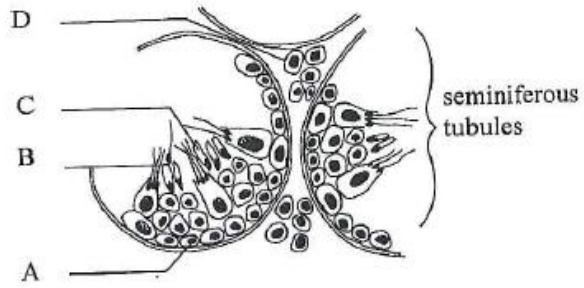
REPRODUCTION 1

1. The diagram below shows a section through seminiferous tubules in a testis.

   Which cell produces testosterone?



2. A function of the interstitial cells in the testes is to produce

   A sperm
   B testosterone
   C seminal fluid
   D follicle stimulating hormone (FSH)

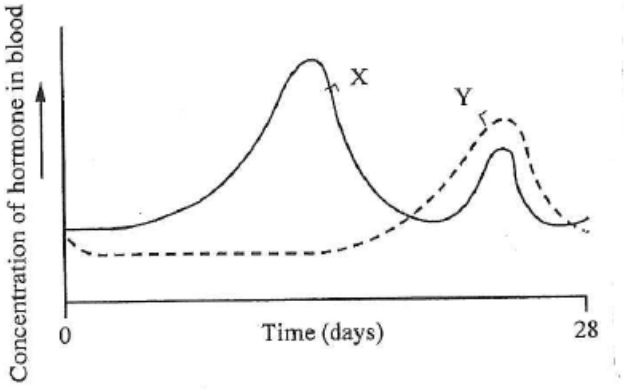
3. From which structure in the female reproductive system does a corpus luteum develop?

   A Endometrium
   B Graafian follicle
   C Fertilised ovum
   D Unfertilised ovum

4. One function of the seminal vesicles is to

   A produce testosterone
   B allow sperm to mature
   C store sperm temporarily
   D produce nutrients for sperm

5. The graph below shows changes in the concentration of hormones X and Y in the blood during the menstrual cycle.



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Which of the following correctly identifies hormones X and Y?

	Hormone X	*Hormone Y*
A	LH	Oestrogen
B	Oestrogen	FSH
C	Oestrogen	Progesterone
D	Progesterone	Oestrogen

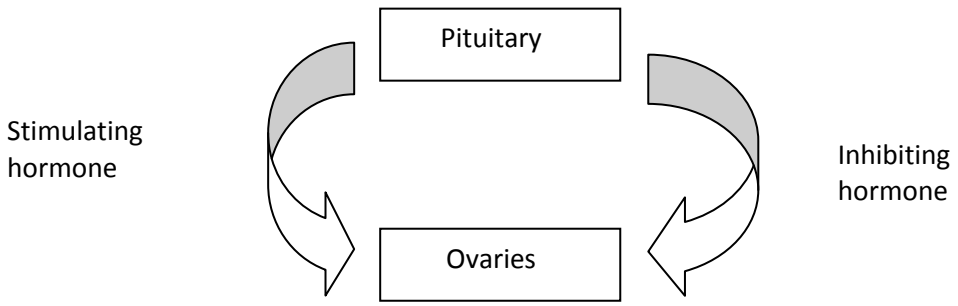
6. Changes in the ovary during the menstrual cycle are described below.

