

Reproduction

Question Paper

Level	Pre U
Subject	Biology
Exam Board	Cambridge International Examinations
Topic	The Life of Plants
Sub Topic	Reproduction
Booklet	Question Paper

Time Allowed: 12 minutes

Score: /10

Percentage: /100

Part - A

- 1 Certain flowering plant species, such as the violet, *Viola odorata*, produce some flowers that open and are cross-pollinated by insect pollinators and others that never open and are self-pollinated.

(a) Suggest the advantages of having flowers that self-pollinate.

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Many species of orchid have flowers that look as if they offer food to their insect pollinators, but offer no edible reward in the form of nectar. This form of attraction is known as food deception. An example is *Calypso bulbosa* as shown in Fig. 5.1.

Other species of orchid practise sexual deception as their flowers look like female bees or wasps. These flowers release a scent that attracts males which then attempt to mate with the flowers. While doing this the insects pick up or deposit pollen. Fig. 5.2 shows *Ophrys scolopax* which is such a species.

Orchids that practise food deception attract a wide variety of different insect species as pollinators. Those that mimic a female bee or wasp attract males of a single species.



Fig. 5.1



Fig. 5.2

(b) (i) State an advantage of attracting insects without offering an edible reward.

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(ii) Explain the advantage of mimicking the appearance of a female of only one species of insect.

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(iii) State a disadvantage of the sexual deception strategy of pollination.

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(c) Suggest different ways in which the success of pollination mechanisms might be assessed experimentally.

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[Total: 10]