School of Liberal Education
Department of Humanities
Mid Term Examination

Sem III - ECO6020 - Time Series Econometrics
Your answer should be specific to the question asked
Draw neat labeled diagrams wherever necessary

1) What is the purpose of using dummy variables in regression modeling? Can you provide an example of a scenario where dummy variables are essential? — K2 (2)

2) In the context of simple linear regression, explain the concepts of the dependent variable, independent variable, and the error term. How are these components related in the regression equation? — K1 (3)

3) Describe the least squares method used in estimating the coefficients of a simple linear regression model. How does it work, and what is the underlying principle behind minimizing the sum of squared residuals? — K2 (4)

4) What is the normality assumption in the context of OLS estimation, and why is it important? — K3 (6)

5) What is heteroscedasticity, and how does it affect the assumptions of a simple linear regression model? — K2 (6)

6) Are OLS estimators still unbiased and consistent if the normality assumption is violated? Why or why not? — K3 (9)

7) What is multicollinearity, and how can it impact the results of a simple linear regression analysis? — K4 (8)

8) What is multicollinearity in the context of OLS regression, and why is it a concern for parameter estimation and interpretation? How does multicollinearity relate to the concept of linear dependence between predictor variables? — K4 (12)

OR

How do you interpret the coefficients of dummy variables in a regression model? What is the reference category, and how does it influence the interpretation of the coefficients for other dummy variables? — K4 (12)