1 Corpus luteum forms
2 Ovulation occurs
3 Progesterone is produced
4 Corpus luteum degenerates
5 Graafian follicle develops

The sequence in which these changes occur following menstruation is

A 2, 3, 1, 5, 4
B 2, 1, 3, 4, 5
C 5, 3, 2, 1, 4
D 5, 2, 1, 3, 4

7. The diagram below represents part of the mechanism which controls ovulation.



The hormones indicated above are

	Stimulating hormone	*Inhibiting hormone*
A	FSH	Oestrogen
B	Progesterone	FSH
C	Oestrogen	LH
D	LH	testosterone

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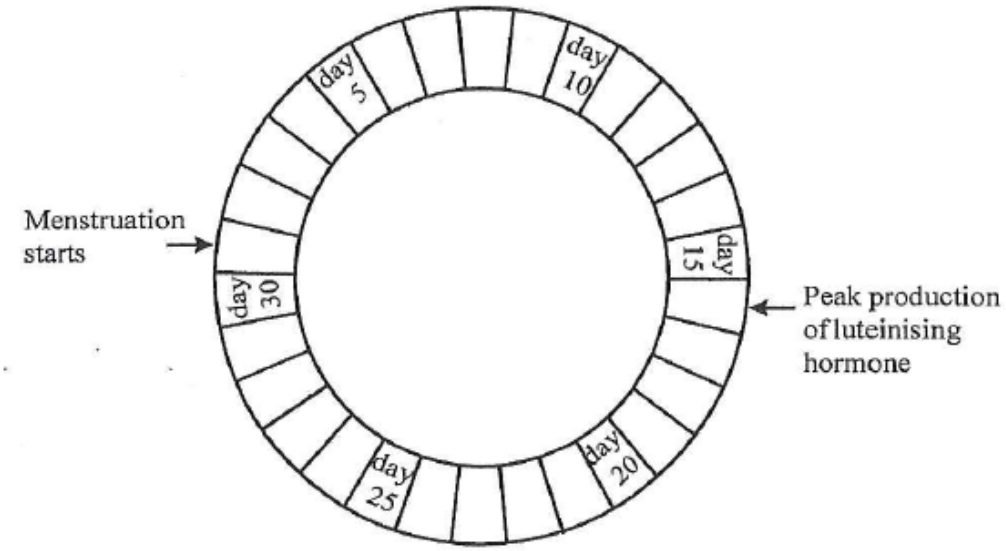
8. On which day in the following menstrual cycle could fertilisation occur?



A Day 30
B Day 17
C Day 14
D Day 2

Questions 9 and 10 refer to the following list of hormones.

A Follicle Stimulating Hormone (FSH)
B Interstitial Cell Stimulating Hormone (ICSH)
C Oestrogen
D Progesterone

8. Which hormone stimulates the production of testosterone by the testes?

10. Which hormone is produced by the corpus luteum?

11. The flowchart summarises the processes involved in the production of semen.

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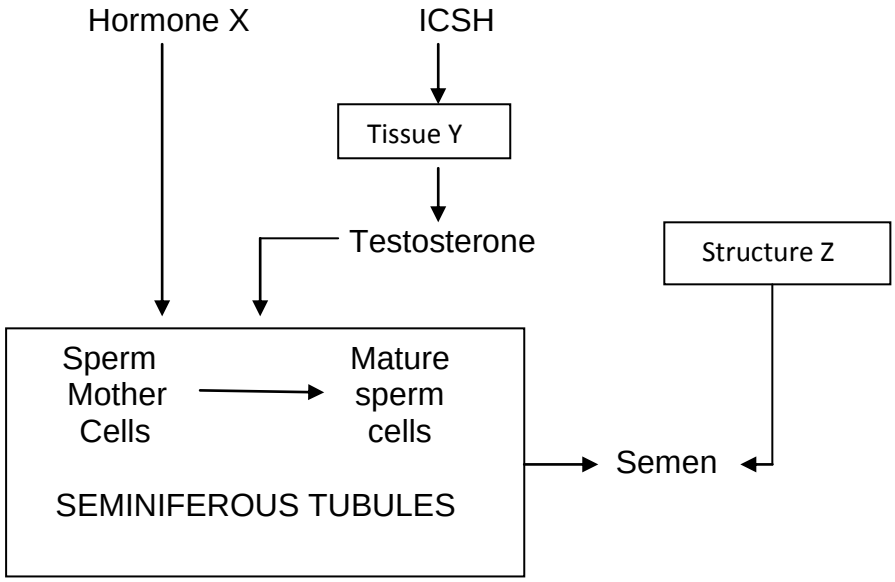

(a) Name hormone X and tissue Y.

