

GCSE Biology B (Twenty First Century Science)
J257/01 Breadth in Biology (Foundation)

Question Set 13

Multiple Choice Questions

1. Cows are used to produce milk and meat.

(a) (i) Milk and meat contain protein.

Which reagent would you use to test for protein?

Tick (✓) **one** box.

Benedict's

Biuret

Ethanol

Iodine

[1]

(ii) Cows produce different amounts of milk.

A farmer wants a calf that will produce a lot of milk in the future. The farmer carefully chooses which female cow to mate with a male bull.

What is the name of the process the farmer is using?

Put a (ring) around the correct answer.

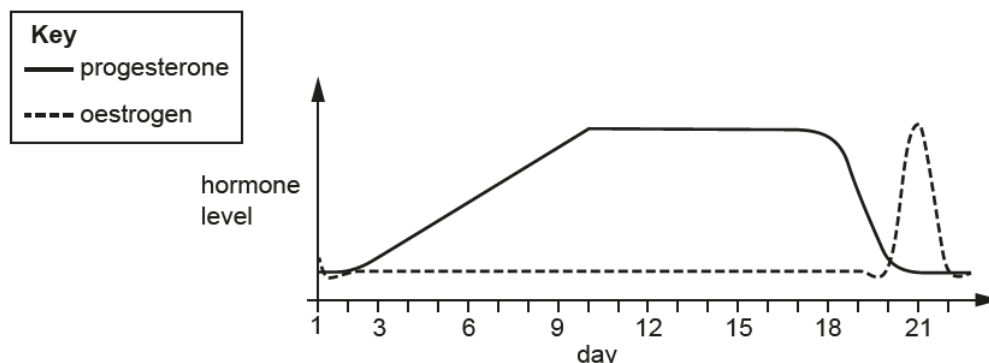
Asexual reproduction Evolution Natural selection
Selective breeding

[1]

(b) Adult female cows have an oestrus cycle. It is similar to the menstrual cycle in adult female humans.

A cow can become pregnant when it is in a phase called 'heat'. A cow is in the heat phase when oestrogen levels peak.

The graph shows how levels of progesterone and oestrogen change during the oestrous cycle in one individual cow.



On which day of the oestrus cycle is this cow most likely to become pregnant?

day 21

[1]

(c) The heat phase lasts for a different length of time in each cow.

The table shows the length of the heat phase in eight different cows.

Cow	Length of heat phase (hours)
A	2
B	4
C	5
D	30
E	8
F	2
G	10
H	3

(i) Calculate the range for the length of the heat phase for all cows in this group.

Range = **28** hours

[1]

(ii) Calculate the mean length of the heat phase for all cows in this group.

Mean = **8** hours

[2]

(d) The cow oestrus cycle is controlled in the same way as the human menstrual cycle is controlled.

What controls the human menstrual cycle?

Tick (✓) **one** box.

Hormones

Nerves

The heart

The kidney

[1]

Total Marks for Question Set 13: 7

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