

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

SUBJECT CODE: 11EC/PE/EM44

M. A. DEGREE EXAMINATION, APRIL 2013  
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.
2. Why do we introduce error term  $U_i$  in an econometric model? What are the assumption of classical Linear regression model?
3. Derive  $\hat{\alpha}$  and  $\hat{\beta}$  of a simple linear regression model  $Y := \alpha + \beta X + U_i$  by ordinary least square method.
4. What are the practical consequences of Multicollinearity?
5. How do we detect the presence of autocorrelation by Derbin-Watson Test?
6. Construct a dummy variable ANCOVA model to test the gender discrimination.
7. Explain different functional forms of regression model. Also explain the process of estimating elasticity and growth rate of economic variables.

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. What are the consequences of hetero elasticity? How do we indentify and rectify the same?
10. Explain simultaneous equation bias with simple Keynesian model of income determination.
11. Explain Logit model. How does it differ from Probit model?
12. Estimate the consumption function  
 $Y_i = \alpha + \beta X_i + U_i$  where  
 $Y_i$  = Consumption expenditure per month in thousands of rupees.  
 $X_i$  = Income per month in thousands of rupees.

$Y_i$	20	22	23	24	25	27	28	29	31	33
$X_i$	23	24	25	26	28	29	31	32	34	36

Test the significance with 't' ratio and  $R^2$ .

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