Hormone X _____

Tissue Y _____

(b) Semen contains substances secreted by structure Z.

(i) Identify structure Z.

_____ 1

(ii) Describe how a named substance from structure Z aids fertilisation.

Substance _____

Description _____

_____ 1

(c) Complete the table to show the percentage of each type of cell which would contain a Y chromosome.

Cells	*Percentage of cells containing a Y chromosome*
Sperm mother cells	
Mature sperm cells	

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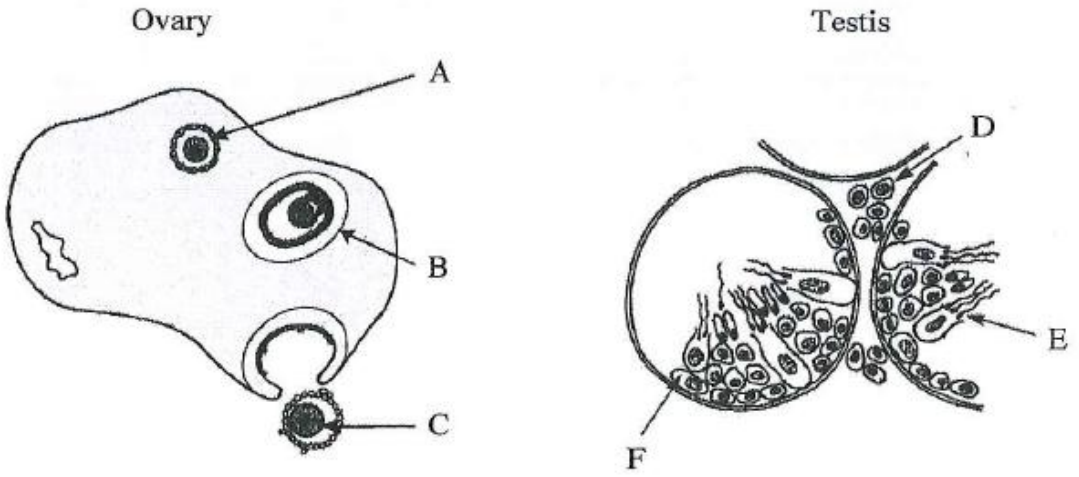
12. The diagrams represented gamete production in an ovary and part of a testis.



1

(ii) Identify **one** labelled part of each organ which is affected by FSH.

Letter	*Name*

(iii) Describe the effect of testosterone on the testes of an adult.

