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UNIVERSITY OF SWAZILAND

2nd SEM. 2015/2016

FINAL EXAMINATION PAPER

PROGRAMME: B.Sc. AGRICULTURAL EDUCATION YEAR 4

B.Sc. ANIMAL SCIENCE YEAR 4

B.Sc. AGRICULTURAL & BIOSYSTEMS ENGINEERING YEAR 4

COURSE CODE: AS 401

TITLE OF PAPER: APICULTURE

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS

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QUESTION 1

a) Draw a graph that would show the possible changes in the weight of a typical Langstroth hive of honey bees in your apiary from January to December 2015. Interpret the information revealed by the graph as you would in front of an audience of experienced beekeepers.

(15 Marks)

b) Discuss the composition and uses of honey.

(10 Marks)

QUESTION 2

You are to give an hour's talk to a local beekeeping association on the history of beekeeping from early times. Write a synopsis of your talk to include outstanding events, personalities and their discoveries.

(25 Marks)

QUESTION 3

V.B. Wigglesworth in his book, The life of insects, says that *"The prime essential of social life is the communication of needs of the society from one individual to another in a colony"*. In the context of the honey bee colony, describe fully how the colony meets this prime essential.

(25 Marks)

QUESTION 4

Describe

a) The mode of transmission of *Paenibacillus larvae* and *Melissococcus plutonius*, their development within the honey bee larvae;

(10 Marks)

b) The diseases they cause and how each is diagnosed and treated

(15 Marks)

QUESTION 5

a) Define the term "Virus"

(3 Marks)

b) Describe the fundamental characteristics of viruses and how they differ from other disease causing organisms.

(5 Marks)

c) List two viral diseases of honey bees; and

(2 Marks)

d)   Fully describe the signs and symptoms of one viral disease and how its causative agent multiplies and spreads.

(15 Marks)