系所組：地學研究所地理組碩士班

日期節次：101 年 3 月 17 日第 2 節 10:30~12:00

科目：地學通論(包括自然地理學與人文地理學)

一、名詞填空(依序寫出正確的專業名詞，中英文皆可；每格 2 分，共 20 分)：

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20

1. An _(1)_ a thermodynamic change of state of a system in which there is no transfer of heat or mass across the boundaries of the system. (climatology and geology)

2. _(2)_ is the rate of energy expenditure in flowing water, and is expressed as $\rho \times g \times Q \times S$ (in Watt), where ρ is the density of water, g is the local gravitational acceleration, Q is the discharge, and S is the channel gradient. (hydrology)

3. _(3)_ is any system where trees are deliberately left, planted or encouraged on land where crops are grown or animals grazed. (ecology of land use)

4. The _(4)_ is defined as the total radiation reflected by the body divided by the total incident radiation. (climatology)

5. _(5)_ is a sequence of contrasting soils formed along a topographic slope, that have acquired their different characteristics from differences in soil drainage, leaching, microclimatic erosional and depositional processes, and other factors which vary with slope position. (soil geography)

6. _(6)_ is the downslope flow within the soil. (hillslope hydrology)

7. _(7)_ is the scientific study of the timing of recurring natural phenomena in the life cycle of plants and animals in nature. (climatology and biogeography)

8. _(8)_ is the susceptibility of a surface on sediment to erosion. (soil conservation)

9. _(9)_ is the range of meteorological conditions within which the majority of the population, when not engaged in strenuous activities, will feel comfortable. (applied climatology)

10. _(10)_ is the section of a river which flows into the sea and is influenced by tidal currents. (coastal and hydro-geomorphology)

二、問答題(每題 15 分，共 30 分)

1. 說明生物多樣性的計量方法，以及生物多樣性和地形的關係。

2. 以不同符號(symbol)或圖象(icon)來表示不同物型(life-form)，從左到右，依序畫出赤道雨林、副熱帶森林、莽原、沙漠、地中海灌木、溫帶森林、寒帶森林、苔原的植被圖，並在上方標誌環流及氣壓系統，在下方標誌土壤類型。

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三、名詞解釋 (30%， 每小題 5%)

1. Agricultural industrialization
2. Deindustrialization
3. Economic migrants
4. Ethnicity
5. Landscape as text
6. Topophilia

四、閱讀題 (20%)

請用 150 字以內的中文寫出下面這段文字的摘要。

The green revolution, however, has not been an unqualified success everywhere in the world. One important reason is that wheat, rice, and maize are unsuitable as crops in many areas, and research on more suitable crops, such as sorghum and millet, has lagged far behind. In Africa poor soils and lack of water make progress even more difficult to achieve. Another important factor is the vulnerability of the new seed strains to pest and disease infestation, often after only a couple of years of planting. Whereas traditional varieties often have a built-in resistance to the pests and diseases characteristic of an area, the genetically engineered varieties often lack such resistance. Another problem is that green revolution technology has decreased the need for human labor. In southeastern Brazil machines replaced workers, creating significant unemployment. Green revolution technology and training have also tended to exclude women, who play important roles in food production. In addition, the new agricultural chemicals, especially pesticides, have contributed to ecosystem pollution and worker poisonings, and the more intensive use of irrigation has created salt buildup in soils (salinization) and water scarcity.