

# 國立中山大學 109 學年度 碩士暨碩士專班招生考試試題

科目名稱：生態學【生科系碩士班甲組】

## — 作答注意事項 —

考試時間：100 分鐘

- 考試開始鈴響前不得翻閱試題，並不得書寫、劃記、作答。請先檢查答案卷（卡）之應考證號碼、桌角號碼、應試科目是否正確，如有不同立即請監試人員處理。
- 答案卷限用藍、黑色筆(含鉛筆)書寫、繪圖或標示，可攜帶橡皮擦、無色透明無文字墊板、尺規、修正液（帶）、手錶(未附計算器者)。每人每節限使用一份答案卷，不得另攜帶紙張，請衡酌作答。
- 答案卡請以 2B 鉛筆劃記，不可使用修正液（帶）塗改，未使用 2B 鉛筆、劃記太輕或污損致光學閱讀機無法辨識答案者，其後果由考生自行負擔。
- 答案卷（卡）應保持清潔完整，不得折疊、破壞或塗改應考證號碼及條碼，亦不得書寫考生姓名、應考證號碼或與答案無關之任何文字或符號。
- 可否使用計算機請依試題資訊內標註為準，如「可以」使用，廠牌、功能不拘，唯不得攜帶具有通訊、記憶或收發等功能或其他有礙試場安寧、考試公平之各類器材、物品（如鬧鈴、行動電話、電子字典等）入場。
- 試題及答案卷（卡）請務必繳回，未繳回者該科成績以零分計算。
- 試題採雙面列印，考生應注意試題頁數確實作答。
- 違規者依本校招生考試試場規則及違規處理辦法處理。

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題號：421002

※本科目依簡章規定「不可以」使用計算機(混合題)

共 2 頁第 1 頁

一、選擇題(單選，共 30 分，每題 3 分)

1. The zone that most closely resembles a boreal forest is the \_\_\_\_\_ zone.
  - A. lower montane
  - B. montane
  - C. subalpine
  - D. alpine
  - E. upper alpine
2. Which of the following types of change occurs over generations rather than within a lifetime?
  - A. Acclimatization
  - B. Transpiration
  - C. Equilibration
  - D. Adaptation
  - E. Pubescence
3. A grizzly bear feasting on a recently killed deer is an example of the transfer of \_\_\_\_\_ energy.
  - A. radiant
  - B. chemical
  - C. autotrophic
  - D. symbiotic
  - E. kinetic
4. If a population of monkeyflowers has 500 members with 135 of genotype DD, 280 of genotype Dd, and 85 of genotype dd, what is the frequency of the D allele?
  - A. 0.135
  - B. 0.275
  - C. 0.415
  - D. 0.5
  - E. 0.55
5. Which of the following is characteristic of an *r*-selected species?
  - A. Short lifespan
  - B. Low rate of reproduction
  - C. High parental investment
  - D. Delayed development
  - E. Long lifespan
6. Black walnut trees release juglone and other chemicals that can be toxic to other plants. This is a possible example of
  - A. isoclines.
  - B. exploitation competition.
  - C. allelopathy.
  - D. character displacement.
  - E. chthamalus.
7. Assume that lions running on grass neither benefit nor are harmed by this interaction, but their activity helps the grass grow. This is an example of a
  - A. mutualism.
  - B. endosymbiosis.
  - C. ammensalism.
  - D. symbiosis.
  - E. commensalism.

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共 2 頁第 2 頁

8. Species that feed on more than one trophic level are called
- A. omnivores.
  - B. herbivores.
  - C. tertiary consumers.
  - D. primary producers.
  - E. secondary consumers.
9. The final theoretical stage of succession is called the \_\_\_\_\_ stage.
- A. omega
  - B. ultimate
  - C. penultimate
  - D. climax
  - E. pioneer
10. Species that occur in one area, but nowhere else on Earth, are called \_\_\_\_\_ species.
- A boreal
  - B. endemic
  - C. beta
  - D. local
  - E. invasive

二、問答題(共 70 分)

1. Defining “Natural selection” (7 points).
2. Describe “adaptive evolution”? (7 points).
3. Defining “Allelopathic agent” (7 points).
4. Defining “competitive exclusion” (7 points)
5. Defining “habitat” (7 points)
6. Defining “facilitation” (7 points)
7. Defining “community” (7 points)
8. Defining “dynamic equilibrium model” (7 points)
9. Defining “The standard redundancy model” (7 points)
10. Defining “net primary production” (7 points)