

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 86
(For Candidates admitted during the academic year 2015 – 2016 and thereafter)

SUBJECT CODE: 15EC/PE/EC14

M.A. DEGREE EXAMINATION NOVEMBER 2017
BRANCH III – ECONOMICS

COURSE : ELECTIVE

PAPER : ECONOMETRIC METHODS

TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ANY FIVE QUESTIONS IN 300 WORDS EACH:

(5x8=40)

1. State and prove the Gauss-Markov theorem under two variable regression analyses.
2. How would you estimate a production function of the form $Y_i = \beta_1 X_i^{\beta_2} e^{u_i}$ using ordinary least squares (Y is output per worker and X is capital per worker)? Which data transformation has to be applied?
3. Derive the OLS estimation using matrix notation.
4. Explain the causes for the presence of Heteroscedasticity.
5. Explain how the Coefficient of Determination is a commonly used measure of Goodness of Fit.
6. Enumerate the various assumptions of the Classical Linear Regression Model (CLRM).
7. Diagrammatically represent the Population Regression Function in terms of conditional expected values and unconditional expected values.

SECTION – B

ANSWER ANY THREE QUESTIONS IN 1200 WORDS EACH:

(3x20=60)

8. Explain in detail the step-by-step methodology of Econometrics with an example.
9. Derive the OLS estimators of β_1 and β_2 (two variables). What are the properties of OLS estimators?
10. Illustrate the use of Dummy variables in seasonal analysis with an example.
11. Explain how the linear regression models can be expressed in matrix notation. Compare the assumptions of CLRM between scalar and matrix notation.
12. Enumerate the reasons for occurrence of Autocorrelation. What happens to the OLS estimators and their variance in the presence of autocorrelation?
