



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**FACULTY OF SOCIAL SCIENCES**  
**DEPARTMENT OF ECONOMICS**  
**2021\_1 EXAMINATION**

**COURSE TITLE: APPLIED ECONOMETRICS**

**COURSE CODE: ECO 713**

**UNITS: 3**

**TIME ALLOWED: 3 HOURS**

**INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS**

1. List and explain the objectives of econometric. (17.5 Marks)
2. Following the demand and supply theories, specify a model that depict the postulated idea of the existing relationship. (17.5 Marks)
3. List and explain the two conditions that must be satisfied for an equation in a system of equations to be identified. (17.5 Marks)
4. Equation  $Y_i = b_1 + b_2D_{2i} + b_3D_{3i} + b_4D_{4i} + u_i$  represents a multiple regression with dummy explanatory variables. Assuming  $u_i$  satisfies the OLS assumptions, and adopting ANOVA techniques, the regression results below is obtained; (17.5 Marks)

$$\begin{array}{llll} Y_i = 26,158.62 - 1734.473D_{2i} - 3264.615D_{3i} - 1213.112D_{4i} + u_i \\ S.E \ (1128.523) \quad (1435.953) \quad (1499.615) \quad (1041.110) \\ t = [23.1759] \quad [-1.2078] \quad [-2.1776] \quad (-1.16521) \\ Prob = (0.0000) \quad (0.2330) \quad (0.0349) \quad (0.24321) \end{array}$$

- (i) Establish the relationship between public school teachers' salaries (Y) in North ( $D_{2i}$ ), South-South ( $D_{3i}$ ), South East ( $D_{4i}$ ) and West ( $b_1$ ) comprising selected LGA and states in Nigeria.
  - (ii) Using the obtained results advice the Nigerian government on the regions that should be given more attention.
  - (iii) Explain why three dummies were used to represent the four regions under study instead of four.
5. List and explain the steps of performing unit-root tests in Eviews. (17.5 Marks)