



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2018/2019 ACADEMIC YEAR**

**FOURTH YEAR FIRST SEMESTER EXAMINATIONS  
MAIN EXAMINATION**

**FOR THE DEGREE OF B.Sc. IN:  
FISHERIES AND AQUACULTURE**

**COURSE CODE:                    AAF 413  
COURSE TITLE:                    FISH POPULATION DYNAMICS**

**DATE: Tuesday 29<sup>th</sup> January 2019**

**TIME: 12 – 2 PM.**

**INSTRUCTIONS TO CANDIDATES**

Answer ALL questions in section A and ANY TWO questions in section B

**SECTION A: ANSWER ALL QUESTIONS (30 MARKS)**

1.) Define the following terms:

- i) Population
- ii) Stock

(2 marks)

2.) Differentiate between Meristic and morphometric characteristics of a fish population give examples in each case.

(4 marks)

3.) Mention four population parameters indicative of a dynamic population

(4 marks)

4.) Explain the following types of growth rates.

- i. Instantaneous
- ii. Absolute
- iii. Relative

(6 marks)

5.) Discuss the use of parasites as biological tags in capture recapture method

(4 marks)

6.) Describe the sources of fish mortality.

(4 marks)

7.) Discuss the factors that brings about changes in carrying capacity of a certain habitat.

(6 marks)

**SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)**

8.) Discuss the Abiotic factors that influences population change

(10 marks)

10 a) Discuss how human activities impacts on natural populations

(10 marks)

b) How can we minimize the harmful effects of the factors mentioned in (10.a) above.

(10 marks)

11 a) Discuss the dispersal patterns found in fish natural water bodies

(12 marks)

b.) What are the reasons for each dispersal methods mentioned in (11 a.) above.

(8 marks)