

# 國立臺北大學九十七學年度碩士班招生考試試題

系(所)別：自然資源與環境管理研究所

組別：甲、乙組

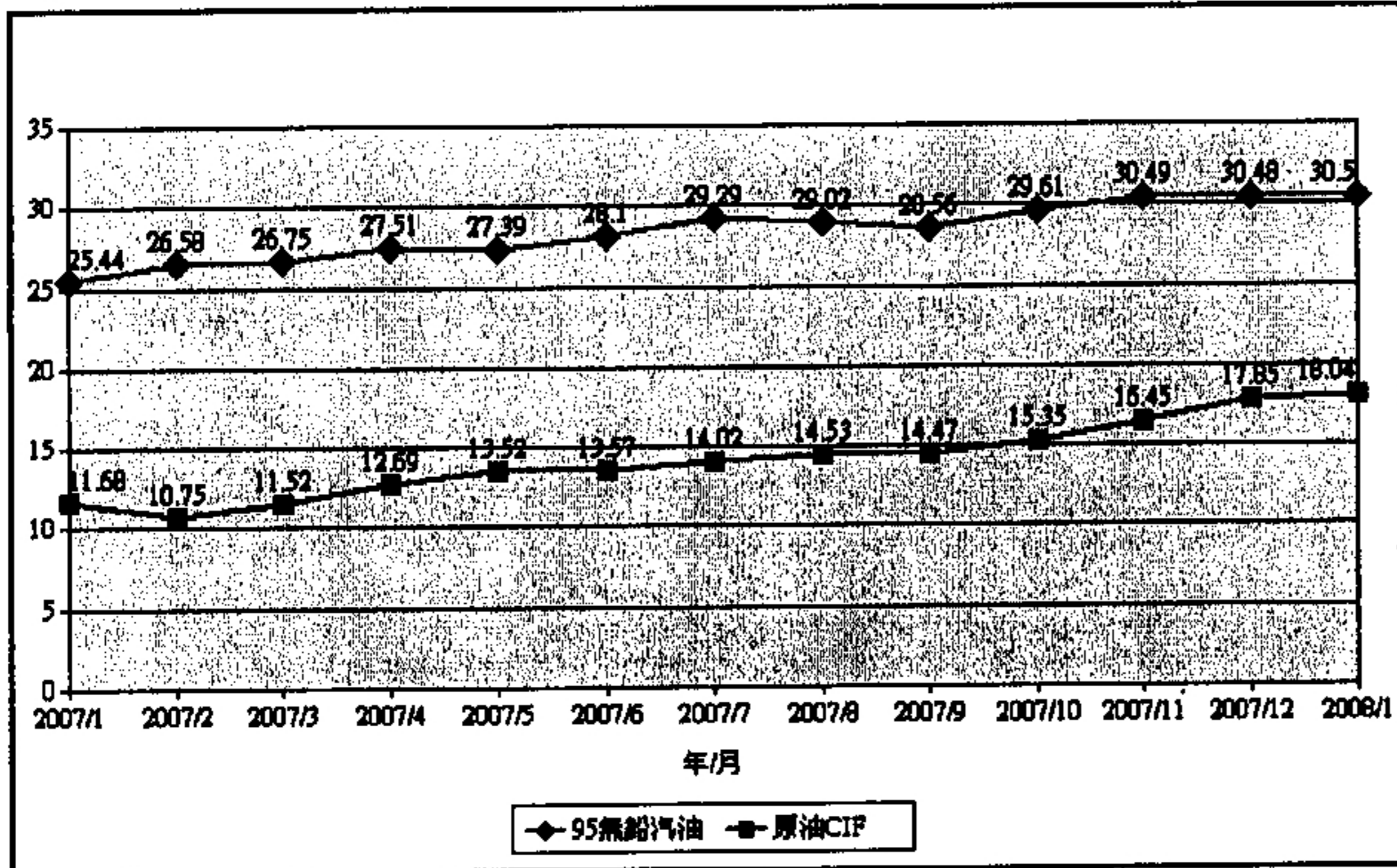
科目：自然資源與環境管理問題評析

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一、請參考圖一與表一中之油價資訊，回答下列問題(本題佔20分)：

