

Section B

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

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

Your answers 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) | Describe how membrane structure is related to the transport of materials across a membrane. | [6] |
| | (b) | Describe the role of membranes in the synthesis of ATP in either respiration or photosynthesis. | [6] |
| 11 | (a) | Describe the structure of a named globular protein. | [6] |
| | (b) | Compare and contrast the structure of DNA and RNA. | [6] |
| 12 | (a) | Summarise the important differences between a sperm and an egg. | [4] |
| | (b) | Explain how the structure of the placenta is adapted to its function. | [8] |
| 13 | (a) | Distinguish between pyramids of biomass and pyramids of energy. | [6] |
| | (b) | Describe the harmful effects of nitrogen containing fertilisers on aquatic ecosystems. | [6] |