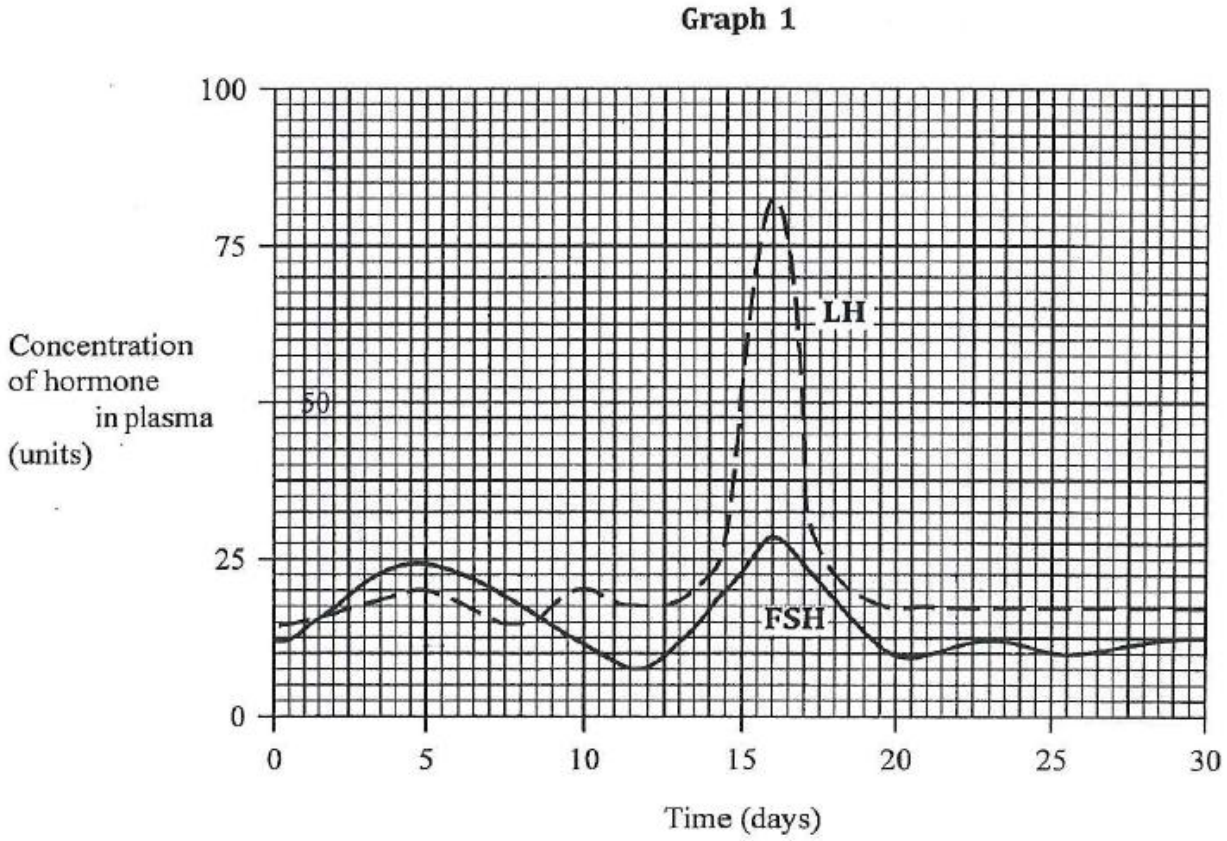
_____

_____ 1

13. The graphs below show that plasma concentrations of certain hormones throughout a woman's menstrual cycle.

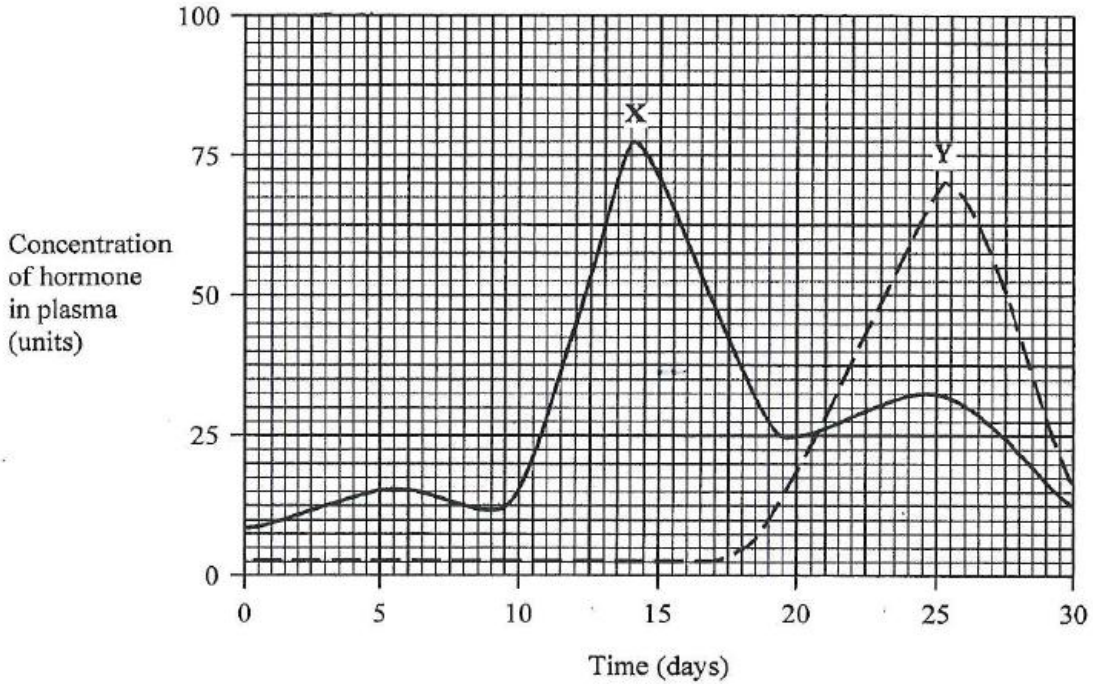
Graph 1 shows the concentration of FSH and LH.

