

2002 HIGHER SCHOOL CERTIFICATE EXAMINATION  
Biology

Section I – Part B (continued)

Marks

Question 25 (4 marks)

- (a) Define the concept of *punctuated equilibrium* in evolution.

1

Punctuated equilibrium is the development of characteristics to better suit the environment lived in by the organism.

- (b) How does punctuated equilibrium differ from the process proposed by Darwin?

3

This differs from Darwin's theory as Darwin stated that some members of the species already had these favourable characteristics and due to 'survival of the fittest' and 'natural selection' gradually outnumbered the members without these characteristics and eventually the whole species had the same characteristics. While the 'punctuated equilibrium' theory differs as it states the species didn't have these favourable characteristics to begin with but developed them over time to suit their environment.