

Translate the following words into Chinese. (1% each)

- (1). Globalization, (2). Sanction, (3). Resilient, (4). Sustainability, (5). Maritime, (6). Jurisdiction, (7). Property, (8). Governance, (9). Archipelago, (10). Fisheries closure

(11). Translate the follow passage into CHINESE. (15%) (Source: Whaling and its controversies: Examining the attitudes of Japan's youth. Bowett, J. and P. Hay. 2009. Marine Policy 33:775-783.)

Pro-whalers in Japan have backed their arguments by: cultural claims, social claims, scientific claims, and sustainability claims. Anti-whaling proponents have long advanced arguments that are sourced to animal welfare and other ethical criteria, viewing whaling as uncivilized, barbaric and cruel, as well as citing the “unscientific” nature of lethal sampling and the potential dangers surrounding the hunting of some cetacean species whose population structures are still unknown. Currently, Japan is whaling for “scientific purposes” in the context of a “Japanese Whale Research Program under Special Permit in the Antarctic”, and since 1994 in the context of a corresponding program for the Northwest Pacific (JARPN), in accordance with Article VIII.I of the ICRW, whilst also maintaining small scale coastal whaling, hunting species not subject to the ICRW.

(12). Translate the follow passage into CHINESE. (15%) (Source: Importance of fish biodiversity for the management of fisheries and ecosystems. Hiddink, et al., 2008. Fisheries Research 90: 6-8.)

The European Union has made substantial progress in recent decades in developing the legislative framework for conservation and recovery of fish biodiversity; the European Parliament and Council have passed several regulations designed to protect fish stocks, conserve fish biodiversity, and move towards an ecosystem-based approach to fisheries management. The EU is also committed to many international fishery and biodiversity agreements. Despite the legislative progress, 22-53% of the exploited fish populations in north-east Atlantic waters have fallen below safe biological limits and many of these continue to be exploited at levels that hamper recovery; moreover some of the populations for which recovery plans have been developed and implemented have not recovered, partly because of high-by-catches in fisheries targeting other species.

Answer the comprehension questions below. For multiple-choice questions, select the SINGLE correct answer 單選.

A long war of the waters. (Source: The Economist. 2011. January 7.)

Two years ago Somalia's weak transitional government agreed to let foreign navies chase pirates into its territorial waters. Since then, the sea off Somalia's coast has been an increasing number of warships mainly from rich countries trying—with partial success—to fend off pirates from the poorest. Ships steaming along maritime corridors in convoys are safer than they were. So the pirates are being forced to venture ever farther out into the Indian Ocean to seize their booty. This means that the remoter reaches are still very dangerous.

Plainly there is no purely naval way to stop the pirates. Somalia's coast is more than 3,000km long. They seem unafraid of the warship. If accosted, the pirates usually dump their guns and grapple-hooks in the sea. The patrolling navies are reluctant to arrest them because of the legal complexities. On the rare occasions when pirates are taken aboard, they are usually given medicine, water and enough fuel to go back to Somalia. Within days they will set off again to seek their prey.

The European Union (EU) has signed a deal with Kenya to imprison captured pirates. But there are concerns that Kenya is asking for too many favors in return for embarking on what is bound to be a messy legal process. If the EU and other concerned countries could get the government of Tanzania, the Seychelles and other countries in the region to agree to prosecute pirates in their own courts, the legal deterrent against them would be stronger.

The pirates' main advantage is the lawlessness of Somalia which has long been enmeshed in civil war. Western governments fear that if they were to send their security forces to attack towns such as Haradheere, a pirate haven, the Islamist fighters of the Shabab militia, which control much of south and central Somalia and is linked to Al-Qaeda, might be strengthened.

- (13). The subject of these passages belong to all the following categories EXCEPT (a) maritime, (b) international affair, (c) politics, (d) coastal management, (e) homeland security of EU (5%)
- (14). What are the causes of the difficulty in stopping the pirates in the Somalia's coast? (10%)
- (15). Where does this maritime turmoil take place? (a) Central Pacific, (b) Western Atlantic, (c) West Africa, (d) Mediterranean Sea, (e) East Africa (5%)

Answer the comprehension questions below. For multiple-choice questions, select the SINGLE correct answer 單選.

