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AAF 221



(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

(MMUST)

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR**

SECOND YEAR REGULAR EXAMINATION

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

COURSE CODE: AAF221

COURSE TITLE: FRESHWATER FISH ECOLOGY

DATE: 21.04.2023

TIME: 8-11 AM

INSTRUCTIONS:

Answer ALL Questions in SECTION A and ANY TWO questions in SECTION B.

Correct and well-illustrated answers will earn you full marks.

SECTION A ANSWER ALL QUESTIONS (30 MARKS)

1. Explain any three different categories of fish migration between fresh and saline water **(3 marks)**

2. Explain briefly how climate and geomorphology affect the global distribution of fishes **(3 marks)**

3. Describe any three levels of ecological research **(3 marks)**

4. Differentiate between the following.

i) Amphibious and Facultative air breathers

ii) **(1.5mark)**

iii) Stenothermal and Eurythermal fishes

(1.5mark)

5. Describe briefly six anti-predation mechanism in fishes **(3 marks)**

6. Using examples, explain any three forms of parental care **(3 marks)**

7. State any three hypotheses that explain the difference in diversity of fish species between the tropic and temperate regions

(3 marks)

8. Explain any three cues for reproduction

(3 marks)

9. Define the following:

i) Parthenogenesis

(1 mark)

ii) Ovoviviparity

(1mark)

iii) Viviparity

(1 mark)

10. Describe any three wet methods used in sampling fish egg **(3 marks)**

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

11. Discuss the effect of abiotic interactions on fish abundance and diversity
(20 marks)

12. i). Discuss the length- weight relationship in fishes
(8 marks)

ii). Show how to determine condition factor for a given species of fish in a known natural environment
(8 marks)

iii). Discuss the ecological significance i) and ii) above
(4 marks)

13. Growth and ageing in fish can be determined by interpreting and counting growth zones, discuss
(20marks)