

國立臺北科技大學  
九十八學年度研究所碩士在職專班入學考試

創新設計研究所  
設計理論與創作試題

填准考證號碼

第 1 頁 共 1 頁

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**注意事項：**

1. 本試題共兩大題，第一大題共四小題，配分各 15 分；第二大題共兩小題，配分各 20 分，總配分共 100 分。
2. 請按順序標明題號作答，不必抄題。
3. 全部答案均須在答案卷之答案欄內作答，設計理論試題請在 A4 答案卷(冊)作答，設計創作試題則在 A1 圖畫紙彌封面作答，否則不予計分。

**壹、 設計理論 (60 分)**

- 一、請依個人工作經驗曾經應用過何種設計理論？請列舉三項說明其意涵與實施情形。(15 分)
- 二、請從 Eco-design 的理念，將產品設計由設計、包裝、行銷、維修到最後回收處理，說明應採取的策略與作法。(15 分)
- 三、請以設計師的角度，試論台灣文化創意產業的特有文化元素與其影響？(15 分)
- 四、請將下列文字翻譯成中文 (15 分)

**Usability engineering** is a methodical approach to producing a user interface for a product or system. It is a practical and systematic way to deliver a product that works for users. Usability engineering involves several methods, each applied at appropriate times, including gathering requirements, developing and testing prototypes, evaluating design alternatives, analyzing usability problems, proposing solutions, and testing a site (or other interface) with users. **Usability testing** is part of the process of usability engineering. Usability testing includes a range of methods for having users try out a site (or other system). In a typical usability test, users perform a variety of tasks with a prototype (or other system) while observers record notes on what each user does and says. Typical tests are conducted with one user at a time or two users working together. Testing may include collecting data on the paths users take to do tasks, the errors they make, when and where they are confused or

frustrated, how fast they do a task, whether they succeed in doing the task, and how satisfied they are with the experience. The goal of most usability testing is to uncover any problems that users may encounter so those problems can be fixed.

Usability measures the quality of a user's experience when interacting with a product or system—whether a Web site, a software application, mobile technology, or any user-operated device. In general, usability refers to how well users can learn and use a product to achieve their goals and how satisfied they are with that process. Usability, as defined by Joseph Dumas and Janice (Ginny) Redish, means that people who use the product can do so quickly and easily to accomplish their tasks. Usability may also consider such factors as cost-effectiveness and usefulness. A key methodology for carrying out usability is called User-Centered Design.

It is important to realize that usability is not a single, one-dimensional property of a user interface. Usability is a combination of factors including:

- Ease of learning** - How fast can a user who has never seen the user interface before learn it sufficiently well to accomplish basic tasks?
  - Efficiency of use** - Once an experienced user has learned to use the system, how fast can he or she accomplish tasks?
  - Memorability** - If a user has used the system before, can he or she remember enough to use it effectively the next time or does the user have to start over again learning everything?
  - Error frequency and severity** - How often do users make errors while using the system, how serious are these errors, and how do users recover from these errors?
  - Subjective satisfaction** - How much does the user *like* using the system?
- (Quoted from <http://www.usability.gov>, U.S. Department of Health & Human Services)

**貳、 設計創作 (40 分)**

- 一、請依公司的 SWOT 分析，擬訂具創意的設計研發企畫書，以因應目前金融海嘯所引起的全球經濟危機，企畫書格式不拘。(20 分)
- 二、因應人口老化趨勢，針對銀髮族的使用需求，請設計一項產品或系統。作答時，請闡明問題點與設計理念，並繪製構想草圖(至少三案)，然後選出其中一案說明其技術原理與可行性，最後設計一實驗或研究方法，進行使用性評估。(20 分)