CHAPTER 1 QUIZ (50 marks)

Key

K/U: Knowledge and Understanding (50 marks)

A: Application (10 marks)

1. Multiple Choice: For each question, select the best answer from the four alternatives. (10 marks)

1. Which of the following is true of heterotrophs? (1.1) [K/U]

(a) They include all organisms.

(b) They include only single-celled organisms.

(c) They cannot make their own food.

(d) none of the above

2. The binomial nomenclature system uses a two-name format. What does the first of the two names refer to? (1.2) [K/U]

(a) the specific name

(b) the genus name

(c) the species name

(d) the evolutionary name

3. Which of the following is the most accurate job description of a botanist? (1.2) [K/U]

(a) a scientist specializing in the study of marine life

(b) a scientist specializing in the study of plants

(c) a scientist specializing in the study of cells

(d) a scientist specializing in the classification of organisms

4. Which term describes a taxonomic group that includes a single ancestor species and all its descendants? (1.3) [K/U]

(a) prokaryote

(b) classification

(c) Glade

(d) domain

5. What does a phylogenetic tree show? (1.3) [K/U]

(a) the set number of taxonomic ranks

(b) the order of cells that have joined to form long strands or clustered arrangements

(c) the classifications of all organisms

(d) the evolutionary relationship between and among species

6. Which of the following is the name given to single-celled organisms that do not contain membrane-bound organelles? (1.4) [K/U]

(a) prokaryotes

(b) eukaryotes

(c) protists

(d) none of the above

7. Which of the following groups make up Carl Woese's three domains of life? (1.4) [K/U A]

(a) plants, animals, and fungi

(b) eubacteria, archaea, and eukaryotes

(c) prokaryotes, eukaryotes, and protists

(d) heterotrophs, autotrophs, and microtrophs

8. Dandelions (which reproduce asexually) must be classified based on their shared features rather than as members of a population of breeding individuals. You have just used

(a) hybridization

(b) genetic diversity

(c) individual variability

(d) morphology (1.1) [K/U A]

9. Loss of biodiversity

(a) threatens our food supply

(b) eliminates sources of natural medicines

(c) causes habitat destruction

(d) all of the above (1.1) [K/U]

10. Which of the following is the highest taxonomic level of the traditional Linnaean system of classification?

(1.2) [K/U]

(a) species

(b) genus

(c) order

(d) kingdom

1. True or False: If you think the statement is false, rewrite it to make it true. (10 marks)

1. Autotrophs are able to make their own food and are therefore not dependent on any other organisms. (1.1) [K/U]

2. Differences in hair, skin, and eye colour are all examples of genetic diversity (1.1) [K/U]

3. The physical and behavioural changes that occur in a species over time are referred to as evolutionary changes. (1.1) [K/U]

4. There is one correct way to classify organisms. (1.2) [K/U]

5. Carl Linnaeus is considered the "father" of taxonomy. (1.2) [K/U]

6. Today, most taxonomists use similarity as the basis for grouping organisms rather than relying on the principle of relatedness. (1.2) [K/U]

7. In publishing On The Origin of Species, Charles Darwin refuted the theory of evolution. (1.3) [K/U]

8. Clades can be either large or small. (1.3) [K/U]

9. The Linnaean classification system recognized only four kingdoms of living things. (1.4) [K/U]

10. Hybridization is a very common occurrence in animals. (1.1) [K/U]

1. Write a short answer to each question. (30 marks)
2. Explain why some species must be defined based on their morphology rather than on reproductive behaviour. {-Selena} (1.1) [K/U] (2 marks)
3. Describe 4 ways in which one species may be dependent on another for its survival. Include an example for each. (1.1) [K/U A] (8 marks)
4. What is taxonomy? Explain how taxa are arranged in a hierarchy (traditional taxonomic levels). (1.2) [K/U] (4 marks)
5. a) Distinguish between traditional and phylogenic classification systems. (1.3) [K/U] (2 marks)

b) Name 1 advantage and 1 disadvantage for each classification system. (1.3) [K/U] (4 marks)

1. Name the 6 Kingdoms of Life and describe 1 distinguishing feature for each. (1.4) [K/U] (6 marks)
2. What are the 3 Domains of Life and how were they classified? (1.4) [K/U] (4 marks)