

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 86
(For candidates admitted from the academic year 2008-2009 & thereafter)
SUBJECT CODE: EC/ME/EM44

B. A. DEGREE EXAMINATION, APRIL 2011
BRANCH IV - ECONOMICS
FOURTH SEMESTER

COURSE : MAJOR ELECTIVE
PAPER : BASIC ECONOMETRICS
TIME : 3 HOURS. MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS. EACH ANSWER NOT TO EXCEED 50 WORDS.
(10 X 3 = 30)

1. How does mathematical economics differ from econometrics?
2. Give any two definitions of Econometrics.
3. What is OLS principle?
4. What do you mean by error term?
5. Bring out the formulae for $\hat{\alpha}$ and $\hat{\beta}$ of a two variable linear regression model $Y_i = \alpha + \beta X_i + U_i$
6. Distinguish between Homoscedasticity and Heteroscedasticity.
7. Define multicollinearity.
8. What is semi-log model?
9. Why is a dummy variable introduced?
10. Give an example for a simultaneous equation model in Economics.

SECTION – B

ANSWER ANY FIVE QUESTIONS. EACH ANSWER NOT TO EXCEED 300 WORDS.
(5 X 6 = 30)

11. Explain the need for introducing error term in an econometric model?
12. Bring out all the assumptions of Classical Linear Regression Model.
13. Derive the OLS estimators for intercept and slope of a Two – Variable Linear Regression model $Y_i = \alpha + \beta X_i + u_i$
14. Derive the co-efficient of determination R^2 . Also bring out the properties of R^2 .
15. How do we test the significance of an estimated econometric model?
16. Given Y: 9 11 5 8 7
 X: 6 2 10 4 8
Estimate $Y_i = \alpha + \beta X_i + u_i$ by OLS method and also prove that $\sum e_i = 0$.
17. Explain the uses of dummy variable with suitable models.

SECTION – C

ANSWER ANY TWO QUESTIONS. EACH ANSWER NOT TO EXCEED 1200 WORDS. (2 X 20 = 40)

18. Explain the methodology of Econometric Analysis with an economic problem.
19. Prove that the ordinary Least Square Estimators are Best Linear Unbiased Estimators.
20. Given (in thousands of Rupees)
- | | | | | | | | | |
|--------------|----|----|----|----|----|----|----|----|
| Consumption: | 23 | 27 | 26 | 21 | 24 | 20 | 29 | 30 |
| Income: | 35 | 25 | 29 | 31 | 27 | 24 | 33 | 36 |
- Estimate the consumption function. Test the significance with R^2 , F and t values.
21. OLS cannot be applied to estimate the parameters of an identified equation embedded in a simultaneous equation system. Why?
