一、翻譯(20%，每小題 2%)

1. Environmental Engineering
2. Greenhouse effect
3. Microorganism
4. Solid waste
5. Fly ash
6. Smog
7. Total suspended particulates
8. Soil remediation
9. Pollution prevention
10. Volatile organic compounds

二、試舉出兩種地下水有機物污染整治方法，並說明其原理。(13%)

三、試述光化學煙霧形成之機制。(10%)

四、一培養皿中，微生物之初始數量爲 1×10^4 個，若此微生物生長之世代時間(generation time)爲 2 小時，則 4 小時及 10 小時後，培養皿中分別會有多少微生物數？($X=2^nX_0$)。(12%)

五、試述垃圾焚化處理之原理，並繪出典型都市廢棄物焚化爐之處理流程。(10%)

六、請完整翻譯下列文章，並對其內容提出您的專業見解。(35%，翻譯 15%，專業見解 20%)

Based on Energy Statistics Manual in 2008 published by Bureau of Energy of Ministry of Economic Affairs, the national energy structure in demand side is still mainly comprised of fossil fuels, such as coal and coal products (32.42%), crude oil and petroleum products (49.46%), natural gas (9.42%), etc. Produced by burning fossil fuels, greenhouse gases (mainly carbon dioxide) have been identified as the main cause for global climate change, while emissions in Taiwan in 2008, a total of approximately 270 Mt (million tone) of carbon dioxide, accounting for about 1% of global emissions, with annual growth rate of more than 5% over the past 20 years, is really shocking. Renewable energy is considered non- or less-polluting sustainable energy, but the proportion of renewable energy on supply side in Taiwan is still very low, only 0.29% for the usual hydro, and only 0.04% for solar photovoltaic and wind power. In addition, since most of the aforementioned fossil fuels are imported from abroad, and mostly from the political instable countries in the Middle East or Southeast Asia, security of energy supply is a major worry for Taiwan.
(資料來源：Chen, et al., Renewable and Sustainable Energy Reviews, 14, 2511-2528, 2010)