REPRODUCTION 1



Graph 2 shows the concentration of two other hormones, X and Y.

Graph 2



_____ 1

(b) Name hormones X and Y.

X _____

Y _____

(c) What is the maximum concentration of hormone Y?

_____ Units 1

(d) On which day did ovulation occur? Give a reason for your answer.

Day _____

Reason _____

_____ 1

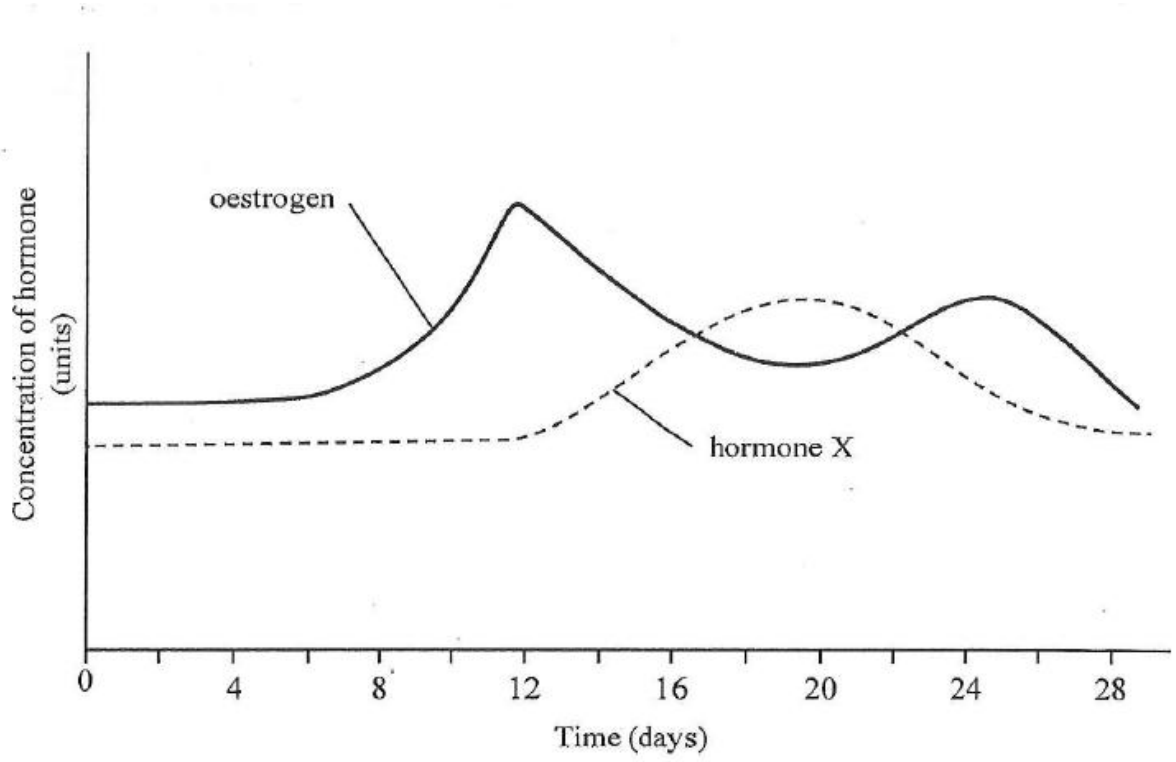
(e) During her next cycle, the woman became pregnant.
Describe any differences which would occur in the concentrations of FSH and hormone Y after day 25.

