

Mark schemes

1.

(a) to allow implantation of the embryo

1

(b) oestrogen

1

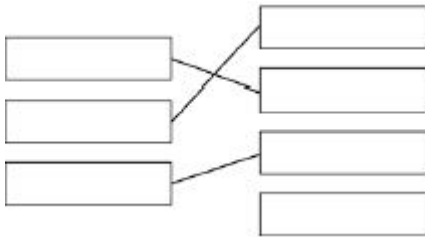
(c) 13 / 14 / 15 / 16

allow any number in range 13 to 16

allow any range within these values e.g. 14–16

1

(d)



extra line from a method cancels the mark

1

1

1

(e) more reliable than diaphragm / spermicidal cream

allow fewer pregnancies than diaphragm / spermicidal cream

1

low chance of pregnancy

allow only 1 more pregnancy than the pill (per 100 women per year)

allow almost as good as the pill

allow reference to one named example

1

no side effects

allow easy to get / buy

allow easy to use

allow prevent / reduce spread of STDs / gonorrhoea / HIV

ignore cost

1

[9]

2.

(a) pancreas

1

(b) liver

1

glycogen

1

in this order

(c) would be digested / broken down (by enzymes / protease / pepsin / acid or to amino acids)

allow denatured (by acid)

1

(d) use of 14.2 **and** 6.8

1

7.4

*allow an answer of 7.2 or 7.3 (using 14.1 and / or 6.9)
for 1 mark*

1

an answer of 7.4 scores 2 marks

(e) any **one** from:

- (person A's) results are higher
ignore A peaks at a higher level than B
- (A) increases for a longer time **or** peaks later
- (A) takes longer to decrease **or** takes longer to return to normal
*allow other correct comparisons
allow a description using pairs of figures from graph at a given time*

1

allow converse comparisons with person B as the subject

(f) a negative correlation

1

(g) less carbohydrate / sugar / fat in diet

*allow go on a diet
allow eat less
allow balanced / healthy diet*

or

lose weight **or** maintain a healthy weight
ignore diet unqualified

1

(more) exercise

allow examples of exercise

1

[10]

3.

(a) A

1

(b) E

(c) 28

allow 27–29

(d) progesterone

(e) any **two** from:

- inhibits FSH production / release

- prevents egg maturation

allow prevents egg growth

- prevents ovulation

allow prevents egg release

ignore prevents egg production

(f) oestrogen

testosterone

allow in this order only

4.

(a) any **three** from:

- a (chemical) messenger

or

an organic substance

allow correct named example – e.g. protein / modified amino acid / catecholamine / steroid

- made by the endocrine system / an endocrine gland / endocrine organ

allow made by / released from a (ductless) gland

- affects (a) specific / target organ(s) / tissue(s)

- released into the blood

allow carried by the blood

(b) insulin **and** glucagon

both required for 1 mark correct spelling only for glucagon

(c) **Level 2 (3-4 marks):**

Relevant points (reasons / causes) are identified, given in detail and logically linked to form a clear account.

Level 1 (1-2 marks):

Relevant points (reasons / causes) are identified, and there are attempts at logically linking. The resulting account is not fully clear.

No relevant content (0 marks)

Indicative content

- (0–0.5 h:) glucose from meal enters blood
or
increase in blood glucose (to 6.5 mmol / dm³)
- glucose detected by pancreas
- pancreas secretes insulin
- (insulin causes) glucose to move (out of blood) into cells / liver
- liver converts glucose to glycogen
- causing a fall in blood glucose (after 0.5h)
- low blood glucose (< 5.0 mmol / dm³) detected by pancreas
- pancreas releases glucagon
- liver converts glycogen to glucose (which enters blood)
- blood glucose rises (after 1 h **or** to 5.2 mmol / dm³ (at 1.5 h))

[8]

5.

(a) **A** – pituitary

1

B – adrenal

1

(b) ovary

1

(c) diaphragm

allow phonetic spelling

1

(d) condom

1

(e) **Level 2 (3–4 marks):**

A detailed and coherent evaluation is provided which considers a range of advantages and disadvantages and comes to a conclusion consistent with the reasoning.

Level 1 (1–2 marks):

An attempt to describe the advantages and disadvantages is made, which may not come to a conclusion. The logic may be inconsistent at times.

0 marks:

No relevant content.

Indicative content

advantages of the plastic IUD:

- is effective for longer than the copper IUD
- does not need to be replaced as often as the copper IUD
- although the pain of periods are more severe, the pain with the copper IUD is likely to be worse
- can reduce the bleeding during a period
- most of the possible side effects are not serious, eg feeling sick, acne and headaches.

disadvantages of the plastic IUD:

- needs to be implanted for a period of time before it is effective ie not emergency contraception
- can make the pain of period more severe
- can cause more side effects than the copper IUD
- can cause some more severe side effects such as cysts on the ovaries

an understanding that the side effects are only possible and may not necessarily occur

additional examiner guidance:

- pupils should add value to the points in the table and should not just be copies verbatim
- credit can also be given for other correct advantages and disadvantages from the candidates' own knowledge and understanding
- allow converse points if clearly made

4

[9]

6.

(a) (i) follicle stimulating hormone / FSH

1

(ii) oestrogen

1

(b) (i) any **one** from:

- to help them have a baby / get pregnant
ignore to make them fertile
- to stimulate egg production / release / maturation
- own levels of FSH / LH / hormone (too) low
allow to increase hormone / FSH / LH levels
do not allow to increase oestrogen levels

1

(ii) through the bloodstream

1

(c) oestrogen

1

progesterone

1

[6]