

國立花蓮教育大學地球科學研究所九十七學年度招生考試試題

考試科目：專業英文

注意事項：

- (一)試卷共 3 頁 2 大題，合計 100 分。
- (二)請用橫式作答，不必抄題。
- (三)答案請依序寫在答案卷上，並於題號欄中標明題號。
- (四)試題隨同答案卷一併繳回。

一、請將下列英文短文翻譯成中文 (共 4 題, 每題 15 分, 合計 60 分)

1. Sea levels may rise faster than projected

A new study says sea level may rise faster than scientists currently project. That's because dams built in the 20th century have captured and stored a great deal of water on land. That has slowed the rate of sea level rise and masked the effect of expanding seawater and melting ice. The study suggests that ice has actually been melting faster than we've realized. Current estimates, of a foot or two of sea level rise by the end of the century, could be low by several feet. (From National Public Radio, March 13, 2008)

2. The pre-Tertiary metamorphic complex is exposed mainly in the eastern part of the Central Range and constitutes the eastern subprovince of the Central Range geologic province. It forms the oldest geologic element of Taiwan. The metamorphic rocks in the complex are represented by an assemblage of metasedimentary and metavolcanic rocks composed largely of schists and metamorphosed limestone. Subordinate amounts of gneisses, migmatite, amphibolite, serpentinite,

(續背面)

and mafic to ultramafic igneous rocks are also found in the metamorphic rocks. All these rocks are grouped on the legend under the general stratigraphic term “Tananao Schist”. (From Ho, C. S. 1986, General Geologic Map of Taiwan)

3. Men, the stereotype has it, never ask for directions. Now many of them have an excuse, in the form of a portable navigation device. Nearly 35 million of these hand-held or dashboard-mounted units will be sold around the world this year, twice as many as in 2006, making personal navigation one of the fastest-growing areas in consumer electronics. The latest versions of these gadgets do more than simply show the stubborn or shy the way. The industry is beginning to focus on the services portable navigation devices could provide, prompting a scramble for the ownership of the digital maps they use.

4. In the world of environmental activism, there is a good rule of thumb. If an energy source comes out of the ground it is probably bad (think coal, oil, natural gas and, in the view of many, uranium). If it does not, then it is probably good (think wind, waves, solar and biofuels). But there is an exception - geothermal energy. The problem is that traditional geothermal power relies on volcanism. Fine if you live in Iceland or New Zealand. Not so good in a geologically passive place such as Germany. Dig deep enough and geothermal energy is everywhere. That is because the temperature increases by 25-30°C for every kilometer you go down. Useful electricity generation needs a temperature above 150°C.

二、請將下列中文短文翻譯成英文 (共 2 題, 每題 20 分, 合計 40 分)

1. 地球的組成由地表向下, 就組成物質而言, 概分為三大部分: 地殼、地函、地心。但是就物質的強度及行為表現而言, 卻可分為岩石圈、軟流圈、中層圈及地心。岩石圈是由冷而剛硬的岩石所構成, 包括了地殼及一部份的上地函, 其厚度約為 100 公里。岩石圈可再細分為許多獨立的單元, 每個單元有它自己的運動方向及速度, 這每個單元即稱之為「板塊」。
2. 趕快抓起你的冬衣和跑鞋吧! 今年這項熱門地出人意外的“南極馬拉松”在二〇〇八年三月五日開跑。在長達四十二點一九五公里的賽程中, 來自世界各地的長跑好手將親身體驗冰凍的氣溫、刺骨的寒風和崎嶇難行的地形。跑步時瞥見企鵝、海豹和鯨魚使這個經驗更令人難忘!