

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 86
(For candidates admitted during the academic year 2011 – 12 & thereafter)

SUBJECT CODE: 11EC/PE/EM44

M. A. DEGREE EXAMINATION, APRIL 2014
BRANCH III – ECONOMICS
FOURTH SEMESTER

COURSE : ELECTIVE
PAPER : ECONOMETRICS
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ANY FIVE QUESTIONS. EACH ANSWER NOT TO EXCEED 300 WORDS.

(5 X 8 = 40)

1. Explain the methodology of Econometrics by using suitable illustration.
2. Derive the OLS estimator $\hat{\beta}$ vector for a Multiple Linear regression model $Y = X\beta + U$. Also derive the variance covariance matrix for $\hat{\beta}$.
3. Why do we introduce the error term U in an econometric model? What are the assumptions related to the error term?
4. Construct and explain an ANOVA Dummy Variable model involving Gender discrimination, Rural urban variation in analyzing the health care expenditure.
5. Explain Goldfield –Quandt test to detect the present of Heteroscedasticity.
6. Bring out the methods of detect the problem of auto-correlation.
7. Write a short note on “Probit Model”.

SECTION – B

ANSWER ANY THREE QUESTIONS. EACH ANSWER NOT TO EXCEED 1200 WORDS.

(3 x 20 = 60)

8. Prove that ordinary least square estimates are best linear unbiased estimators.
9. Given the data

Y_i	20	28	40	45	37	52	54	43	65	56
X_i	2	3	5	4	3	5	7	6	7	8

Estimate $Y_i = \alpha + \beta X_i + U_i$ using OLS method. Also test the significance by ‘t’, ‘F’ and R^2 values.

10. Define Multicollinearity. What are the consequences? How do we detect and solve the same?
11. Explain simultaneous equation bias using Keynesian Income determination model?
12. How does the Logit model become better than Linear probability model? Explain also the estimation process of Logit model for grouped data.