FSH _____ 1

Hormone Y _____

_____ 1

14. The graph below shows the concentration of two ovarian hormones in a woman's blood during her menstrual cycle



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_____ 1

(b) What effect does oestrogen have on the following structures?

(i) The uterus between days 4 and 12 in the cycle.

_____

_____ 1

(ii) The pituitary gland on day 12 of the cycle.

_____

_____ 1

(c) Describe one way in which the graph would be different if the woman became pregnant during this cycle.

_____ 1

(d) The diagrams below show sections through two structures found in the ovary at different times in the menstrual cycle.

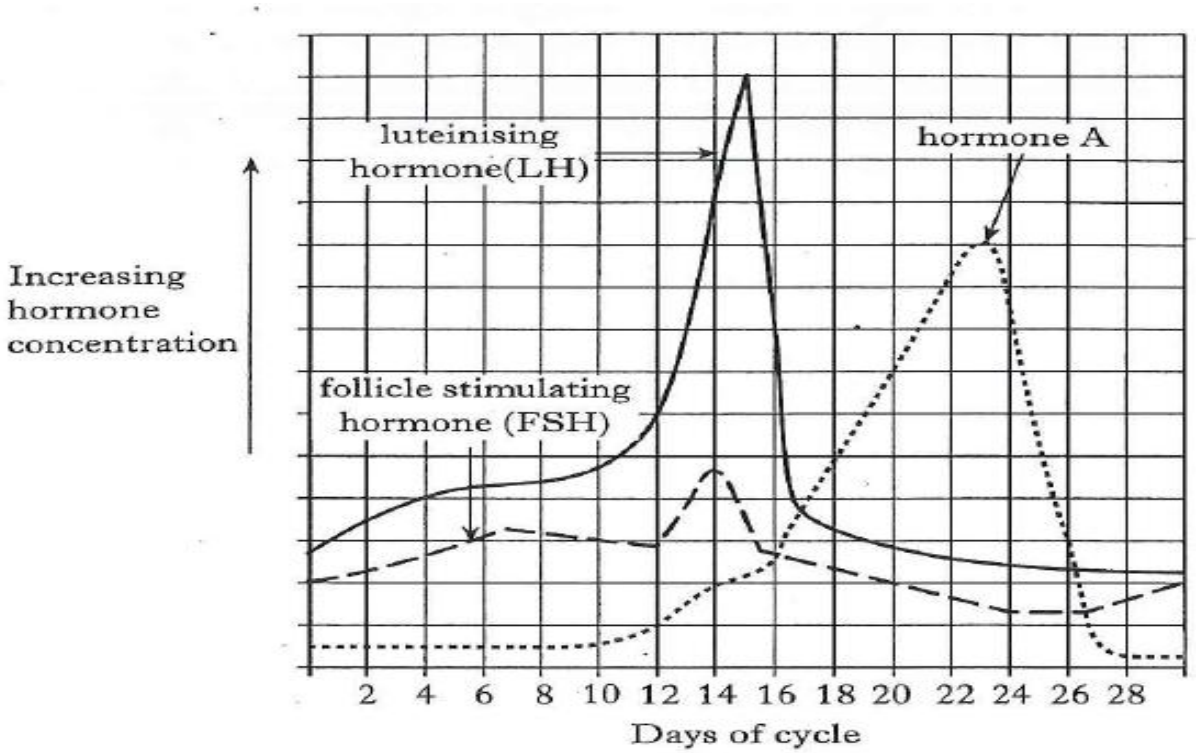
(i) Name structures P and Q

P _____ Q _____ 1

(ii) What key event in the menstrual cycle occurs before P develops into Q?

