

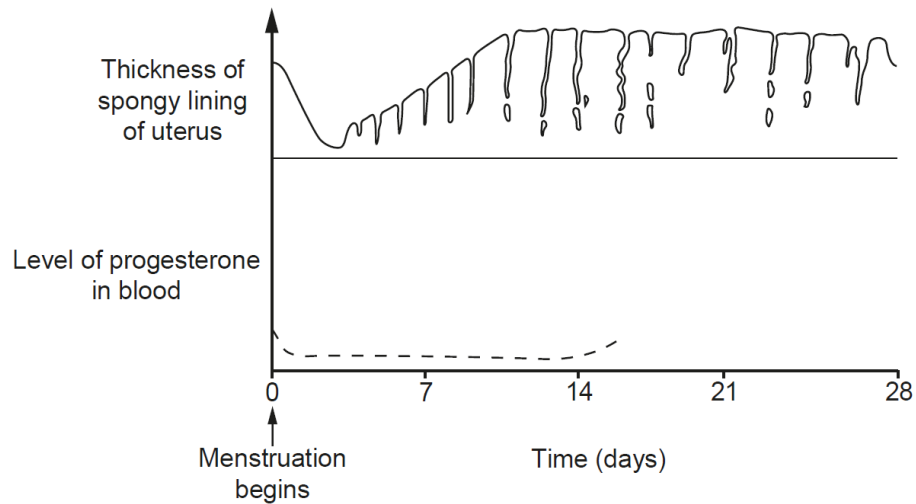
**GCSE Biology A (Gateway)**

**J247/03 B1-B3 and B7 Higher (Higher Tier)**

**Question Set 12**



- (c) The graph shows how the lining of the uterus changes during the menstrual cycle and also shows the level of progesterone in the blood.



- (i) Where in the ovary is progesterone produced?

[1]

- (ii) Draw a line to continue the graph to show the levels of progesterone until day 28 (assume that an egg has not been fertilised).

[2]

- (d) (i) An egg develops in a follicle before ovulation. The follicle has a diameter of  $25 \times 10^{-3}$  mm at the start. This follicle grows to 20 mm in diameter just before the egg is released.

Calculate the increase in size of the diameter of the follicle.  
Give your answer to 2 decimal places.

[3]

- (ii) The failure of a follicle to increase in size can result in less production of oestrogen.

Explain what effect this may have on the uterus.

[1]

(iii) Explain how hormones can be used to treat infertility in women.

[2]

(iv) Infertility can also be caused by problems in the male.

Plasmin is a protease enzyme important in sperm movement.

Explain how changes to the structure of DNA could result in the plasmin enzyme being faulty.

[2]

**Total Marks for Question Set 12: 17**

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