

科目：統計學

系所組：金融與國際企業學系
金融碩士班

1. (10%) What are the four measurement scales?
2. (10%) What are the difference between a priori probability, empirical probability, and subjective probability?
3. (10%) How does the multiplication rule differ for events that are and are not independent?
4. (10%) What are the relationships between the binomial, Poisson, and exponential distribution?
5. (10%) State the critical value approach to hypothesis testing.
6. (10%) Given a two-factor factorial experiment and the ANOVA summary table that follows, fill in all the missing results:

Source	Degrees of Freedom	Sum of Squares	Mean Square	F
A	$r-1 = 2$	$SSA=?$	$MSA=80$	$F_{STAT}=?$
B	$c-1=?$	$SSB=220$	$MSB=?$	$F_{STAT}=11.0$
AB	$(r-1)(c-1)=8$	$SSAB=?$	$MSAB=10$	$F_{STAT}=?$
Error	$rc(n'-1)=30$	$SSE=?$	$MSE=?$	
Total	$n-1=?$	$SST=?$		

7. (10%) What are the assumptions of regression analysis?
8. (10%) Under assumptions you mentioned above, derive the sampling distribution of beta hat (slope) in the simple linear regression model.
9. (10%) What is the logistic regression?
10. (10%) Explain the Chi-square Test for Independence.

- ※ 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。