

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 as in sections (a), (b) etc, as indicated in the question.

- 9 (a) Describe the biological significance of the following properties of water:
- (i) high heat capacity [2]
 - (ii) high surface tension and cohesion [2]
 - (iii) universal solvent [2]
- (b) Explain the functions of water to living organisms. [6]
- 10 (a) Explain how DNA replicates semi-conservatively during interphase. [6]
- (b) Describe phenylketonuria (PKU) as an example of gene mutation. [6]
- 11 (a) Describe how heart action is initiated. [6]
- (b) Discuss the long term consequences of exercise on the cardiovascular system. [6]
- 12 (a) Describe **two** different methods that can be used to propagate named food plants naturally. [6]
- (b) Describe the reasons for and advantages of seed dormancy. [6]