

國立台灣海洋大學九十四學年度碩士班甄試入學考試試題

系所名稱：海生所碩士班
科目名稱：普通生物學

* 答案以橫式由左至右書寫於答案紙上

1. 試解釋下列名詞 (15%) :

- (1) phylogeny
- (2) sibling species
- (3) demography

2. 什麼是 island biogeography? 它如何應用於棲地保育的工作上? (9%)

3. 物種間為何會有競爭存在? 競爭的結果又為何? (9%)

4. Please define **acid** and **base** in brief. How is the acidity of a solution described? (5%)

5. Vacuoles are membranous sacs that belong to the endomembrane system. Vacuoles are important in plant, protist etc.. Please describe vacuoles functions in general cell maintenance. (7%)

6. How does internal compartmentalization by membranes help a eukaryotic cell? (4%)

7. The photosynthetic apparatus of blue-green algae contains large amounts of phycoerythrin and phycocyanin in addition to chlorophyll a. Phycoerythrin absorbs maximally between 480 and 600 nm, whereas phycocyanin absorbs maximally near 620 nm. Please suggest a role for these accessory photosynthetic pigments. (5%)

8. Briefly describe the three kinds of junctions between animal cells and compare their functions. (6%)

9. Which of the following organelles is (are) directly involved in manufacture, breakdown, energy processing or support? (7%)

Nucleus rough endoplasmic reticulum Golgi apparatus
Lysosomes vacuoles chloroplasts cytoskeleton

10. 解釋名詞 (每題 4 分 共 28 分)

- a. negative feedback control
- b. leukemia
- c. homeostasis
- d. monoclonal antibody
- e. stem cell
- f. transgenic organisms
- g. cell cycle

11. 問答題 (5 分)

Describe osmoregulation in a freshwater fish and in a saltwater fish.