) State the name of the hormone that stimulates event **A** to occur.

..... [1]

(iii) Event **C** means that menstruating females lose blood regularly.

Two females of the same age have different dietary needs because one has started menstruating and the other has **not** started menstruating.

Suggest why the dietary needs of the two females are different.

.....

.....

.....

.....

..... [2]

(b) During pregnancy menstruation does not occur.

Fig. 3.2 shows some of the organs of a pregnant woman, viewed from the side.

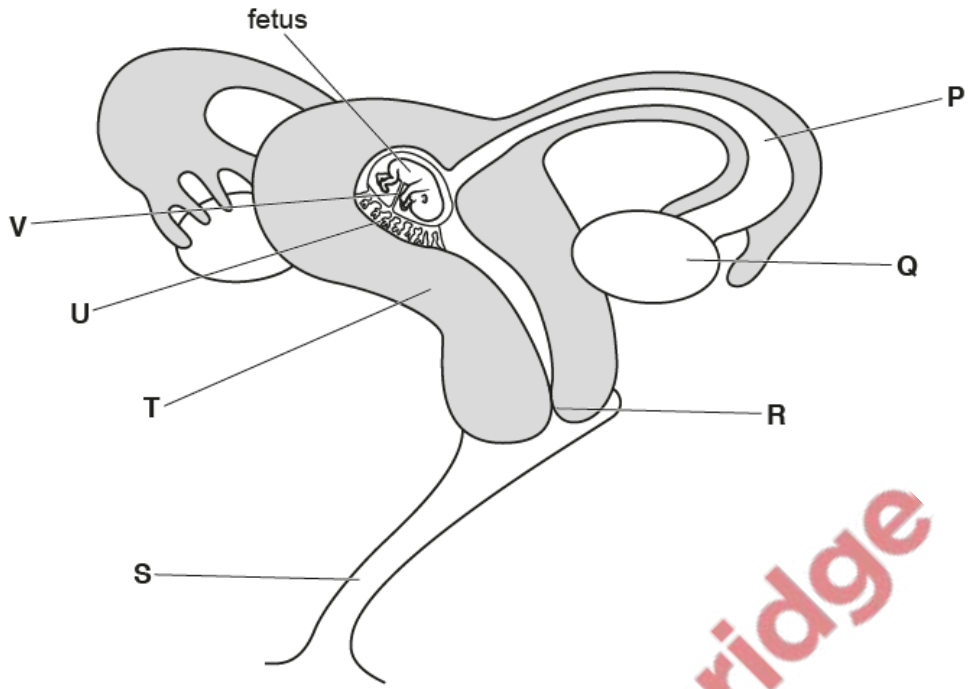

Fig. 3.2

Describe what happens between ovulation and the formation of a fetus.

Use the letters in Fig. 3.2 to support your answer.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [6]

[Total: 10]