

國立中央大學 106 學年度碩士班考試入學試題

所別：資訊管理學系 碩士班 丙組(一般生)

共1頁 第1頁

科目：統計學

本科考試禁用計算器。每題 25 分。
滿分 100 分。

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*請在答案卷 內作答

- 請詳細陳述並請自行舉出實例說明：
 - 請定義何謂「母體」、「樣本」？
 - 為何要進行抽樣？請說明抽樣的理由。
 - 請舉出抽樣方法，說明各個方法的執行方式，並說明其適用情境以及優缺點。
- 望卡公司推出新口味的巧克力，目前正在三個不同的地區試賣，四個月的銷售資料如下表（單位：千盒），在 0.05 顯著水準之下，這三個地區的平均銷售數量有差異嗎？
 - 請先說明你要採用的分析方法，並說明選擇此方法的原因（亦即，此一分析方法的所解決的問題特性、以及變數的特性）
 - 建立虛無與對立假設
 - 決策法則是什麼？
 - 計算決策所需的統計值，並說明如何運用這些數字來進行決策。

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|------|----|----|----|----|
| A 地區 | 18 | 14 | 19 | 17 |
| B 地區 | 12 | 18 | 10 | 16 |
| C 地區 | 26 | 28 | 30 | 32 |

- A company employs 400 salespeople. Of these, 83 received a bonus last year, 100 attended a special sales training program at the beginning of last year, and 42 both attended the special sales training program and received a bonus. (Note: The bonus was based totally on sales performance.)
 - What proportion of the 400 salespeople received a bonus last year?
 - What proportion of the 400 salespeople attended the special sales training program at the beginning of last year?
 - What proportion of the 400 salespeople both attended the special sales training program and received a bonus?
 - What proportion of the salespeople who attended the special sales training program received a bonus?
 - Based on your answers to parts 3.1 and 3.4, does the special sales training program seem to have been effective? Explain your answer.
- Explain the difference between the between-treatment variability and the within-treatment variability when performing a one-way ANOVA.