

1. Please describe the main differences between the hypothesis of “Continental Drift” and theory of “Plate Tectonics”. (10 pts)
2. Based on global observations, the ocean floor at age of 60 Ma is 5 km deep. For older ocean floor of 120 Ma, the depth of the floor is expected to be ____? According to the instantaneous half-space cooling model and isostatic compensation, the “predicted” depth for such 120-Ma-old ocean floor is more likely be ____? Choose the closest answer from below: (A) 5 km unchanged; (B) slightly deeper as 5.5 km; (C) approaching to 7 km; (D) doubled to 10 km. (5 pts each, 10 pts total)
3. Please explain
 - (1) Bouguer anomaly
 - (2) Lherzolite
 - (3) Mantle transition zone
 - (4) Elastic thickness of lithosphere(5 pts each, 20 pts total)
4. What are the main composition of the Earth’s core? As the Earth cools, the size of inner core should be growing or not? Please draw a depth-temperature diagram to illustrate/explain your arguments. (10 pts)
5. 請舉數例說明地震學的發現對於板塊構造學說的貢獻 (15 pts)
6. 請說明地震波頻譜中的 corner frequency 與地震規模大小的關係, 以及其所依據的基本原理 (10 pts)
7. 請說明地震波中兩種體波(body waves)與兩種表面波(surface waves)的特性, 並比較其間的差異 (15 pts)
8. 請解釋 (1) Seismogenic zone (2) Earthquake directivity (5 pts each)

試題隨卷繳回