

國立屏東科技大學 九十五 學年度 碩士班暨碩士在職專班招生考試
專業英文

一、 翻譯（英翻中）（共計 90 分）

1. A slash and burn method of control is practiced in subsistence agricultural regions in Asia and Africa. Mechanical control is widely used in plantation crops but it is labor intensive and requires repeated operations. Tools used vary depending upon the size of the operation. In small-scale operations, hand tools such as picks, hand hoes, shovels and mattocks are used; while in large-scale clearing situations, motorized brush cutters and tractor drawn mowers are being used. Fire has been proven effective in controlling early establishment of the South African biotype of chromolaena but the biotype in other parts of the world is resistant to fire. (20 分)
2. Tokumaru and Abe (2003) reported that the fecundity of *L. sativae* was higher than that of *L. trifolii* in a Japanese population. If the overwintering population densities of the two species were initially the same, after several generations the relative density of *L. trifolii* might decrease significantly. Thus, *L. trifolii* might be unable to find a conspecific mate, and if interspecific mating were to occur frequently in field populations the density of *L. trifolii* would decline at an increasing rate. (20 分)
3. Life table studies are fundamental to population ecology. A life table gives the most comprehensive description of the survivorship, development, and reproduction of a population. The theory and methods of the life table are discussed in most ecology text-books. The collection of life table data, for related species at different trophic levels in a food chain is a basic and important task for conservation and pest management. Knowledge of the life table of both predator and prey is necessary for the mass rearing and practical application of a natural enemy to biological control systems. (20 分)
4. The members of the protist community within a termite species are qualitatively similar. However, protist species abundance can differ between castes. Cleveland, working under the assumption that termite castes are fed different diets, hypothesized that the differences in protist communities are the result of the roles each protist species has in cellulose metabolism. He hypothesized that the amount of wood eaten by the different castes also should indicate which protists were most involved in cellulose digestion. Workers are the initial consumers of wood, and they feed the other castes. Early stage nymphs ingest wood,

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and soldiers rely on workers for proctodeal food. By using this rationale, early stage nymphs, soldiers, and workers should have similar protist communities. (20 分)

5. Previous studies indicate subterranean termite protist communities are qualitatively similar within termite species but differ in relative species abundance between castes. We investigated protist communities from four castes of *Reticulitermes flavipes* (Kollar), *Reticulitermes virginicus* (Banks), and *Reticulitermes hageni* Banks. (10 分)

二、 問答題：請說明科學期刊論文所含蓋之七大項及其主要內涵。(10 分)