Marine renewable energy: The ecological implications of altering the hydrodynamics of the marine environment. (Source: Shields *et al.* 2011. *Ocean & Coastal Management* 54: 2-9.)

Many countries now recognize the need for mitigation of climate change induced by human activities and have incorporated renewable energy resources within their energy policy. There are extensive resources of renewable energy within the marine environment and increasing interest in extracting energy from locations with either large tidal range, rapid flow with and without wave interaction, or large wave resources. However, the ecological implications of altering the hydrodynamics of the marine environment are poorly understood. Ecological data for areas targeted for marine renewable developments are often limited, not least because of the considerable challenges to sampling in high energy environments. In order to predict the scale and nature of ecological implications there is a need for greater understanding of the distribution and extent of the renewable energy resource and in turn, of how marine renewable energy installations may alter energy in the environment. Regional ecological implications of a MREI need to be considered against the greater and global ecological threat of climate change. Finally, it is recommended that the identification of species and biotopes susceptible to the removal of hydrokinetic energy could be a suitable strategy for understanding how a MREI may alter flow conditions.

- (16). What does the acronym MREI stand for? (2%).
- (17). This passage is associated with all of the following EXCEPT
(a) Green energy; (b) Avoiding climate change; (c) Ecology; (d) Tidal flow; (e) Dispersal and settlement of juvenile stage of marine biological species. (2%)
- (18). Which one of the following areas is related to the subject of this passage? (a) Sun-Moon Lake; (b) lagoon; (c); coral reef; (d) Kuroshio (or black current); (e) tide pool. (2%)
- (19). The main theme of this passage is about (a) the effect of the removal of kinetic energy from the marine environment; (b) the current state of the global marine environment; (c) the technique of constructing wave energy devices; (d) coastal management; (e) predicting production of green energy. (2%)
- (20). What information is NOT needed for predicting the effects of MREIs to the environment? (a) Detail design of the wave energy device; (b) Distribution of the species in the region; (c) Current pattern; (d) Nature of the biotope; (e) Sediment. (2%)
- (21). Write an ENGLISH essay addressing the potential economic and ecological impacts of artificial reefs. (30 points)

100 年度-海洋環境與管理考題

1. 全球化趨勢，不再侷限於以國家作為行動主體，而是以整體的全球視野看待國際多元體系，依此觀點討論兩岸共同合作維護海域環境之可行性和機制。(25%)
2. 台灣西海岸工業化可能造成生物棲地破壞，保育團體特別關注對中華白海豚生存之影響，試闡論應該如何達成保育目的之同時，亦可維持工業化所順應之經濟發展目標。(25%)
3. 行政院國家永續發展委員會成立於 1997 年，該會積極建立及推動環境、經濟及社會之海洋永續發展指標，說明在沒有海洋部專責機構下，應如何達成海洋環境保護及產業發展目標。(25%)
4. Translate the following into Chinese,
 - (1) The many uses of our seas and their coastlines are threatened or diminished by contaminants, wastes, and disturbance from human activities, particularly pollutants from land-based sources. Over the years, there have been many examples of human illnesses from shellfish poisoning or toxins; of the reduced marketability of fisheries products due to known or suspected contamination. (10%)
 - (2) Marine environmental quality is the condition of a particular marine environment measured in relation to each of its intended uses and functions. It is measured using sensitive indicators of natural condition and change. Such measures are interpreted using objectives and limits set by environmental, health, and resource agencies. (10%)
 - (3) A) Biodiversity (1%)
B) Stakeholder (1%)
C) Ecosystem-based management (1%)
D) Point source contamination (1%)
E) Environmental impact assessment (1%)

A: 申論題: 共 4 題，每題 20 分。

1. 集合行為理論(collective action)如何解釋共有地悲劇(the Tragedy of Commons)與提出那些解決的推論? (20 分)
2. 試舉例解釋跨國公司之政治經濟行為如何影響大型生態系的變遷? (20 分)
3. 中華白海豚保育要有衝擊減緩(mitigation)、調適(adaptation)與補償(compensation)等措施，請問依使用者付費與有能力者付費的原則，這些保育措施成本該由誰來承擔? (20 分)
4. 為何保險無法解決“南方”國家(South)貧窮人民過度使用自然資源的風險? (20 分)

