CHUKA   UNIVERSITY

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL EXAMINATION

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF

ECON 337: ECONOMETRICS

STREAMS: ECON Y3S2   **TIME: 2 HOURS**

DAY/DATE: WEDNESDAY 03/02/2021   **11.30 A.M – 1.30 P.M.**

INSTRUCTIONS
- *Answer question ONE and any other two from the remaining*

Question One

To assess the impact of capacity utilization on inflation, an econometrician obtained the following results (t-ratios in parentheses) using annual time series data for 20 years.

$$Y_t = -40.153 + 0.1532\ x_t + 0.2540 x_{t-1}$$

$$(-9.354)\quad (3.751)\qquad (5.778)$$

a) Where Yi is the inflation rate in year t, x is the capacity utilization in manufacturing in year t, x_{t-1} is the capacity utilization in manufacturing in year t-1.

   i.   Establish whether the estimated model is a distributed lag model or an autoregressive model.   [5Marks]
  ii.   Compute the short-run and long- run multipliers.   [10 Marks]
 iii.   Discuss three main complications brought by lags in a model   [9 Marks]
    b) Briefly discuss partial adjustment model   [6Marks]

Question Two

Briefly describe the strategies for estimating the following models:

   i.   Finite distributed lagged model/Almon Lag Scheme   [6Marks]

  ii.   Infinite distributed lagged model/Koyck's transformation   [6 Marks]

iii.   Adaptive expectations model   [8Marks]

Question Three

Multicollinearity will always be a problem when investigating a model with many variables
  i.   Outline and explain all the possible features found in the output of SPSS that will enable you identify the problem of multicollinearity.   [10 Marks]
 ii.   Outline various approaches you would use to handle the problem   [5 Marks]
iii.   Outline consequences of multicollinearity   [5 Marks]

Question Four

  i.   Derive the normal equation of a multiple linear regression equation given below

                           [12 Marks]

 ii.   Discuss the five main consequences of violating the assumptions of classical linear regression model   [8 Marks]