

國立嘉義大學九十四學年度博士班入學考試

所別：農學研究所
組別：丙組（林業組）
科目：農學專業英文

1. 請翻譯下列短文（25%）

Far from cleaning up the atmosphere, the Amazon is now a major source for pollution. Rampant burning and deforestation, mostly at the hands of illegal loggers and of ranchers, release hundreds of millions of tons of carbon dioxide into the skies each year. Brazil now ranks as one of the world's leading producers of greenhouse gases, thanks in large part to the Amazon, the source for up to two-thirds of the country's emissions.

"It's not the lungs of the world," said Daniel Nepstad, an American ecologist who has studied the Amazon for 20 years. "It's probably burning up more oxygen now than it's producing." Scientists such as Nepstad prefer to think of the world's largest tropical rain forest as Earth's air conditioner. The region's humidity, they say, is vital in climate regulation and cooling patterns in South America — and perhaps as far away as Europe. The Amazon's role as a source of pollution, not a remover of it, is directly linked to the galloping rate of destruction in the region over the last quarter-century.

Brazil's portion accounts for more than half the entire ecosystem. Official figures show that, on average, 7,500 square miles of rain forest were chopped and burned down in Brazil every year between 1979 and 2004. Over the 25 years, it's as if a forest the size of California had disappeared from the face of the Earth.

2. 請翻譯下列短文（25%）

Expanding livestock production is one of the main drivers of the destruction of tropical rain forests in Latin America, which is causing serious environmental degradation in the region. For the first time, the UN agency published a map showing the projected expansion of crop and pasture land use into tropical forests in the region up to 2010.

"Ranching-induced deforestation is one of the main causes of loss of some unique plant and animal species in the tropical rainforests of Central and South America as well as carbon release in the atmosphere," said Henning Steinfeld, Chief of the FAO Livestock Information, Sector Analysis and Policy Branch.

"Alternatives to extensive livestock production in Latin America need to be found urgently. Predicting the location of land-use change in the tropics may help decision-makers to better assess the impact of different land-use scenarios and to develop policies that support conservation," he said. FAO estimates that forest cover in Central America will be reduced by 2.4 million ha or 1.6 percent

annually until 2010, in South America forest area will decrease by 36 million ha or 0.5 percent annually. Growing demand for animal protein is one of the main driving forces behind the expansion of extensive livestock production. The projected expansion trend may represent a serious threat for certain tree species, for example large-leaved mahogany in Ecuador, Peru, Bolivia and Brazil, FAO said. Considerable deforestation is also projected in Andean forest remnants as well as in the secondary forest of Eastern Brazil.

3. 請翻譯下列英文（25%）

Woodceramics are a newly developed porous carbon material obtained by impregnating carbonized wood-based materials with phenol resin in a vacuum furnace. These materials have superior dielectric and heating properties, and their use in several applications is currently being investigated, such as in structural, heat resistant, filtering, electrical shielding, and acoustic materials. However, woodceramics are quite brittle and exhibit a maximum bending strength less than 30MPa, so they do not have sufficient strength to be used as a structural material in competition with industrial materials such as metals and carbon/carbonfiber composites. Woodceramics can be positioned between traditional industrial materials such as charcoal and more modern high-tech materials such as metals, carbon-fiber, and graphite materials.

4. 請翻譯下列英文（25%）

Chromated copper arsenate (CCA)-treated wood removed from service can be disposed of either by landfill or incineration. Most spent treated wood is currently placed in approved landfills, although a shortage of landfill space is anticipated with increasing removal of treated wood from service in the future. Public concern about environmental contamination from chemicals leaching from treated wood placed in landfills has been increasing. Incineration is generally not an acceptable means of disposal due to the potential toxicity of chemicals emitted from the treated wood and from metals remaining in the ash. Recovery of CCA components from spent treated wood by chemical extraction has been the focus of several international research groups.