



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS
2023_1 POP EXAMINATION

COURSE TITLE: ADVANCED MATHEMATICAL ECONOMICS

COURSE CODE: ECO 718

UNITS: 2

TIME ALLOWED: 2 HOURS

INSTRUCTION: Instruction: Answer Question 1 and any other 2 questions

QUESTION ONE

- (a). Briefly discuss the Concept of Mathematical Economics. (10marks)
 - (b). Explain major advantages for studying mathematical economics. (10marks)
 - (c). Differentiate between dynamic model and static model. (10marks)
- (30marks)

QUESTION TWO

- (a). Discuss the types of equilibrium in economics. (10marks)
 - (b). Discuss the term 'Input Output Analysis'. (10marks)
- (20marks)

QUESTION THREE

- (a). If the marginal revenue function for a commodity is $(6q^2 - 12q + 4)$ naira per units when the level of production is q units, determine the total revenue function and find the total revenue when 40 units are sold. (10marks)
 - (b). What is optimization in economic analysis? (10marks)
- (20marks)

QUESTION FOUR

Given Utility Function $U = q_1^{1.5} q_2$ and $U = x^{1.5} y$, Subject to $100 - 100 = 3q_1 + 4q_2$

Find q_1 and q_2

(20marks)