國立中山大學109學年度
碩士暨碩士專班招生考試試題

科目名稱：科學英文【海科系碩士班甲組、乙組】

—作答注意事項—

考試時間：100分鐘

- **考試開始鈴響前不得翻閱試題，並不得書寫、劃記、作答。**請先檢查答案卷（卡）之應考證號碼、桌角號碼、應試科目是否正確，如有不同立即請監試人員處理。
- **答案卷限用藍、黑色筆(含鉛筆)書寫、繪圖或標示**，可攜帶橡皮擦、無色透明無文字墊板、尺規、修正液（帶）、手錶(未附計算器者)。每人每節限使用一份答案卷，不得另攜帶紙張，請衡酌作答。
- 答案卡請以2B鉛筆劃記，不可使用修正液（帶）塗改，未使用2B鉛筆、劃記太輕或污損致光學閱讀機無法辨識答案者，其後果由考生自行負擔。
- 答案卷（卡）應保持清潔完整，不得折疊、破壞或塗改應考證號碼及條碼，亦不得書寫考生姓名、應考證號碼或與答案無關之任何文字或符號。
- 可否使用計算機請依試題資訊內標註為準，如「可以」使用，廠牌、功能不拘，唯不得攜帶具有通訊、記憶或收發等功能或其他有礙試場安寧、考試公平之各類器材、物品（如鬧鈴、行動電話、電子字典等）入場。
- **試題及答案卷（卡）請務必繳回，未繳回者該科成績以零分計算。**
- **試題採雙面列印，考生應注意試題頁數確實作答。**
- **違規者依本校招生考試試場規則及違規處理辦法處理。**

國立中山大學109學年度碩士暨碩士專班招生考試試題

科目名稱：科學英文【海科系碩士班甲組、乙組】　　題號：458001

※本科目依簡章規定「不可以」使用計算機(問答申論題)　　

英文翻譯成中文（1 - 4每題10分，5 - 8每題15分，共100 分）

1. Seawater is slightly basic (meaning pH > 7). Ocean acidification involves a shift of the pH towards neutral rather than acidic conditions (pH < 7).

2. In the concept of the ecosystems, the biological and physical components of the environment are a single interactive system.

3. Primary productivity is usually expressed as units of energy per unit area: kilocalories per square meter. However, primary productivity may also be expressed as the mass of dry organic matter: grams per square meter.

4. The primary greenhouse gases in Earth atmosphere are water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and ozone (O_3).

5. Photosynthesis is a process used by plants, algae and other organisms to convert light energy and carbon dioxide (CO_2) to chemical energy. The initial product is a 3-carbon sugar that can be used as precursor for biosynthesis of fatty acids, starch, amino acids and other molecules.

6. The photic zone of the ocean is the uppermost layer of the ocean in which photosynthesis can occur. Light with long wavelengths is more difficult to penetrate seawater than short wavelengths, therefore blue light is much more abundant than red light in the lower parts of the photic zones.

7. On average, seawater in the open oceans of the world has a salinity of about 3.5%. This means there are about 35 grams of dissolved salts in one kilogram of seawater, predominately sodium (Na^+) and chloride (Cl^-) ions.

8. Tides are the rise and fall of sea levels caused by the combined effects of the gravitational forces exerted by the Moon and the Sun, and the rotation of the Earth. While tides are usually the largest source of short-term sea-level fluctuations, sea levels are also subject to forces such as wind and barometric changes.