

1. A pregnancy can be confirmed by detecting a substance which is only present in urine if an early embryo is developing.

Which of the following substances is present in the urine of a woman who is pregnant?

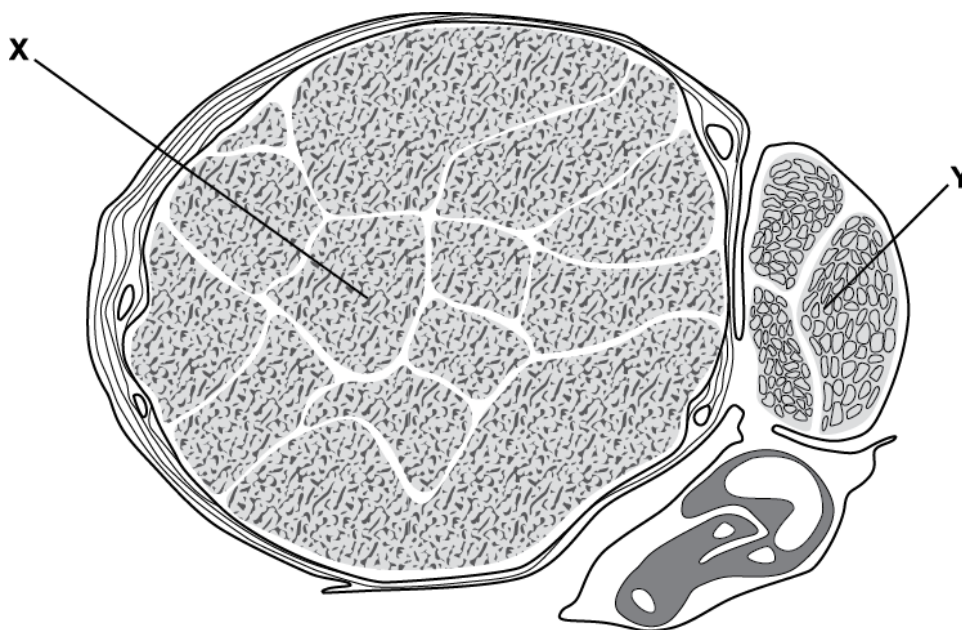
- A HCG antigen
- B HCG antibody
- C GnRH antigen
- D GnRH antibody

Your answer

[1]

2. The photomicrograph below shows a transverse section through a testis.

Two regions are labelled X and Y.



Which of the rows, A to D, from the table below correctly identifies features of X and Y?

	Production of seminal fluid	Site of FSH activity	Storage of sperm
A	neither X nor Y	X	Y
B	neither X nor Y	Y	X
C	Y	X	Y
D	Y	X	X

Your answer

[1]

3. In spermatogenesis, crossing over of the chromatids of homologous chromosomes gives rise to genetic variation.

Which of the options, A to D, is the cell type in which crossing over occurs?

- A primary spermatocyte
- B secondary spermatocyte
- C spermatogonium
- D spermatid

Your answer

[1]

4. Meiosis II pauses in the secondary oocyte and is only completed if fertilisation occurs.

Which of the options, A to D, is a description of the **last** meiotic stage prior to fertilisation?

- A Homologous chromosomes align to the equator of the oocyte.
- B Homologous chromosomes migrate to opposite poles of the oocyte.
- C Single chromosomes align to the equator of the oocyte.
- D Sister chromatids migrate to opposite poles of the oocyte.

Your answer

[1]

5. Which of the options, **A** to **D**, is an action of luteinising hormone (LH) in males?

A inhibition of follicle-stimulating hormone (FSH) release

B initiation of spermatogenesis

C sensitisation of testicular cells to testosterone

D stimulation of testosterone release

Your answer

[1]

END OF QUESTION PAPER

Mark Scheme

Question			Answer/Indicative content	Marks	Guidance
1			A	1	
			Total	1	
2			A ✓	1	
			Total	1	
3			A ✓	1	Examiner's Comments Another straightforward question but a disappointing number of candidates answered correctly.
			Total	1	
4			C	1	Examiner's Comments The level of recall demanded by this question proved problematic for many candidates. Despite the question asking about the completion of meiosis II, many candidates selected option A or B which referred to homologous chromosomes. The question was testing the knowledge that meiosis II is halted at metaphase II prior to fertilisation.
			Total	1	
5			D	1	
			Total	1	