- 請比較圖一中所呈現2007年1月至2008年1月間之進口原油CIF價格與國內95無鉛汽油的價格上漲幅度，各為多少百分比？您是否同意國內油價應該反映國際油價上漲趨勢的看法？原因為何？(10%)
- 請就表一中之我國與世界其他國家油價與稅率之資訊，彙整至少四項您所觀察到的我國油價相關資訊的特點(10%)。



資料來源：經濟部能源局，油價資訊管理與分析系統，<http://210.69.152.10/oil102/>

圖一 進口原油 CIF 價格與國內主要油品價格比較趨勢圖 (台幣/公升)

表一 世界主要國家高級無鉛汽油價格及稅率

國別	日期		高級無鉛汽油 (新台幣元/公升)			
			價格	稅前價	稅金	稅率%
中華民國	2008	2	30.70	21.94	8.76	39.9
日本	2008	2	47.63	29.64	17.99	60.7
南韓	2008	2	57.32	27.43	29.89	109.0
新加坡	2008	2	44.77	32.82	11.95	36.4
美國	2008	1	27.36	23.38	3.98	17.0
加拿大	2008	1	36.73	26.29	10.45	39.7
德國	2008	2	64.60	24.07	40.53	168.4
希臘	2008	1	51.66	27.86	23.80	85.4
義大利	2008	2	61.47	25.23	36.23	143.6
荷蘭	2008	1	72.64	30.43	42.21	138.7
西班牙	2008	2	49.15	24.10	25.04	103.9
英國	2008	2	63.85	23.23	40.62	174.9
法國	2008	2	62.31	24.35	37.96	155.9
平均價格			43.57	23.05	22.68	97.52

試題隨卷繳交

接背面

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註：(1) 一美元等於 31.39 新台幣元。

(2) 中華民國之高級無鉛汽油為 95 無鉛。

(3) 由於部份國家稅金不詳，故平均價格中稅前價不等於價格減稅金。

資料來源：經濟部能源局網站，<http://www.moeaboe.gov.tw/opengovinfo/Plan/all/WorkStatisticsAll.aspx>

二、The purpose of this question is to test both your professional knowledge in the field and your ability in English comprehension as well as Chinese writing. The following paragraphs provide all the information you need for your answer, please read it, and use the information provided to write a short explanation in Chinese for the term underlined in each of the paragraph (10 points each, totally 30 points).

1. This study defines energy security risk as being the degree of probability of disruption to energy supply occurring. A forthcoming IEA report on the interactions between energy security and climate change policy uses an analogous definition of energy insecurity as the loss of economic welfare that may occur as a result of a change in the price and availability of energy? (Bohi and Toman, 1996 cited in: IEA, 2007).

Energy security risks can be categorised as:

- a) Energy market instabilities caused by unforeseen changes in geopolitical or other external factors, or compounded by fossil fuel resource concentration;
- b) Technical failures such as power outages? (blackouts and brownouts) caused by grid or generation plant malfunction; and
- b) Physical security threats such as terrorists, sabotage, theft or piracy, as well as natural disasters (earthquakes, hurricanes, volcanic eruptions, the effects of climate change etc.). (Source: IEA Information Paper, 2007, [http://www.iea.org/textbase/papers/2007/so\\_contribution.pdf](http://www.iea.org/textbase/papers/2007/so_contribution.pdf).)

2. The post-2012 climate framework is under discussion. The use of "sustainable development policies and measures? (SD-PAMs) has been proposed as a possible type of action or commitment for some developing countries in the post-2012 framework (Winkler et al 2002, South Africa 2006). ?

