

國立臺灣師範大學 100 學年度碩士班招生考試試題

科目：專業英文

適用系所：海洋環境科技研究所

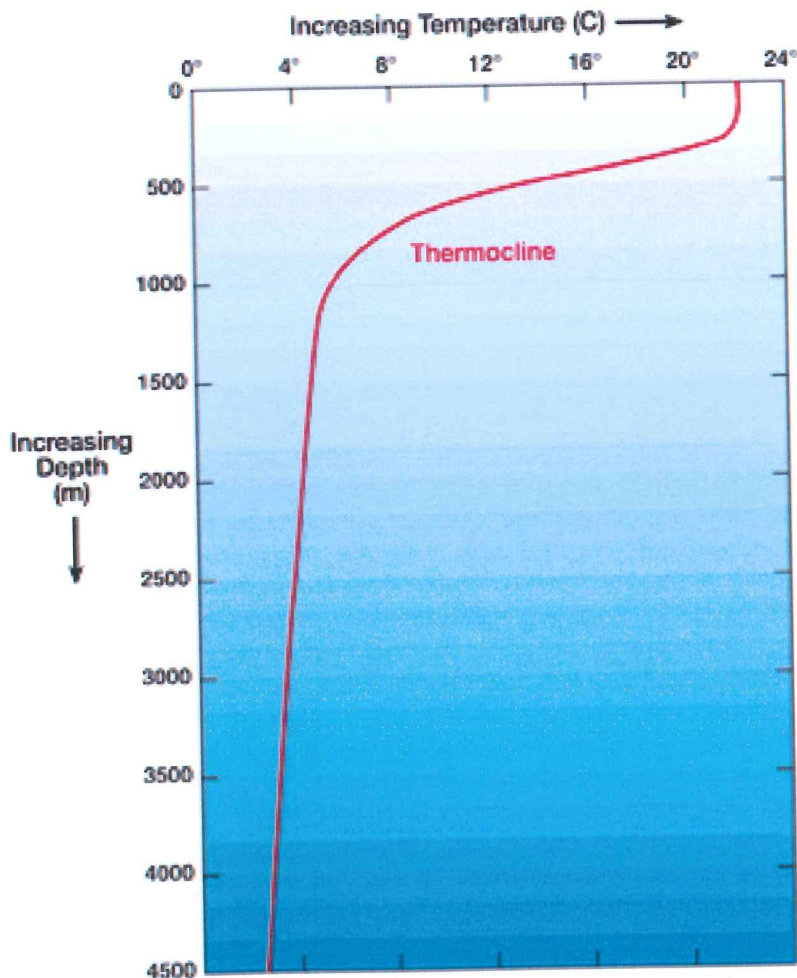
注意：1.本試題共 2 頁，請依序在答案卷上作答，並標明題號，不必抄題。2.答案必須寫在指定作答區內，否則不予計分。

一、試將下列敘述翻譯或改寫為英文（語意正確即可，不需要逐字翻譯，30 分）

黑潮將來自熱帶的溫暖海水帶往寒冷的北極海域，將冰冷的極地海水溫暖成適合生命生存的溫度。黑潮得名於其較其他正常海水的顏色深，這是由於黑潮內所含的雜質和營養鹽較少，陽光穿透過水的表面後，較少被反射回水面。黑潮的流速相當的快，可提供迴流性魚類一個快速便捷的路徑，向北方前進，故黑潮流域中可捕捉到為數可觀的迴游性魚類，及其他受這些魚類所吸引過來覓食的大型魚類。

(選摘自維基百科)

二、請依據下圖中所示意的內容概念與呈現數據資料，用英文陳述說明 (30 分)



國立臺灣師範大學 100 學年度碩士班招生考試試題

- 三、請將下列海洋科學相關英文敘述翻譯為中文（語意正確即可，不需要逐字翻譯，40 分）

The carbon cycle in the ocean has two main parts, a physical part due to CO₂ dissolving into sea water, and a biological part due to phytoplankton converting CO₂ into carbohydrates. Carbon dioxide dissolves into cold ocean water at high latitudes. It is then carried to the deep ocean by sinking currents, where it stays for hundreds of years. Eventually mixing brings the water back to the surface. The ocean emits carbon dioxide into the tropical atmosphere. This system of deep ocean currents is the *marine physical pump* for carbon. It helps to pump carbon from the atmosphere into the sea for storage. Phytoplankton in the ocean use CO₂, sunlight, water, and nutrients to produce carbohydrates and oxygen. Zooplankton eat the phytoplankton contributing to the oceanic food web leading to fish. Dead phytoplankton and zooplankton sink deeper into the ocean, and some land on the sea floor. The material from dead organisms is called reduced carbon. A small fraction of the reduced carbon is eventually buried and stored in sediments for millions of years. But most of the reduced carbon in and below the sea floor is used by animals and bacteria, and returned to the deep-ocean part of the carbon cycle. This is the *marine biological pump* for carbon.