SUBJECT CODE: 15EC/PE/EC14

M.A. DEGREE EXAMINATION NOVEMBER 2016
BRANCH III – ECONOMICS
FIRST SEMESTER

COURSE	: ELECTIVE
PAPER	: ECONOMETRIC METHODS
TIME	: 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ANY FIVE QUESTIONS: **(5x8=40)**

1. What are the roles of stochastic error term u_i in regression analysis?

2. Derive the OLS estimators for a two variable linear regression model. State its properties.

3. When and why do you need to do hypothesis testing? Discuss the steps involved in hypothesis testing.

4. With appropriate example discuss the use semi-log functional form models in economics.

5. What are the causes and consequences of multicolinearity problem in econometric analysis?

6. What do you mean by Heteroscedacticity problem? Discuss the remedial measures of to eliminate the problem of Heteroscedacticity.

7. Explain the concept of dummy variable trap. A dummy variable regression model is developed as:

$$Y_i = \beta_1 + \beta_2 D_{2i} + \beta_3 D_{3i} + \beta_4 X_i + u_i$$

Y_i = Average annual salary of worker, X_i = Bonous income , D2 = 1 if semi urban area else 0, D3 = 1 if Rural else 0. Reference category is Urban region 1 if urban else 0.

The Results of above mentioned dummy variable regression is given below:

$Y_i = 13,269 \quad - 1673 \quad\quad - 1144 \quad + 3.288\ X_i \quad\quad R^2 = .76245$

$SE = 1395 \quad\quad 801.2 \quad\quad 861.3 \quad\quad 0.317$

$t = \ (9.51)^* \quad (-2.08)^* \quad (-1.32)^{**} \quad (10.35)^*$

What is the implication of the intercept term here? Interpret the co-efficients and goodness of fit of the model.

SECTION – B

ANSWER ANY THREE QUESTIONS: **(3x20=60)**

8. Explain with example, the step by step procedure, how the econometricians proceed in their analysis of an economic problem.

9. Explain the least squares principle in regression estimation and derive the formula for the parameters of a simple regression equation.

10. What is multicollinearity? Discuss its nature. What are its consequences? How to detect for this problem and solve it?

11. Explain how the generalized linear model extends the ordinary regression model and discuss the properties of GLM estimates.

12. Write short notes on the following:

    a) Coefficient of determination
    b) Level of significance and P value
    c) Autocorrelation
    d) Concept of Interval Estimation

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