

國立嘉義大學九十七學年度
園藝學系碩士班招生考試試題

科目：專業英文

I. Translate the following paragraph into English : (25 分)

園藝學系之發展重點領域：

- (1) 熱帶及亞熱帶作物生理、栽培及利用
- (2) 種苗生產質化及量化技術
- (3) 園藝作物設施栽培及生產自動化
- (4) 傳統育種及分子育種技術之結合

在專業必修課程方面如普通化學、植物學、園藝學原理、植物生理學、果樹學、蔬菜學、花卉學、遺傳學、園藝作物育種學、園產品處理學、園產品加工學、造園學等。在選修課程則為土壤及肥料學、植物組織培養、生物技術概論、食用菌、熱帶花卉學、果樹產期調節、設施園藝、植栽設計等。

II. Translate the following paragraphs into Chinese : (25 分)

These greenhouses have environments that are totally controlled. Water and every other nutrient are provided in exact quantities. Light is controlled for the number of hours required. Water is purified and re-circulated for years. It is a system where very few plants are lost during the entire process of bringing them from seed to full flower. Every flower has a marking, like a batch of medicine, so that they can tell you exactly when, where, and how it was produced and marketed. Production efficiency is such that they can air freight flowers to Sydney in 18 hours and sell them at prices that are competitive with local producers in Australia.

Horticulture, of all agricultural pursuits, is best suited to improving the lot of smallholder farmers in developing countries. It can be a key tool for achieving the triple challenge of food security, poverty reduction, and environmental enhancement.

Horticulture crop production is appropriate for smallholder farmers using family labor. It is about high value crops managed intensively to achieve replicable results. Horticulture is eco-friendly when practiced with sound management.

Fruits and vegetables contribute to a healthy diet. Herbs and spices add interest to our food and the international demand for medicinal plants is increasing every year. Flowers bring joy to our lives.

Clearly, horticulture has multiple roles in play in building a better tomorrow. It can help poor farmers improve the nutrition of their families. It can improve family incomes-horticultural products are now being exported from even the world's least developed countries. It will be increasingly recognized as a key ingredient of urban and peri-urban commercial agriculture. It can help smallholder farmers make the transition from subsistence farming to commercial production.

III. Translate the following paragraphs into Chinese : (25 分)

Defining Ecoagriculture

“Ecoagriculture” is a term coined in 2000 to convey a vision of rural communities managing their resources to jointly achieve three broad goals at a landscape scale—what we refer to as the “three pillars” of ecoagriculture:

- Enhance rural livelihoods;
- Protect or enhancing biodiversity and ecosystem services; and
- Develop more sustainable and productive agricultural system.

Ecoagriculture is both a conservation strategy and a rural development strategy. Ecoagriculture recognizes agricultural producer and communities as key stewards of ecosystems and biodiversity and enables them to play those roles effectively. Ecoagriculture applies an integrated ecosystem approach to agricultural landscapes to address all three pillars, drawing on diverse elements of production and conservation management systems. Meeting the goals of ecoagriculture usually requires collaboration or coordination between diverse stakeholders who are collectively responsible for managing key components of landscape.

IV. Translate the following paragraphs into Chinese : (25 分)

(1) Heterotrophic versus autotrophic growth

(2) An alternative to heterotrophic growth is autotrophic or photoautotrophic growth. Various investigators have argued that many if not most of the problems in commercial micropropagation are related to the use of closed heterotrophic systems for producing plants. (3) Toyki and Kozai and colleagues have investigated conditions that would provide a phototrophic alternative to conventional micropropagation. These conditions rely on photosynthesis as the major energy source rather than sugar in the medium. (4) Model systems using potato shoot-tip culture have been very productive. These cultures are characterized by having little or no sucrose, increased CO₂ levels, and increased light irradiance (100 to 200 μmol · m⁻² · sec⁻¹). (5) This provides enhanced photosynthesis for culture, while reducing costs and contamination. Photoautotrophic culture offers a high potential for automation for some species.