

**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 2016**  
**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 significance of Econometrics.
2. What is the difference between population regression and sample regression function?
3. A sample survey of seven families was taken and figures were obtained with respect to their annual savings Y (Rs. In '000) annual income  $X_1$  (Rs. In '000) and family size  $X_2$ .

Family	Annual Saving (Y)	Annual Income ( $X_1$ )	Family Size ( $X_2$ )
A	5	6	4
B	4	6	3
C	3	4	2
D	2	4	2
E	6	7	5
F	7	8	6
G	9	10	6

Find the least squares regression equation of Y on  $X_1$  and  $X_2$ .

4. Explain Autocorrelation.
5. Explain Simultaneous Equation models with the help of Keynes Consumption Theory.
6. Explain dummy variables with suitable examples.
7. Briefly explain Probit model.

## SECTION – B

ANSWER ANY THREE QUESTIONS. EACH ANSWER NOT TO EXCEED 1200 WORDS. (3 x 20 = 60)

8. Prove that the OLS estimation of a two-variable linear regression model are BLUE.
9. Derive least square estimates for a three variable linear regression model. Explain its properties.
10. Explain Heteroscedasticity and Multicollinearity.
11. Demand function  $Q_+^d = \alpha_0 + \alpha_1 P_+ + U_{1+} < 0$   
Supply function  $Q_+^s = \beta_0 + \beta_1 P_+ + U_{2+} > 0$   
Equilibrium function  $Q_+^d = Q_+^s$   
Prove that the coefficients are biased and inconsistent.
12. Derive Logit Model.

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