UNIVERSITY OF ESWATINI

FIRST SEMESTER MAIN EXAMINATION PAPER, APRIL 2021

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

COURSE CODE: ECO 407

TITLE OF PAPER: ECONOMICS OF AGRICULTURE

TIME ALLOWED: 2 HOURS

Instructions
1. This paper consists of four (4) questions.
2. Answer question 1 in Section A and any two (2) questions of your choice in Section B.
3. Question 1 carries 50 marks and the other questions carry 25 marks each

Special Requirements : Scientific calculator

Candidates may complete the front cover of their answer book when instructed by the Chief Invigilator and sign their examination attendance cards but must NOT write anything else until the start of the examination period is announced.

No electronic devices capable of storing and retrieving text, including electronic dictionaries and any form of foreign material may be used while in the examination room.
DO NOT turn examination paper over until instructed to do so.

SECTION A

a) What is the main aim of agricultural development?   [2 marks]
b) Describe the following theories of Agricultural Development
    i.   The frontier model   [4 marks]
    ii.   The diffusion model   [4 marks]
    iii. The High Payoff Input model   [4marks]
c) Mention and explain four ways in which agricultural development can promote
    economic development of underdeveloped countries.   [8 marks]
d)
    i) What do you understand by the least cost combination criterion? [2 marks]
    ii) Given the following combinations of X_1 and X_2 to produce 100 units of
        product Y, calculate the appropriate marginal rates of substitution.

Combination	Units of X_1	Units of X_2
1	0	60
2	5	40
3	10	25
4	15	15
5	20	7
6	25	3
7	30	0

[8 marks]

e) If the prices of X_1 and X_2 are E5 and E2 respectively, determine the appropriate
    combinations of the two inputs to apply and justify your answer   [6 marks]
f) Suppose a production function is given by $Y = X_1^{1/5} X_2^{4/5}$, where Y is output and
    X_1 and X_2 are inputs. Given that the price of X_1 is E200, price of X_2 is 300 and
    output price is E100, what is the marginal cost and marginal product of each of
    the two inputs at their least cost combination?   [12 marks]

SECTION B

ANSWER ANY TWO QUESTIONS FROM THE FOLLOWING:

Question 2

Write short notes on the following concepts

a) Technical efficiency [5 marks]

b) Allocative efficiency [5 marks]

c) The elasticity of production [5 marks]

d) The marginal rate of technical substitution (MRTS) [5marks]

e) What information is required for the determination of optimum output combinations in a production function? [5 marks]

Question 3

a) Briefly explain the main features of the first and second stages of a classical production function. [4marks]

b) For a classical production function, verify the relationship between MC and MPP; AVC and APP. [8 marks]

c) Explain why costs are only computed and graphed in stage I and stage II of the classical production function. [7 marks]

d) State clearly the principle of diminishing marginal returns. Does this apply over all ranges of output? Explain. [6 marks]

Question 4

a) What is an Entrepreneur? What does entrepreneurship entail (discuss four characteristics of an entrepreneur). [15 marks]

b) What is the Green Revolution and what are the main criticisms of the Green Revolution? [10 marks]