At this stage, the definition of SD-PAMs remains open. One proposed definition (Winkler et al. 2002) suggests that they should be domestically driven, could cover diverse approaches in many different sectors and have a development focus. Thus, SD-PAMs could include a large range of national or sectoral policies with a direct impact on GHG emissions such as increasing electrification rates, improving energy efficiency or encouraging re/afforestation activities. This definition could also encompass policies and measures with a more indirect climate benefit, such as increasing the availability of information/training on climate change or modifying urban planning procedures to reduce the negative impact of urban developments on local conditions and GHG emissions (Source: OECD/IEA paper, COM/ENV/EPOC/ IEA /SLT(2007)5, <http://www.iea.org/textbase/papers/2007/SD-PAMs.pdf>)

3. The principle of 'common but differentiated responsibility' evolved from the notion of the common heritage of mankind? and is a manifestation of general principles of equity in international law. The principle recognises historical differences in the contributions of developed and developing States to global environmental problems, and differences in their respective economic and technical capacity to tackle these problems. Despite their common responsibilities, important differences exist between the stated responsibilities of developed and developing countries. The *Rio Declaration* states: in view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.? Similar language exists in the *Framework Convention on Climate Change*; parties should act to protect the climate system on the basis of equality and in accordance with their common but differentiated responsibilities and respective capabilities.?

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The principle of common but differentiated responsibility includes two fundamental elements. The first concerns the common responsibility of States for the protection of the environment, or parts of it, at the national, regional and global levels. The second concerns the need to take into account the different circumstances, particularly each State's contribution to the evolution of a particular problem and its ability to prevent, reduce and control the threat. (Source: the Centre for International Sustainable Development Law (CISDL), 2002, [http://www.cisd.l.org/pdf/brief\\_common.pdf](http://www.cisd.l.org/pdf/brief_common.pdf))

三、以下內容摘自：World Bank, (2000), *Where Is the Wealth of Nations?-- Measuring Capital for the 21st Century*, The International Bank for Reconstruction and Development / The World Bank, Washington, DC。請閱讀後以中文回答以下問題。(本題佔25分)

1. 請翻譯 *the wealth of nations*。依據摘錄之內容，*the total wealth of nations*? 包括那三大類? 並請就該三大類別各舉二小項為例(共六例)說明 *the wealth of nations*? 如何衡量。(11%)
2. 聯合國近年來提倡 *Green Gross Domestic Product, Green GDP*? 以補 *Gross Domestic Product, GDP*? 之不足，請簡要定義說明何謂 *Green Gross Domestic Product*?。(8%)
3. 請比較、評析 *the total wealth of nations*? 與 *Green Gross Domestic Product*? 之差異。(6%)

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Can poverty reduction be sustained? The end of the 20th century saw a renewed commitment to ending poverty embodied in the Millennium Development Goals. However, deep concerns remained that current rates of depletion and degradation of natural resources may undermine any progress achieved. Achieving sustainable outcomes will require sustaining the total wealth -- produced, human, natural -- on which development depends.

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The wealth estimates are composed of the following components:

- Total wealth
- Produced capital
  - Machinery and structures
  - Urban land
- Natural capital
  - Energy resources (oil, natural gas, hard coal, lignite)
  - Mineral resources (bauxite, copper, gold, iron, lead, nickel, phosphate, silver, tin, zinc)
  - Timber resources
  - Nontimber forest resources
  - Cropland
  - Pastureland
  - Protected areas

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Intangible capital includes raw labor, human capital, social capital, and other important factors such as the quality of institutions.

