

[第一題] (20%)

Taiwan's rich biodiversity is best manifested by rapid elevational transition of vegetation types. Please describe, from low to high elevation, the different vegetation types of central Taiwan and the dominant tree species in each vegetation type. What factors could have contributed to the rich vegetation diversity in Taiwan?

[第二題] 請解釋以下名詞(20%)

1. Continuum hypothesis of species distribution
2. Density-independent theory of population regulation
3. Island biogeography theory
4. Monoclimax theory

[第三題] 請解釋以下名詞(20%)

1. Species-area relationship
2. Self-thinning
3. Competitive exclusion principle
4. Edge effect in landscape ecology

[第四題] (15%)

1. 請解釋 Detritus food chain (3 分)
2. 試述森林火災可能對森林中的野生動物造成的直接及間接影響為何?所有的森林火災都要立即撲滅嗎?為什麼?

[第五題] (25%)

1. What is the Net Primary Production (NPP)? (5%)
2. Please explain greenhouse gases and how the greenhouse gases impact on thermal environment (溫度環境)?(5%)
3. Please discuss how the increases in temperature can affect on NPP and water cycle in forested ecosystem. (5%)
4. What is the meaning of "nutrient cycling" for a forest ecosystem? Please draw a figure to explain it. (10%)

試題隨卷繳回