

一.

1. 干擾 (disturbance) 與生物多樣性有何關係? (7%)
2. 生物多樣性公約的目標及原則是什麼? (6%)
3. 何謂可持續的發展 (sustainable development), 請舉一例。(7%)

二.

1. 試說明影響族群內遺傳奇異度的內在及外在演化因子, 請分開詳述。(9%)
2. 台灣在過往獵殺許多過境的紅尾伯勞, 雖保育人士大力反對, 但獵戶指出紅尾伯勞未因獵殺而減少, 甚至有幾年其數量不減反增, 更以此說明其獵殺的正當性, 請說明你的看法 (提示: effective population size) (6%)
3. 試說明稀有生物需要保育的生物學原因 (5%)

三.

**1. Multiple Choice (1 pts each). Choose the best answer and write it in the blank space to the right of each question. (5%)**

1. The term for the largest communities, characterized by habitat and life form of the plants is: \_\_\_\_\_.
2. Breaking habitat into small areas within which fewer animals survive is called habitat \_\_\_\_\_.
3. The study of the ecology of extinct biotic communities is called: \_\_\_\_\_.
4. In freshwater communities, nutrient supply may increase causing an overabundance of algae that suffocates the community. This is called \_\_\_\_\_.
5. Which of the following are most closely related to each other: \_\_\_\_\_  
(Archea..... bacteria..... mushrooms..... humas)

**2 What is a niche? A habitat? (5 %)**

- 3. Explain why habitat loss and habitat degradation are increasingly more serious to organisms that are in higher trophic levels. (5 %)**
- 4. What types of environments are bacteria found? (5 %)**

四.

1. Compare the different community between oligotrophic and eutrophic lake. 5%
2. Describe the factors contributes to the dispersal of organisms. 5%
3. How the structure of a community may be controlled bottom-up by nutrients or top-down by predators? 5%
4. Explain the distinction a keystone species. 5%

五. (20%)

1. The study of plants and their impact on humans is important because plants
  - A. provide food, shelter and clothing
  - B. recycle materials in the ecosystem
  - C. convert the sun energy into forms usable by both plants and animals
  - D. all of the above are correct
2. Which of the following differentiates modern scientific botany from botany as it was practiced 100 years ago?
  - A. observation of plants
  - B. written records about plants
  - C. organization of information about plants
  - D. experimentation as to how plants work

(背面仍有題目, 請繼續作答)

3. In the binomial system of nomenclature
  - A. the authority is always written in Latin
  - B. more than one organism can have the same name
  - C. the genus name is completely in lower case letters
  - D. plants in a genus have a lot of common traits
4. Which of the following are valid reasons for studying plants.
  - A. Plants are the source of most of our foods.
  - B. Plants may contain substances that have medical uses.
  - C. Plants are an essential part of ecosystems.
  - D. All of these are correct.
5. Domesticated crop species often differ from their wild ancestors because they
  - A. have been selected for lower levels of potentially harmful secondary products.
  - B. always have an increase in the number of chromosomes.
  - C. usually exhibit C4, rather than C3 photosynthesis.
  - D. none of these
6. Plants with flowers that produce very large amounts of pollen and have well exposed stigmas are most likely \_\_\_\_\_ pollinated.
  - A. insect
  - B. bat
  - C. wind
  - D. bird
7. Which parts of seeds are specialized to store starch, lipid and protein?
  - A. cotyledons
  - B. endosperm
  - C. apical meristem
  - D. both A & B are correct
8. Single-cell algae that are the major producers in marine food chains are called
  - A. kelps
  - B. plankton
  - C. macroalgae
  - D. cyanobacteria
9. The biome with the greatest diversity of flora and fauna is the
  - A. mountain forest
  - B. tropical rainforest
  - C. eastern deciduous forest
  - D. taiga
10. The difference between herbaceous and woody plants is that woody plants have abundant
  - A. stomates.
  - B. tap roots.
  - C. leaves.
  - D. secondary growth.