NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
2023_2 EXAMINATIONS—

COURSE TITLE: APPLIED STATISTICS
COURSE CODE: ECO 452
UNITS: 2 UNITS
TIME ALLOWED: 2 HOURS
INSTRUCTION: ANSWER ANY THREE (3) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS

1. Write short notes on the following statistic. Concepts
   i.   Long Term Movement (5 marks)
   ii.   Seasonal Variation   (4 marks)
   iii.   Cyclical Variation   (4 marks)
   iv.   Irregular or residual Variation (4 marks)
   v.   One-Way and Two-Ways Analysis of Variance (6 marks)

2a. Define Probability Distribution. (3 marks)

2b. Resolve the following completely.

i. $\frac{10!}{4!\,6!}$ ii. 5_{P_4} (4marks each)

2c. Briefly discuss the following method of Time-Series Evaluation

   i.   Free Hand Fitting
   ii.   Least Square Method
   iii.   Semi-Average Movement (4marks each)

3. Given the demand for stationary of National Open University of Nigeria as (Y) and the Prices as (X_1), and the budgetary allocation to the University (Income) as (X_2).
   i.   Regress stationary demand against other factors   (18 marks)
   ii.   Interpret your results (5marks)

Y	100	75	80	70	50	65	90	100	110	60
X_1	5	7	6	6	8	7	5	4	3	9
X_2	100	600	1200	500	300	400	1300	1100	1300	300
Years	1	2	3	4	5	6	7	8	9	10

4. a. Define hypothesis with a good example (7marks)
   b. what is time series? (6marks)
   c. List and explain Components of Time Series (10 marks)