

**UNIVERSITY OF SWAZILAND  
FACULTY OF SOCIAL SCIENCE  
DEPARTMENT OF ECONOMICS**

**MAIN EXAMINATION PAPER: DECEMBER, 2014**

**TITLE OF PAPER: ECONOMICS OF AGRICULTURE  
COURSE CODE: ECON 410  
TIME ALLOWED: THREE (3) HOURS**

**INSTRUCTIONS:**

1. Answer Question **ONE** and any other **TWO** questions.
2. Show all relevant workings to your answer
3. All Questions carry a total of 25 marks

**SPECIAL REQUIREMENTS: SCIENTIFIC CALCULATOR**

**DO NOT OPEN THIS QUESTION PAPER UNTIL INSTRUCTED TO DO SO BY  
THE INVIGILATOR.**

### Question 1 (Compulsory)

a) Assume a Cobb-Douglas function with prices as follows:

$$Y = X_1^{1/5} X_2^{3/5}, P_{X1} = E3, P_{X2} = E1, \text{ and } P_y = E10$$

Determine the least cost combination of inputs,  $X_1$  and  $X_2$ , as well as the level of output at which net returns or profits are maximized. [15 marks]

b) Use a diagram to distinguish between technical efficiency, allocative efficiency, and economic efficiency as implied in production theory. [10 marks]

### Question 2

- a) Discuss the role of agriculture in economic development from the African perspective [10 marks]
- b) Using Chayanov's farm household model with a labour market, explain how the household can make decisions of hiring labour in and out of the farm. [10 marks]
- c) Why would over-taxation of the agricultural sector be counterproductive for the Swazi economy? [5 marks]

### Question 3

- (a) Explain the main features of Arthur Lewis's model of Economic Development. [10 marks]
- (b) Explain the justification that labour could be withdrawn continuously from the agricultural sector without a decline in agricultural production as implied in the Lewis model. [10 marks]
- (c) What are the criticisms of the Lewis model with respect to economic development? [5 marks]

#### **Question 4**

- a) Discuss the factors influencing the aggregate supply response of the agricultural sector in Sub-Saharan Africa countries. [10 marks]
- b) Explain the basic features of the cobweb model. [10 marks]
- c) What are the limitations of the cobweb model? [5 marks]

#### **Question 5**

- (a) In what way have world prices, markets, and technology slowed agricultural development in Sub-Saharan Africa? [20 marks]
- (b) Why are poor peasant farmers reluctant to adopt technology? [5 marks]