

Section B

Answer any **two** questions. You are advised to spend one hour in this section.

Your answer should be illustrated by large, clearly labelled diagrams, where appropriate.

Your answer must be in continuous prose, where appropriate.

Up to 4 additional marks are awarded for quality of language.

Your answers must be set out in sections (a), (b) etc, as indicated in the question.

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| 10 | (a) | Outline the advantages of light microscopy in examining biological specimens. | [6] |
| | (b) | Relate the structure of a mitochondrion to its function. | [6] |
| 11 | (a) | Describe the effects of environmental factors on natural selection. | [6] |
| | (b) | Discuss the validity of the following statement:

“Artificial selection of crop plants and farm animals has tended to reduce variety within their populations.” | [6] |
| 12 | (a) | Describe how the structure of xylem vessels is adapted for their function of transporting water up the stem. | [6] |
| | (b) | Describe the pathways and mechanism of water transport from the soil to the xylem in the root. | [6] |
| 13 | (a) | Describe the methods used in the artificial propagation of crop plants. | [6] |
| | (b) | Discuss the commercial advantages of cloning plants. | [6] |