

MARK SCHEME

GCSE

BIOLOGY

AQA - TRIPLE SCIENCE

B 5 - TEST 1

HOMEOSTASIS

Beginner

Mark schemes

- 1.** (a) **A** 1
- (b) **E** 1
- (c) 28
allow 27–29 1
- (d) progesterone 1
- (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 2
- (f) oestrogen 1
- testosterone
allow in this order only 1
- [8]**
- 2.** (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]

3.

(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]

4.

(a) to allow implantation of the embryo

1

(b) oestrogen

1

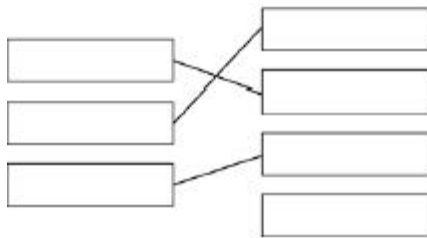
(c) 13 / 14 / 15 / 16

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]

5.	(a)	ovary	1
	(b)	46	1
	(c)	(i) does not fit the pattern or it is higher than the 3 rd value / it should be lower than the 3 rd value / it should be between the 3 rd and 5 th values <i>do not allow use of incorrect figures</i>	1
		(ii) As age increases % of women (having a baby) decreases	1
	(d)	(i) 33 <i>allow 1 mark for $\frac{66}{2}$ if no answer / wrong answer</i>	2
		(ii) low success rate	1
		more likely to have a baby with health problems / abnormalities / a faulty chromosome	1
			[8]
6.	(a)	(i) pancreas	1
		(ii) Insulin causes glucose to move into cells.	1
	(b)	(i) A rapid rise or fastest	1
		(ii) 2	1
	(c)	The pancreas could be rejected.	1
			[6]

7.	(a) (i) 2400 cm ³	1
	(ii) 1400 (cm ³) <i>allow 2 marks for ecf of correct answer to [answer given in (a)(i) – 1000]</i> <i>allow 1 mark for 2400 – (600 + 400) or equivalent with no or incorrect answer</i> <i>allow 1 mark for ecf of answer given in (a)(i) – 1000 or equivalent with no or incorrect answer</i>	2
	(b) (i) sweat(ing) <i>allow evaporation</i> <i>allow perspiration</i>	1
	(ii) any one from: <ul style="list-style-type: none"> • for cooling • to maintain body temperature 	1
	(c) (i) More water was lost through the skin.	1
	(ii) decrease	1
		[7]
8.	(a) (i) The person started running a race.	1
	(ii) 2300	1
	(iii) drinking (water / sports drink) or through eating	1
	(b) (i) brain	1
	(ii) receptors	1
	(c) cools us down <i>allow evaporates</i>	1
		[6]
9.	(a) liver	1

(b) insulin

do not accept glucagon

1

(c) kidney

1

(d) to replace water / ions / salt

1

(that is) lost in sweat

1

[5]

10.

(a) any **two** from:

- drop the ruler from the same height
- use the same / dominant hand each time
- thumb same distance from ruler at the start
- use same type / weight of ruler
- drop the ruler without any force each time
- keep arm resting on the edge of the table

2

(b) 8

allow 8.0

1

(c) 2 (in test number 2)

1

(d) 12

1

(e) $(12 + 13 + 13 + 9 + 8 / 5 =) 11$

1

(f) $0.15 - 0.12$ (s)

1

0.03 (s)

allow 0.03 (s) with no working shown for 2 marks

1

(g) carry out more repeats

1

(h) caffeine speeds up reflex actions

or

reduces reaction time

1

[10]

11.

(a) grown down

allow longer

1

towards gravity / gravitropism

allow geotropism

1

(b) grow up

1

towards the light

allow phototropism

1

(c) 3

1

(d) repeat the experiment

1

(e) seeds germinate sooner so growing season is longer

1

[7]