



UNIVERSITY OF SWAZILAND

2nd SEM. 2016/2017

SUPPLEMENTARY 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

**DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY
 THE CHIEF INVIGILATOR**

QUESTION 1

- a) Draw the structure of a brood comb, showing how space is utilized with respect to brood production, honey, pollen etc. (20 Marks)
- b) Compare a brood comb to a honey comb. (5 Marks)

QUESTION 2

Discuss inspection of a beehive, include the hive features and their indications. (25 Marks)

QUESTION 3

- (a) Discuss the value of honey and its use. (10 Marks)
- (b) Discuss other beehive products apart from honey. (15 Marks)

QUESTION 4

How would you manage your apiary in these three different stages of nectar flow shown in figure 1 below?

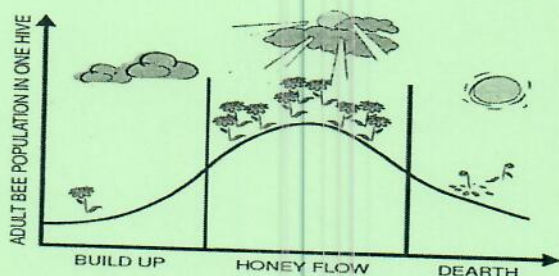


Figure 1: The three phases of nectar flow in a colony.

(25 Marks)

QUESTION 5

- a) Discuss, in detail, pollen substitutes and supplements. Also indicate how they can be formulated. (16 Marks)
- b) Differentiate the following types of feeding in bees;
- i) Stimulative feeding (3 Marks)
 - ii) Supplementary feeding (3 Marks)
 - iii) Manipulative feeding (3 Marks)