

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 suggests that species had stages where no evolution occurred followed by rapid (thousands of years) periods of change until they reach a stable state.

- (b) How does punctuated equilibrium differ from the process proposed by Darwin? 3

Punctuated equilibrium suggest that ~~the process is~~ ^{evolution} occurs sporadically whereas Darwin's theory of evolution suggests that organisms are continually changing due to ~~these~~ ^{variations} among species becoming more advantageous in certain conditions. The rapid change followed by periods of stability in punctuated equilibrium is supported by the fossil record which is incomplete because many organisms may not have been around long enough to be fossilised. Darwin's theory, due to the gaps in the fossil record, is not as well supported.