NOUN
NATIONAL OPEN UNIVERSITY OF NIGERIA
DEPARTMENT OF ECONOMICS
FACULTY OF SOCIAL SCIENCES
2021_2 EXAMINATION₄₅₆₇

COURSE TITLE: ECONOMIC THEORY
COURSE CODE: ECO 802
UNITS: 3
TIME ALLOWED: 3HOURS
INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER THREE QUESTIONS.

QUESTION ONE
1.   Briefly describe the term; Macroeconomic model?   **3MARKS**
1b.   List and discuss the different classifications of Macroeconomic models.   **10MARKS**
1c.   Assuming Mr. Ajudua utility function for Rice and Bean is given as: U = X1X2; and the prices for both goods are ₦4 and ₦10 respectively; while his income for the period of analysis is N20,000. Determine the units of rice and bean that Mr. Ajudua must purchase and consume in order to maximises his utility? 1   **7MARK**
1d.   Using your knowledge of the concept of elasticity, determine the nexus between price-elasticity, marginal revenue (MR) and total revenue (TR).   **5MARKS**

QUESTION TWO
2.   The human desire to maximise the returns on limited resources leads us to participate in buying and selling of various goods and services. Our decision to participate in the exchange of goods and services is usually prompted by two motives. Describe these motives.   **3MARKS**
2b.   Assuming your firm is faced with the problem of combining two inputs (K, L) in order to produce a good called 'Q'. As a student that has background knowledge on economic theory, used a graph and algebraic methods to explain how the least-cost or optimum input combination will be achieve by the firm.   **12MARKS**

QUESTION THREE
3.   Define the term; Linear Programming.   **3MARKS**
3b.   With the aid of simple equations, derive the sources of household's total income.
        7MARKS
3c.   Explain the concepts of efficiency in production and exchange. **5MARKS** .

QUESTION FOUR
4.   With the aid of a diagram, describe the circular flow of economic activities in an open economy such as Nigeria.   1**1MARKS**
4b.   The aggregate demand and supply curves have been used to establish certain facts about the working of the economy, discuss? **4MARKS**

QUESTION FIVE

5. Describe the term; Production Function. **6MARKS**

5b. Supposing the total cost of producing Gala by UAC food is given as:

$C(Q)= 1500+0.0009Q^3 - 0.18Q^2+20Q$. **9MARKS**

Let assume that UAC with the above cost function produce 500 units of output per day.

i. Compute the total cost of production

ii. Calculate the average cost of production

iii. Compute the marginal cost of production.

iv. Calculate the marginal cost of producing the 100th unit of this good.

v. Assuming the firm decided to increase output to 750, what will be the total cost.

vi. Determine the variable cost

vii. What will be the fixed cost if output increases by 100%.