MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRIBUSINESS MANAGEMENT

FIRST YEAR FIRST SEMESTER EXAMINATION FOR
MASTER OF SCIENCE IN AGRIBUSINESS MANAGEMENT
AGB 804: ADVANCED AGRICULTURAL PRODUCTION ECONOMICS

DATE: 17/6/2019   **TIME: 10:00 – 1:00 PM**

INSTRUCTIONS: Answer Question ONE and any other TWO questions

QUESTION ONE (COMPULSORY) (20 MARKS)

a)   With illustration, describe four main types of productions functions as applied in agricultural production.   (4 marks)

b)   Describe five properties of the cost function which make it consistent with optimizing behavior in production.   (5 marks)

c)   With relevant examples and illustrations, explain how the method of economic surplus is relevant in evaluating impact of agricultural research.   (5 marks)

d)   Explain three components of risk management and its application in agriculture (6 marks)

QUESTION TWO (20 MARKS)

a)   i)   Explain five issues of concern related to measuring farm profit as one approach

for measuring performance of a farm/firm.   (5 marks)

ii)   Explain five ways you could recommend to address issues mentioned in b(i) above.   (5 marks)

b)   Using relevant illustrations, describe different types of Return to Scale from homogenous properties and their application in agricultural production.   (10 marks)

QUESTION THREE (20 MARKS)

a)   Using the concept of duality in constrained functions, derive the input demand function.

(10 marks)

b)   Describe the diffusion of Innovation Theory in relation to its application in adoption of agricultural technologies.   (10 marks)

QUESTION FOUR (20 MARKS)

The Minister of Agriculture of Machakos County has been promoting adoption of climate-smart agricultural technologies to curb negative effects of climate change. As an agribusiness consultant, you are expected to examine the adoption of these technologies and why there is low adoption rates by farmers

   i)   Describe step by step how you could examine the level of adoption of mentioned technologies.   (10 marks)

   ii) Describe five possible factors that could contribute to low adoption rates by farmers

(5 marks)

   iii) Advise the Minister of Agriculture on possible policy interventions that could encourage adoption of climate-smart agricultural practices in Machakos County.

(5 marks)

QUESTION FIVE (20 MARKS)

a)   With various diagrams, describe three types of production efficiency as applied in agricultural sector.   (10 marks)

b)   i)   Agricultural enterprises face many risks and uncertainties across value chain.

With relevant examples in Africa context, describe five main risks that face agribusiness entrepreneurs.   (5 marks)

   ii)   Describe five ways that agribusiness entrepreneur would use to handle the risks mentioned in b(i) above.   (5 marks)