ASSIGNMENT

Q1. Explain clearly what do you understand by heteroscadasticity. What are Harder and Milder heteroscadasticity?

Q2. How would you judge for heteroscadasticity using graphical approach?

Q3. What do you understand by Generalised Least Squares? Give formulae for these estimators and their variances. How would you estimate them from sample data?

Q4. Give a brief account of some practical consequences to detect heteroscadasticity.

Q5. Discuss briefly the following tests for heteroscadasticity(a) Park Test (b) Glejser Test (c) Goldfield and Quandt Test(d) Spearman's rank correlation test

Q6. When and how will you use the Weighted Least Squares estimators to tackle the problem of heteroscadasticity?

Q7. Explain clearly about some methods that are commonly used in the presence of heteroscadasticity and variances $E(U^{2}_{i})$ are unknown but there are some specific assumptions underlying them.

Q8. How can you distinguish the following terms (a) OLS method (b) GLS method (c) WLS method (d) 2SLS method

Q9. How would you carryout test of significance for beta coefficients under the effect of heteroscadasticity in the model?

Q10. In GLM, $\underline{Y} = X\underline{\beta} + \underline{U}$, E (\underline{U}) = $\underline{0}$ and V(\underline{Y}) = $\sigma^2 V = \Omega$ where V is diagonal matrix given as $diag\left(\frac{1}{\lambda_1}, \frac{1}{\lambda_2}, \dots, \frac{1}{\lambda_n}\right)$ where λ 's are arbitrary constants.

Give formulae for GLSE of β and its dispersion matrix.

Illustrate this case for two variables model.