_____ 1

15. The graph below shows the relative concentrations of three hormones in the plasma of a woman during a normal 28-day menstrual cycle.



_____ 1

(b) What is the effect of the sudden increase in concentration of luteinising hormone?

_____ 1

(c) During which time period is the endometrium likely to reach maximum thickness?
Underline the correct answer.

0 – 4 days **12 – 16 days** **22-26 days** 1

(d) In what way would the line showing the concentration of FSH be different if fertilisation took place during this cycle? Give an explanation for your answer.

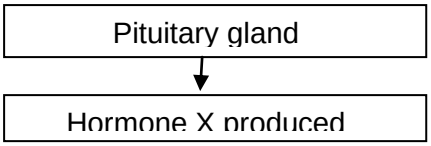
Difference _____

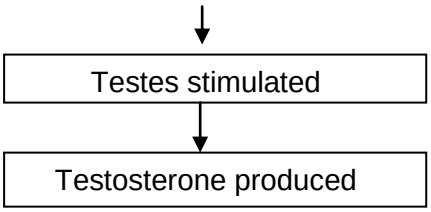
_____ 1

Explanation _____

_____ 1

16. The diagram below shows the influence of the pituitary gland on testosterone production.





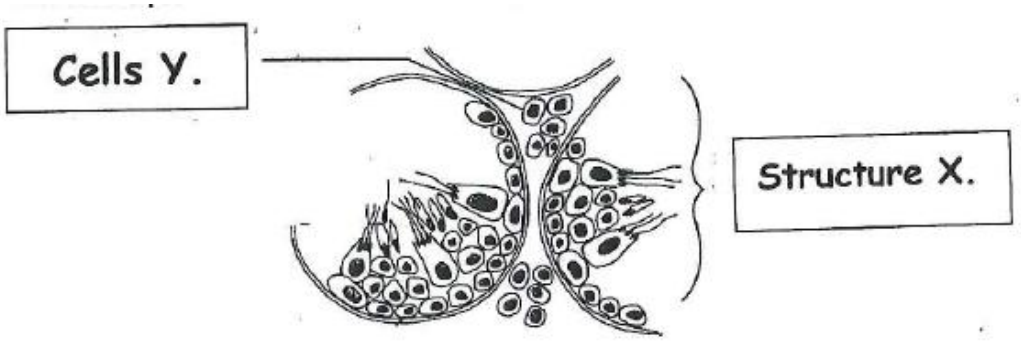
What is hormone X? 1

A. Interstitial Cell Stimulating hormone
B. Follicle stimulating hormone
C. Oestrogen
D. Progesterone

17. Which of the following changes indicate ovulation is likely to have taken place?

	Cervical mucus	*Body Temperature*
A	becomes sticky	rises
B	becomes sticky	falls
C	becomes watery	rises
D	becomes watery	falls

18. The diagram below presents the appearance of a testis when viewed under a microscope.



(a) Name Structure X: _____ 1

(b) State which cells are produced in structure X: _____ 1

(c) What is the name of cells labelled Y? _____ 1

(d) Explain the role of cells labelled Y in the production of male sex cells.
_____ 1

19. Luteinising hormone is involved in the control of the menstrual cycle in female mammals.

(a) Name the gland which produces luteinising hormone

_____ 1

(b) Name another hormone produced by this gland which controls the menstrual cycle

_____ 1

(c) Progesterone is a hormone produced from within the ovary.

(i) Name the structure from within the ovary which produces progesterone.

_____ 1

(ii) State one function of progesterone during the menstrual cycle.

_____ 1

(iii) As the menstrual cycle continues, progesterone levels decrease. State the effect this will have on the uterus.

_____ 1

20. Discuss the biological basis of contraception (8)

21. Describe hormonal control of the menstrual cycle under the following headings:

(i) events leading to ovulation; 6

(ii) events following ovulation. 4