

※ 注意：請於答案卷上依序作答，並應註明作答之題號。

- 一、在森林區域因天然災害所形成之崩塌地，為何要恢復植生覆蓋？試闡述理由。(10分)
- 二、疏伐作業對台灣現有人工林之經營有何重要性？試闡述之。(10分)
- 三、何謂森林認證制度 (forest certification system)，此制度如何達成其預定目標？試述之。(10分)
- 四、為減緩溫室效應，可應用哪些森林經營措施，試述其理由？(10分)
- 五、試繪圖說明日雨量，月雨量以及年雨量在其頻度分佈上之特性。(10分)
- 六、試述降雨量與逕流量關係式中，逕流係數所代表的意義是甚麼。(10分)
- 七、說明松科 (Pinaceae) 植物的特徵，並寫出重要用材樹木 5 種，請用檢索表加以區分。(10分)
- 八、保育策略中，移地保育的涵義為何，其跟離地保育有何關連，試說明之。(10分)
- 九、請將下段文章翻譯成中文 (20分)

Lignin is of fundamental importance for the development of higher plants. It constitutes a major component of the terrestrial biomass and has great economic and ecological relevance. For the production of high-quality paper, lignin has to be removed from the cellulose by chemical pulping. This process is toxic, energy consuming and results in a low biomass utilization. For the pulp industry it would be very beneficial to process trees which have either less lignin or a modified lignin that is easier to separate from the cellulose. In addition, lignin limits forage crop digestibility and is, therefore, problematic in the agro-industrial exploitation of various plant species. On the other hand, lignin contributes to the calorific value of wood because of its high carbon content. For all these reasons, numerous biotechnological research programs are focused on the modification of the lignin content or the lignin composition in plants.