22/3/2018

DOON UNIVERSITY, DEHRADUN

Mid Semester Examination, 2018

Department of Economics

M.A. Second Semester

SSE- 532: Econometrics

Time Allowed: 2 hrs. *Max. Marks: 30*

Note: Attempt All Questions from Sections A,B,C.

(Use suitable diagrams and equations wherever necessary, to support your answers)

SECTION : A

All questions are compulsory and carry equal marks. *(Marks: 3x2=6)*

1. A true relationship between two variables can be split into component part: a part represented by a straight line and a part represented by a random disturbance term. Trace out this statement in a two-dimensional figure.
2. Given the equation D= b_o + b_1P+ u, where, D is the demand, P is the price, u is the error term, b_o and b_1 are the parameters, show that b_1 is a component of the price elasticity of demand.
3. Given the function, L = a_O + a_1r+ a_2Y, where L is the demand for money, r is the interest rate and Y is the Gross National Product, and a_O, a_1 and a_2 are the parameters. State the economic meaning of the parameters a_O, a_1 and a_2. What would you expect the sign of the parameters to be?

SECTION : B

Answer any THREE. *(Marks: 3x4=12)*

1. Define Economic Theory. How is an economic theory different from an econometric research? Use suitable equations to support your answer.
2. Differentiate between the following
   a) Linear regression model
   b) Non-linear regression model
   c) Two-variable linear regression model
   d) k-variable linear regression model
3. Using a k-variable regression model, express it in matrix form and derive the formula for the parameters.
4. Explain the different criteria used to evaluate and test the parameters of a linear regression model.

SECTION : C

Answer any ONE. *(Marks: 1x12=12)*

1. Discuss the methodology of an econometric research. Using a two-variable linear regression model, derive the formula for the estimated parameters.
2. State the Gauss Markov Theorem. Prove that the estimators of the two variable linear regression model are BLUE (Best Linear Unbiased Estimator).

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