STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 86
(For candidates admitted during the academic year 2015– 16 and thereafter)

SUBJECT CODE: 15EC/PE/AE14

M. A. DEGREE EXAMINATION, APRIL 2018
BRANCH III – ECONOMICS
FOURTH SEMESTER

COURSE : ELECTIVE
PAPER : ADVANCED 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 assumptions of Generalized Linear Model.
2. What are the variables do you consider to study the healthcare expenditure and its determinants? Construct a model (including dummy for Sex , Region) and set the hypotheses with a priori expectations.
3. Write a short note on ' Granger's Causality Test
4. Explain the role of Lags in econometrics.
5. From the given data of 54 districts a researcher estimated the following Logit model to explain high murder rate versus Low murder rate:

$$\text{Ln } \widehat{O_i} = 1.1387 + 0.0014P_i + 0.0561C_i - 0.4050\ R_i$$

Se = (0.0009) (0.0227) (0.1568)

Where O = the odds of a high murder rate , P = 2010 population size in crores ,
C = population growth rates from 2000 to 2010 ; R = reading quotient , and
the 'Se' are the asymptotic standard errors.

i) How would you interpret various coefficients ?
ii) Which of the coefficients are individually significant?
iii) What is the effect of a unit increase in the reading quotient on the odds of having a higher murder rate?
iv) What is the effect of a percentage point increase in the population growth rate on the odds of having a higher murder rate?

6. Distinguish between Stationary and Non – Stationary process
7. Consider the Demand function $Q_t = \alpha_0 + \alpha_1 P_t + \alpha_2 I_t + U_{1t}$ and Supply function $Q_t = \beta_0 + \beta_1 P_t + U_{2t}$ where P = price; Q = quantity ; I = income . Assume that Q and P are endogenous. Identify the equations and express the structural parameters in terms of Reduced Form parameters.

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SECTION – B

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

8. Prove that Ordinary Least Squares Estimators are best Linear Estimators.

9. Why cannot we apply ordinary least square method of estimation to estimate the parameters of an identified equation in a simultaneous equation system?
10. How does Logit model differ from Probit model in estimating a qualitative dummy dependent variable function?

11. Explain Koyck approach to estimate a Partial Adjustment and Adaptive Expectation model.

12. Explain different methods of modeling Time series Data.

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