This is the **Foundation Separate** version. Higher Tier (★) questions have been removed. All remaining questions are Foundation-level.

Selective Breeding and Genetic Engineering (B6b)

Specification reference: B6b

Q1. Describe the process of selective breeding to produce a crop plant with higher yield.

[3 marks]

Q2. Evaluate selective breeding as a method of improving crop plants.

[4 marks]

Conservation and Biodiversity (B6c)

Specification reference: B6c

Q3. Explain THREE reasons why maintaining biodiversity is important.

[3 marks]

Q4. Evaluate zoos and captive breeding programmes as methods of conserving endangered species.

[4 marks]

Total: 14 marks

Selective Breeding and Genetic Engineering (B6b)

Q1 (3 marks)

Describe the process of selective breeding to produce a crop plant with higher y…

- Identify plants with highest yield from existing population [1]
- Breed these plants together — select seeds from highest-yielding offspring [1]
- Repeat the process over many generations until desired yield is consistently achieved [1]

Q2 (4 marks)

Evaluate selective breeding as a method of improving crop plants.

- Advantage: can significantly improve yield, disease resistance, nutrition in crops [1]
- Advantage: well-established, does not require advanced genetic techniques [1]
- Disadvantage: reduces genetic diversity — narrows gene pool [1]
- Disadvantage: inbreeding increases risk of inherited disorders; population vulnerable to new diseases [1]

Conservation and Biodiversity (B6c)

Q3 (3 marks)

Explain THREE reasons why maintaining biodiversity is important.

- Ecosystem stability: high biodiversity makes ecosystems more resilient to change [1]
- Source of food, medicines and raw materials — many drugs derived from natural organisms [1]
- Ethical/intrinsic value of all life — each species may have undiscovered potential value [1]

Q4 (4 marks)

Evaluate zoos and captive breeding programmes as methods of conserving endangere…

- Advantage: prevents extinction — keeps species alive in controlled environment [1]
- Advantage: allows reintroduction to wild once threats are managed [1]
- Disadvantage: animals may not develop natural behaviours needed for survival in wild [1]
- Disadvantage: small captive population may lose genetic diversity — inbreeding [1]