1. What is multicollinearity and what are the effects of it in multiple regression analysis?　　12%

2. What is time series? Describe briefly the main components of a time series with examples?　　12%

3. What is random sample and how to select a random sample? Answer with examples.　　10%

4. What is null hypothesis? Describe three possible sources for forming a null hypothesis of a statistical testing with examples?　　10%

5. What is point estimator of a population parameter? What are the criteria to evaluate the goodness of a point estimator?　Answer with examples.　　12%

6. Define Type I error and type II error with examples and how to select values for them?　　12%

7. Name three probability distributions with their characteristics and when do you use them?　　12%

8. A two-factor (A and B) ANOVA computer outputs are showed in the following tables. What statistical conclusions can you make by using the informations in these tables?　　20%

Between-Subjects Factors

		Value Label	N
A	1	A1	15
	2	A2	15
B	1	B1	10
	2	B2	10
	3	B3	10

Levene's Test of Equality of Error Variances[a]

Dependent Variable: preference

F	df1	df2	Sig.
.476	5	24	.790

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+A+B+A*B

Tests of Between-Subjects Effects

Dependent Variable: preference

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	147.767[a]	5	29.553	7.610	.000
Intercept	1068.033	1	1068.033	275.030	.000
A	5.633	1	5.633	1.451	.240
B	97.067	2	48.533	12.498	.000
A*B	45.067	2	22.533	5.803	.009
Error	93.200	24	3.883		
Total	1309.000	30			
Corrected Total	240.967	29			

a. R Squared = .613 (Adjusted R Squared = .533)

Sig.: significance level