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四、以下內容摘錄自《2006 台灣永續發展指標現況》(行政院研究發展考核委員會、行政院國家永續發展委員會發行, 2007 年 11 月 4, <http://ivy3.epa.gov.tw/nsdn/CH/DEVELOPMENT/20071104.pdf>)。請於詳閱其內容後回答以下問題。(本題佔 25 分)

1. 請在 40 項已量化之指標中, 就生態資源、環境污染、社會壓力、經濟壓力、制度回應及都市永續發展 6 個領域, 各領域各挑出二項指標予以配對(共 12 項)。(12%)
2. 文中提及「經濟活動對台灣的環境、生態所造成的影響, 共分成消費型態、產業結構、能源使用三大範疇」。請問消費型態可能對環境、生態所造成何種影響?(6%) 能源使用又會對環境、生態所造成那些影響?(7%) 請簡要說明你的看法。

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「台灣永續發展指標系統」係根據壓力 (pressure)、現況 (state) 與回應 (response) 的 P-S-R 架構設計。環境與生態資源面的「現狀」係呈現環境品質惡化或改善的程度, 而經濟與社會面的「壓力」係探討對於環境品質與永續發展造成破壞壓力的社會結構與經濟活動。至於, 政策與制度面的「回應」, 則是瞭解臺灣社會在追求永續發展過程中如何透過制度的調整來改善環境生態現況與減輕社經的壓力。

此外, 鑒於台灣本島有近 80% 的人口居住於都市地區, 都市地區的發展與台灣的環境品質息息相關, 因此本指標系統進一步區分: 海島台灣 (Island Taiwan) 與都市台灣 (Urban Taiwan) 兩套系統。這兩個系統共包含: 生態資源、環境污染、社會壓力、經濟壓力、制度回應, 以及都市永續發展共 6 個領域。

「生態資源」領域的指標針對可再生資源的現況進行評量, 以反映質與量的變化。「環境污染」領域的指標反映台灣的氣域、水域、陸域污染現狀。「社會壓力」領域的指標, 係以對永續發展施壓的社會面為對象, 掌握造成壓力的來源。「經濟壓力」領域的指標, 主要是探討經濟活動對台灣的環境、生態所造成的影響, 共分成消費型態、產業結構、能源使用三大範疇。「制度回應」領域的指標則是評估政府改善生態及環境的狀況, 減低社會及經濟對環境造成的壓力的制度量能 (capacity building)。該領域所關心的焦點放在如何建構一個機制, 使社會運作時能適當地分配資源、協調環境與經濟社會活動的衝突, 並使整體的發展方向能夠朝向永續發展的境界。

「都市永續發展」領域的指標係評估都市發展的生產、生活、生態與生命四個範疇的永續性, 以突顯都市作為動態有機體的特性。該領域包括驅動力(D)、狀態(S)與回應(R)三大類型的指標。

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針對民國 95 年與民國 94 年相互比較, 上面各組中的指標呈現改善、邁向永續包括: PSI 平均值、受輕度以下污染河川比率、廢棄物資源回收率、低放射性固化廢棄物成長率、未受損失森林面積比、平均每人每日垃圾量、檳榔種植面積、傳染病感染率、失業率、每人國產水泥生產量、每戶家庭擁有電腦的比率、農藥消費量佔農產產值比率、製造業用水量佔製造業產值比率、資源耗用型產業產值佔製造業產值比率、製造業勞動生產力指數、能源使用密集度、環保生態預算支出、污水處理率、制定禁用或嚴格限用的化學品數量、環保標章適用量、大眾運輸乘客人次、都市化面積擴張率、都會區每年空氣嚴重污染比率、每人享有公園綠地面積、都會區主要河段中度以上污染長度比等 25 項。

另外, 呈現背離永續的指標包括: 二氧化碳排放量、水庫品質、非自然資源生產面積、天然海岸比例、單位努力漁獲量、耕地總面積比、生態敏感地、有效水資源、公害陳情案件受理統計、癌症死亡分率、政府鼓勵污染防治及資源回收財稅措施、環境影響評估完成審查案件比率、政府與民間環保團體合作程度、都市平均每人所得、都會區小客車持有率等 15 項。

42 項個別指標中, 除 IR3 國際公約於國內落實的程度以表列方式說明、UD8 都市主要河段親水性尚未完成計算機制外, 總計公布指標共計 40 項。

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接下頁