Quantitative Economic Analysis-II

Module 1:

1. Define statistical estimation and distinguish between methods of point estimation such as the method of moments and the method of maximum likelihood.
2. Analyze the properties of estimators, including the Cramer-Rao inequality, in the context of interval estimation.
3. Evaluate the concept of statistical hypothesis testing, including types of errors (Type 1 and Type 2 errors) and factors influencing the power of a test.
4. Apply the Neyman-Pearson Lemma to determine the best test for a given hypothesis testing scenario.

Module 2:

1. Examine the two-variable classical linear regression model (CLRM), focusing on estimation techniques and their properties, and consequences of assumptions violation.
2. Critically analyze the general linear model, considering assumptions, least square estimators, significance tests, confidence intervals, prediction abilities, linear restrictions, multicollinearity, and specification errors.
3. Evaluate the concept of generalized least squares, including Aitken's generalized least square estimation method, prediction capabilities, dealing with heteroskedastic disturbances, and handling autocorrelated disturbances.