



UNIVERSITY OF SWAZILAND
2ND SEM. 2017/2018
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 404

TITLE OF PAPER: FISH FARMING

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

Write an essay on five different culture systems practised in Aquaculture. (25 Marks)

QUESTION 2

On the 29th of March 2018, you woke up to find that fish are dying in 2 of your ponds. Upon conducting a preliminary lab examination, the lab assistant tells you that *Flexibacter* and *Trichodina sp.* were found in your samples. What is affecting your fish and how can you treat these? In your answer, include the type of disease they cause and the symptoms of each.

(25 Marks)

QUESTION 3

Explain, with an illustration, the relationship between carrying capacity and levels of intervention.

(25 Marks)

QUESTION 4

a) Sketch an intensive tilapia pond that shows the two main sources of nitrogen and its fate through the two main pathways. Include enough detail to show all the components involved and how they are inter-connected. (10 Marks)

b) State two examples of how fish farms can be managed to minimise environmental impact? (5 Marks)

c) Describe the maintenance of an aquarium. (10 Marks)

QUESTION 5

a) Peter stocked 5000 catfish in his 0.5 ha pond. What will be the average harvest weight if carrying capacity is 10000kg/ha and mortality is 12%? (10 Marks)

b) Frank has promised to sell to Mary 8000kg of tilapia with an average weight of 500g. The carrying capacity is 10000kg/ha. What is the maximum size of the pond(s) Frank will need and what will be the stocking rate (density) if survival is 85%? (10 Marks)

c) Give 5 uses of farmed plants and animals. (5 Marks)