

招生學年度	102	招生類別	碩士班
系所班別	自然資源與環境學系碩士班(生態與保育組)		
科目	生物學		
注意事項	本考科禁止使用掌上型計算機		

Please answer following question with English or Chinese.

(請用英文或中文作答)

- I. Short-answer questions: (60 points)
  1. What is the founder effects? Compare and contrast it to the bottleneck effect. How can rare traits sometimes occur more frequently in small, isolated population? (10 points)
  2. What is the difference between r-selected and K-selected species and gives examples. (10 points)
  3. What is the real impact of invasive alien species? And why invasive species are often successful in colonizing new habitats? (10 points)
  4. Please list three characteristics to differentiate monocotyledon plants from dicotyledon plants. (10 points)
  5. There are three kinds of photosynthesis in plants, briefly described as C3, C4, and CAM plants. Which kind of plant photosynthesis is good for survival in a desert climate and why? (10 points)
  6. What kinds of forces are involved in plants to transport water from roots to leaves? (10 points)
- II. Please give definition of following terms: (40 points)
  1. Deuterostomes (4 points)
  2. Hydrostatic skeleton (4 points)
  3. Kin selection (4 points)
  4. Metapopulation (4 points)
  5. Metamorphosis (4 points)
  6. Apical dominance (4 points)
  7. Meiosis (4 points)
  8. Greenhouse effects (4 points)
  9. Food web (4 points)
  10. Phototropism (4 points)