

考試科目	統計, 心理測驗 心理實驗法	系所別	心理學系	考試時間	2月7日(五) 第一節
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一. 統計 (35%)，共七題，每題 5%。

1. 請說明「一個單一樣本形成的資料分配」和「由母群重複抽樣相同樣本數後各樣本平均數所形成的抽樣分配」之間關聯為何，以及這個關聯所根據的統計理論為何。
2. 請說明「效果量」(effect size)在統計分析時的功用為何？請列舉三種在統計常用的效果量指標及其衡量標準或是其代表的意涵。
3. 請分別說明「參數」(parameter) 和「統計量」(Statistic) 的意義為何，並對照兩者內涵及其表示方法上的差異。
4. 請說明「迴歸分析」regression analysis 的前提假設為何，而當這些假設違反時的處置原則為何？
5. 在變異數分析(ANOVA)中，何謂進行「事前比較」(Prior Analysis)? 何謂進行「事後比較」(Post-Hoc Analysis)? 以及「事前比較」和「事後比較」的最主要差異為何？
6. 請列舉三種在變異數分析(ANOVA)中進行「事後比較」的方法，並說明各方法所依據的原則為何。
7. 請說明何為變異數分析(ANOVA)? 何為共變數分析(ANCOVA)? 並詳述兩者分別在研究上的應用時機及其目標？

二. 心理測驗 (30%)，共三題，每題 10%

8. 請說明編製測驗時，進行項目分析(Item Analysis)的目的為何，並列舉四種項目分析的方法及各列舉方法的原理原則及衡量標準。
9. 請說明下列主要各類測驗的定義內涵及其最主要的功能或適用情境：
  - (1) 智力測驗(Intelligence Tests)
  - (2) 性向測驗(Aptitude Tests)
  - (3) 成就測驗(Achievement Tests)
  - (4) 人格測驗(Personality Tests)
  - (5) 神經心理測驗(Neuropsychological Tests)
10. 請說明測量標準誤(Standard Error of Measurement) 的定義和如何計算，說明測量標準誤和信度係數之間的關連，及如何將測量標準誤應用於解釋測驗分數，請舉例說明。

備

註

- 一、作答於試題上者，不予計分。
- 二、試題請隨卷繳交。

考 試 科 目	統計 心理測驗 心理實驗法	系 所 別	心理學系	考 試 時 間	2 月 7 日 (五) 第一節
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## 三、心理實驗法

選擇題(20%，每題 2 分)

1. The split litter technique can be used in animal learning research for which experimental design?
  - A. within-subjects design
  - B. matched-groups design
  - C. between-subjects design
  - D. random-groups design
2. One CANNOT reduce problems of ceiling and floor effects by
  - A. avoiding the use of tasks that are too easy.
  - B. avoiding the use of tasks that are too difficult.
  - C. testing pilot participants to make sure that performance on a task will not be near the extremes of the scale.
  - D. making sure that pilot participants get nearly perfect scores when they are not being subjected to the experimental manipulation.
3. Which of the following is a good reason to choose a between-subjects design for an experiment?
  - A. the researcher knows that there may be a practice effect as a result of repeated testing of the participants on the dependent variable
  - B. the researcher expects the independent variable to have only a small effect on the dependent variable
  - C. the researcher is able to recruit only a few participants for the experiment
  - D. it is easier to do a between-subjects experiment
4. Random selection refers to
  - A. the matching of participants on several different factors.
  - B. the unreliability of two different experiments yielding different results.
  - C. the process of categorizing continuous variables as dichotomous variables.
  - D. the technique used to ensure that each participant has an equal chance of being selected for an experiment.
5. Ebbinghaus found that when he attempted to relearn a list that he had learned once before,
  - A. he needed more trials to reach criterion.
  - B. he showed no savings.
  - C. it took the same amount of time to learn as it did the first time.
  - D. he relearned the list faster the second time.
6. Which of the following is an example of evidence showing that non-perceptual processes play a role in perception?

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- A. Texture gradients influence our perception of depth.  
 B. Perception of the steepness of a hill increases when the participants are wearing heavy backpacks.  
 C. A patient with blindsight (D.B.) experiences negative afterimages.  
 D. Removal of a portion of the right visual cortex results in a scotoma.
7. In an experiment, confounding occurs when  
 A. an interaction occurs between two independent variables.  
 B. more than one independent variable is manipulated.  
 C. an uncontrolled variable covaries with an independent variable.  
 D. an interaction occurs between three or more independent variables.
8. One is protected from a speed-accuracy tradeoff when  
 A. reaction time and accuracy rates are positively related.  
 B. accuracy measures are not reported.  
 C. reaction time measures are not reported.  
 D. reaction time and accuracy rates are inversely related.
9. An ideal threshold would be a value of stimulus intensity such that stimulus intensities  
 A. equal to this threshold would never be detected.  
 B. below this threshold would always be detected.  
 C. above this threshold would always be detected.  
 D. above this threshold would never be detected.
10. A mixed design is one in which  
 A. each participant receives all levels of each independent variable.  
 B. at least one independent variable is manipulated, and at least one other independent variable is controlled.  
 C. at least one independent variable is tested within-subjects, and at least one other independent variable is tested between-subjects.  
 D. there is one independent and one dependent variable.

四、非選擇題(15%)

- Describe Donders A, B, and C reactions and how they are used to examine the components of cognitive processing. (7%)
- Illustrate two explicit memory tests and two implicit memory tests (8%)

備

註

- 作答於試題上者，不予計分。
- 試題請隨卷繳交。