(*Knowledge for Development*)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2017/2018 ACADEMIC YEAR

FOURTH YEAR 2nd SEMESTER

SPECIAL/SUPPLEMENTARY EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURE & BIOTECHNOLOGY

COURSE CODE: SAB 482

COURSE TITLE: PRODUCTION ECONOMICS

DATE: 9TH OCTOBER 2018 **TIME: 8 – 10 AM**

INSTRUCTIONS TO CANDIDATES

Answer **Question 1** and any other two (2) Questions.

Question one

a. Discuss the concept of expansion path (6mks)

b. Consider the production function and answer the questions that follow: $Y = X - 8X^2 - 0.1X^3$ where Y is output and X is the input.

i) Define the average physical product and the marginal physical product (4mks)

ii) Use the above production function equation and derive the equations of APP and MPP. (6mks)

iii) Determine the value of X for which Y a maximum. (4mks)

iv) Determine the boundaries of stage II for the above function (10mks)

Question two

Using a diagram where necessary, distinguish the following terms as used in production economics

i. "Production" and "production function" (2mks)

ii. "Necessary" and "sufficient conditions" (4mks)

iii. "Ridgeline" and "isocline" (4mks)

iv. "Isocost" and "isoquant" (4mks)

v. "Law of diminishing marginal rate of returns" and "marginal rate of technical substitution" (6mks)

Question three

a) Distinguish between the concepts of risk and uncertainty as used in economics. (4mks)

b) Briefly discuss ways farmers in Kenya can deal with risk and uncertainty in agricultural production (16mks)

Question four

a) Draw and describe the various shapes of Isoquants (10mks)

b) Describe the effect of an improvement of technology on :

i. Isoquant map (5mks)

ii. Expansion path (5mks)