

B.A. DEGREE EXAMINATION NOVEMBER 2009
BRANCH IV – ECONOMICS
FIFTH SEMESTER

COURSE : MAJOR – OPTIONAL
PAPER : ECONOMETRICS
TIME : 3 HOURS

MAX.MARKS : 100

SECTION – A

ANSWER ALL QUESTIONS. EACH ANSWER NOT TO EXCEED 50 WORDS.

(10 X 3 = 30)

1. Give any two definitions of Econometrics.
2. What is the principle of Ordinary Least Square?.
3. Interpret the result :
Electricity cons/n per month in units = $110 + 5.50$ (Average temperature).
 $R^2 = 0.58$ $t (23.48)$
4. What do you mean by stochastic error term?
5. Define 'Heteroscedasticity'
6. Distinguish between R^2 and Adjusted R^2 .
7. If $Y = X\beta + U$ write down the formula for OLS estimator $\hat{\beta}$ as well as Variance – Covariance matrix for $\hat{\beta}$.
8. What is the difference between Log – Lin model and Lin _ Log model?
9. Give any two examples for simultaneous equation system using economic theory.
10. What is dummy variable trap?

SECTION - B

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

(5 x 6 = 30)

11. How does Econometrics differ from Mathematical Economics and Statistics?
12. List out the assumptions of Classical Linear Regression Model.
13. Derive OLS estimators ($\hat{\alpha}$ and $\hat{\beta}$) for a Two – Variable regression model
 $Y_i = \alpha + \beta X_i + u_i$
14. How do we test the significance of an econometric model?
15. The following table includes the price and quantity demanded for the product

DEMAND in hundred units	8	3	4	7	8	0
PRICE in thousand rupees	2	4	3	1	3	5

Estimate the Demand function and prove that $\sum e_i^2$ is minimum .

16. Explain the process of estimating regression equation involving dummy variable.
17. Can we apply OLS method to estimate parameters of an equation embedded in a simultaneous equation system? If not why?

SECTION . C

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

- 18. Describe the nature ,division , scope and methodology of Econometrics with suitable illustration.
- 19. Prove that the (Gauss – Markov Theorem) Ordinary Least Squares Estimators are the Best Linear Unbiased Estimators .
- 20. Given the following data (in thousand rupees)

Consumption	70	65	90	95	110	115	120	140	155	150
Income	80	100	120	140	160	180	200	220	240	260

Estimate the consumption function and test the significance. Also find out the coefficient of determination (R^2) .

- 21. Explain the various functional forms of regression models and its significance.
