國立臺北科技大學 101 學年度研究所博士班招生考試

系所組別：6100 技術及職業教育研究所

教育研究法與統計 試題

> **注意事項：**
> 1. 本試題共分兩部分，第一部分為教育研究法，第二部分為統計，共 100 分。
> 2. 請按順序標明題號，可以中英文作答，不必抄題。第二部分另起頁作答。
> 3. 全部答案均須答在答案卷之答案欄內，否則不予計分。

第一部分：教育研究法

一、請闡述從事研究時，進行「文獻探討」之目的，以及文獻探討應注意之原則。（20％）

二、請以「技專校院教師評鑑」為議題，擬定兩個簡單的研究計畫，量化(quantitative)及質化(qualitative)研究取向各一個。且每份簡單的研究計畫皆應包含研究題目、研究目的、研究方法、研究對象及其選擇。（20％）

三、簡答題（每題 5 分，共 20 分）

1. 何謂立意抽樣？其運用時機為何？

2. 何謂便利抽樣？其運用時機為何？

3. 何謂敘事研究（narrative research）？研究旨趣為何？

4. 何謂焦點團體訪談？其運用時機為何？

第二部分：統計

1. One-way analysis of variance (ANOVA) is typically used to test for difference among at least three groups, since the two-group case can be covered by a T-test. Please provide an example to explain why performing multiple t-tests are inappropriate to test the difference among at least three groups. (10%)

2. When do you use the following: (15%)
   (1). One sample t-test
   (2). Dependent sample t-test
   (3). Pearson's correlation
   (4). Regression
   (5). Mann-Whitney U test

3. What are the major assumptions before running One-way analysis of variance (ANOVA)? (5%)

4. A researcher would like to know if she can predict students' GPA in their senior year from their 8th grade scores. Please (1) write a **"Null hypothesis"** (3%) and (2) **interpret the results** based on the tables as follows.(7%)

Table 1. Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.090[a]	.008	.005	29.6157

a. Predictors: (Constant), 8th Grade Score

Table 2. ANOVA[b]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2387.823	1	2387.823	2.722	100[a]
Residual	294702.516	336	877.091		
Total	297090.339	337			

a. Predictors: (Constant), 8th grade scores
b. Dependent Variable: students' GPA in their senior year

Table 3. Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	4.475	7.068		633	.527
8th Grade Score	3.784	2.293	.090	1.650	.100

a. Dependent Variable: students' GPA in their senior year