



**UNIVERSITY OF SWAZILAND**

**1st SEM. 2017/2018**

**FINAL EXAMINATION PAPER**

**PROGRAMMES:**      **B.Sc. ANIMAL SCIENCE YEAR 3 AND**  
                              **B.Sc. ANIMAL SCIENCE (DAIRY OPTION) YEAR 3**

**COURSE CODE:**      **AS 301**

**TITLE OF PAPER:**    **ANIMAL BREEDING**

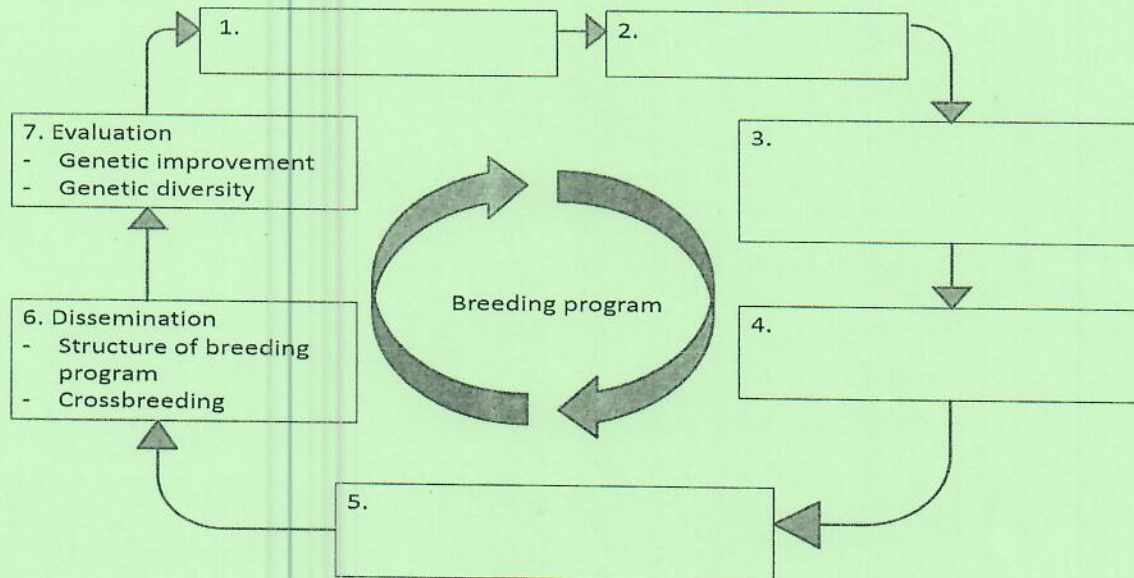
**TIME ALLOWED:**      **TWO (2) HOURS**

**INSTRUCTIONS:** **ANSWER FOUR (4) QUESTIONS**

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**THE CHIEF INVIGILATOR**

**Question 1**

(a) Draw and fill in the missing steps in the breeding Program



(15 Marks)

(b) Enumerate and describe five (5) characteristics of Animal Breeding Goals

(10 Marks)

**Question 2**

(a) A smallholder farmer has decided he wants to increase the egg production of his chickens. He has collected a lot of information on his chickens and is now at the stage where he is almost able to rank his chickens according to their predicted genetic potential. In which step of the breeding program is he now? What are the characteristics of this stage?

(5 Marks).



- (b) A fish farmer in Swaziland has decided that he will set up a breeding program and has already made a good description of the production system. He wants to breed fish that can be sold for a good price and therefore, he is interviewing possible consumers to investigate what kind of qualities they would appreciate in their fish. The interview he is doing will help him in one of the steps of the breeding program. Describe this step.

(5 Marks)

- (c) (i) Is it true or false that production environments determine which traits are relevant for the animals?

(2 Marks)

- (ii) Give valid reasons to support the answer in (i) above.

(3 Marks)

- (d) Markets determine the traits that are important for the producer. Is the statement TRUE or NOT? Give a reason for your choice.

(5 Marks)

- (e) Identify the two (2) major causes of world hunger and the role of animal breeding in fighting this problem.

(5 Marks)

### Question 3

Using a named livestock in your community, give detailed steps taken to plan a breeding program for its improvement.

(25 Marks)

### Question 4

List 4 factors to consider in defining a functional production system? Discuss any three (3).

(25 Marks)

### Question 5

- (i) Define, the term animal breeding goal and give three (3) reasons why it is important in animal breeding.

(5 Marks)

- (ii) Define production system and list three (3) factors to consider in defining a workable production system.  
(5 Marks)
- (iii) Enumerate six (6) characteristics of breeding goals  
(3 Marks)
- (iv) Define breeding Value and state three (3) factors that are important in determining breeding value of an animal.  
(6 Marks)
- (v) Describe three (3) mating systems that are used in breeding farm animals.  
(6 Marks)