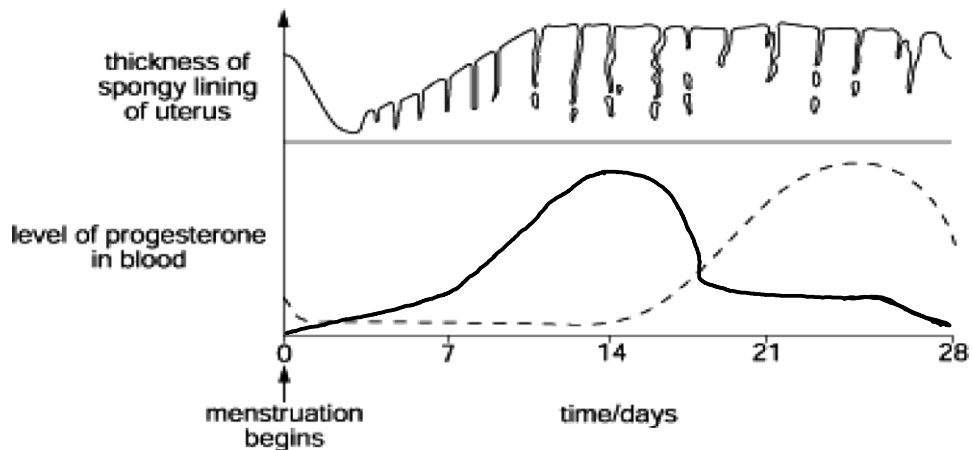


**GCSE Biology A (Gateway)**

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

**Question Set 6**

The graph in **Fig. 1.1** shows how the level of progesterone changes during the menstrual cycle.



**Fig. 1.1**

- (a) (i) Draw another line on the lower graph to show how the level of **oestrogen** changes during the menstrual cycle.

[2]

- (ii) Describe how oestrogen and FSH interact during the menstrual cycle.

FSH stimulates oestrogen production.  
Oestrogen inhibits FSH production.

[2]

- (b)\* Endometriosis is a condition where the cells that normally line the uterus (womb) can move to other parts of the body.

During the menstrual cycle, the cells that have moved can react in the normal way to the hormones controlling menstruation.  
This can cause a number of problems including fatigue and pain.

Explain what happens to the cells that have moved and how doctors could treat the condition using sex hormones.

Use the information from the graph in **Fig. 1.1** and your own knowledge.

During menstruation the effect of oestrogen on the cells of the womb is that it builds up the cell lining of the uterus. The effects of progesterone is that it maintains the cell lining of the uterus. When oestrogen levels are high the levels of progesterone are low. The endometrial cells outside the uterus would build up and breakdown as normal. However during the breakdown stage cells would not be able to leave the body in the normal way. To stop the cells building up oestrogen levels should be kept low. Cell build up can be reduced by keeping progesterone level high. This can be given as a contraceptive pill to maintain high levels. Progesterone mimics pregnancy and stops the menstrual cycle.

[6]

**Total Marks for Question Set 6: 10**

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