B: 名詞解釋: 共 4 題，每題 5 分

1. Externality (5 分)
2. Law of Demand(5 分)
3. Common-property Resources(5 分)
4. Institution(5 分)

漁業管理科考試題目

- 一、 漁業資源具有可再生 (renewable) 的特性，不像非生物資源一般，開採只會不斷耗損。因此，漁業資源只要能合理開發利用，並給予適當保育，資源便得以永續。請利用常用的 Russell 公式，來說明漁業資源受那四項因子影響而增加和減少 (請詳述各因子)，又應如何管理，以使資源能永續。(25%)
- 二、 MSY 是漁業管理常用的辭彙，請解釋何為 MSY。許多國際漁業管理組織的公約都把「維持漁業資源量 (B) 在能提供 MSY 的水準」，當作保育的目標，這個資源水準稱作 B-msy；為達此目標，管理組織要把漁捕壓力 (F) 管理到 (或維持在) 能生產 MSY 的水準，這個漁捕水準稱作 F-msy。參考這個觀念，請用 B-current (目前的資源量)、F-current (目前的漁捕壓力)、B-msy、F-msy 四個名辭，說明兩個過漁狀態 overfishing 及 overfished 的意義。(20%)
- 三、 關切瀕危物種的華盛頓公約 (CITES)，在 2010 年曾討論將大西洋黑鮪列入公約附錄一 (禁止國際貿易) 的議題。我國的立場是支持應加強對大西洋黑鮪資源的管理，但反對由 CITES 來負責，而應由區域性國際組織 (RFMO) 來管理。其中一個原因是，只有 RFMO 才有足夠的機制，可以負責「詳實的統計資料蒐集」、「正確的資源科學評估」、以及「廣面的管理措施制訂」，這是漁業管理的三個重要工作項目。請分別闡述以下問題。
 1. 一般漁業管理需要的統計資料有那些？各有何用途？(20%)
 2. 在作資源評估時，常會用到 CPUE。其代表何意義？如何計算？其變動又如何代表資源的趨勢？(10%)
 3. 「廣面」的管理措施制訂，係指可以從漁業的各方面來切入管理，而不是單單禁止買賣。請舉例說明可以從那些方面制訂管理措施，以及其內容與用意。(25%)

壹、名詞釋義（以一九八二年聯合國海洋公約文本為準）。以下共十題，每題三分，本部分滿分三十分。

一、區域（the Area）

二、海洋環境污染

三、締約國

四、正常基線

五、內水

六、大陸架或大陸礁層

七、公海

八、島嶼

九、閉海或半閉海

十、人類共同遺產

貳、簡答題。以下共九題，每題配分不同，本部分滿分五十分。

一、杜魯門總統在 1945 年發出兩個對海洋法發展有重大影響的宣言，各是什麼？其各自所造成之影響又為何？（4%）

二、領海內他國船舶享有「無害通過權」，請問「通過」之定義為何？此一定義與「無害」之間的關係為何（6%）

三、一九八二年聯合國海洋法公約所創設之「海峽過境通行」制度在何種地理及法律條件下會不適用？（8%）

四、在一九八二年聯合國海洋公約規範下，採捕溯河產卵魚種及降河產卵魚種之基本原則為何？（6%）

五、一九八二年聯合國海洋法公約下，人工島嶼、設施和結構的法律地位為何？

沿海國對在其專屬經濟區內或大陸礁層上之人工島嶼、設施和結構擁有何種權利？（6%）

六、一九八二年聯合國海洋法公約制度下，人類共同遺產之概念如何表現於大陸礁層制度中？（4%）

七、沿海國對他國在其專屬經濟區內之海洋科學研究活動擁有什麼權利？請簡述之。（6%）

八、一九八二年聯合國海洋法公約第十五部分為「爭端解決」，請問「爭端」之意涵為何？（4%）

九、一九八二年聯合國海洋法公約下創設三個機關，各為何？其主要功能各為何？（6%）

參、申論題。以下共兩題，每題十分。本部分滿分二十分。

一、一個群島國在其內水、群島水域、領海中均享有主權，但其內涵或受到的限制各有不同。試申論之。（10%）

二、大陸礁層（架）與專屬經濟區（海域）法律制度之設立都是為了保障沿海國對自然資源的權利。請問此二制度間有何不同之處？試申論之。（10%）