



**SOUTH EASTERN UNIVERSITY COLLEGE
(A CONSTITUENT COLLEGE OF THE UNIVERSITY OF NAIROBI)**

UNIVERSITY EXAMINATIONS 2012/2013

**SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE IN FISHERIES MANAGEMENT AND AQUACULTURE
TECHNOLOGY**

WFA 204: PRINCIPLES OF AQUACULTURE

DATE: 6th August 2012

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES

(a) Answer ALL the questions in section A

(b) Answer ANY THREE questions in section B

SECTION A

1. Describe the dynamics and effects of ammonia in a fish pond environment and suggest possible control measures (8 marks)
2.
 - a. State 2 sources of seed for a fish farm (2 marks)
 - b. Explain why knowledge of fish feeding and fish reproduction biology is important to an aquaculturist (6 marks).
3. Assume that you stocked a fish pond with 600 tilapia fingerlings each of average weight 25g by 1st of January. On 31st of June the same year, you drained the pond and harvested 300 tilapia each of average weight 250g. Within the period of culture, you fed the fish a total of 150kg of fish feed.
 - a. Calculate the NFY, the survival rate and the FCR (6 marks)
 - b. Based on the results in (a) above, explain any 2 management options you would consider so as to improve the farming efficiency. (2 marks)
4. A fish farmer obtained secchi disk visibility readings ranging from 10 - 20 cm in his fish ponds
 - a. Suggest possible causes for this reading (2 marks)
 - b. Explain the implication of the visibility levels observed in (a) above in the pond environment (3marks)
 - c. What management options would you advice the farmer to consider (3 marks)
5. Describe various ways of minimizing stress in fish during harvesting, sampling and transportation (8 marks)

SECTION B

6. Describe key developments in the evolution of aquaculture in the world (20 marks)
7.
 - a. By use of a well labelled diagram, illustrate the structure of an earthen fish pond outlining all important aspects in pond construction

(10 marks)

b. Discuss 5 key factors to consider while choosing a site for pond construction (10 marks)

8. One of the proposed ways of increasing food security in Africa is through development of aquaculture. Give arguments in support of this proposal and suggest possible ways of enhancing aquaculture development in Africa (20 marks)
9. Explain the importance of record keeping in an aquaculture enterprise and describe important farm records for such an enterprise. (20 marks)
10. Describe methods of spawning fish while in captivity and Using African catfish as an example, describe the process of artificial spawning (20 marks)