

科目：迴歸分析

系所組：統計資訊學系應用統計碩士班

1. Please answer the following regression related questions:
 - a. Write down the mathematical expression of a general linear regression model in detail. (10%)
 - b. What are the basic assumptions of this model? (10%)
 - c. Illustrate two main uses (goals) of building a linear regression model. (10%)
 - d. What is the meaning of the regression parameters in a.? (10%)

2. If the ANOVA table of a regression model in is as

Source	Sum of Squares	Degree of freedom	Mean Squares	F ratio	p-value
Regression	A	2	C	E	0.0001
Residual	79	B	D		
Toral	670	15			

- (1) What are the values of A, B, C, D, and E? (20%)
- (2) What is the value of the “coefficient of determination”? (10%)
- (3) What is the meaning of the “coefficient of determination”? (10%)
- (4) What is the null hypothesis of the test statistic “F ratio” in this table. (10%)
- (5) What is the meaning of the null hypothesis in (4)? (10%)

※ 注意：1. 考生須在「彌封答案卷」上作答。

2. 本試題紙空白部份可當稿紙使用。

3. 考生於作答時可否使用計算機、法典、字典或其他資料或工具，以簡章之規定為準。