

KISII UNIVERSITY

FIAQ 315: Computer application in fisheries

Examination Draft

INSTRUCTIONS

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

SECTION A

Question 1

(a) Describe the types of fishing industry (3 marks)

(b) Discuss the importance of fishery (4 marks)

Question 2

Briefly discuss any two activities that precede and two activities that succeed data analysis.

(4 marks)

Question 3

Describe the importance of a named internet browser (3 marks)

Question 4

Differentiate, with examples, the following terms

(a) Qualitative and quantitative research

(b) Primary and secondary data (8 marks)

Question 5

Briefly illustrate how computer simulation can be carried out in a study of fish feed protein content and growth rate (4 marks)

Question 6

(a) Provide explanation as to how technology have influenced the fishing industry (4 mark)

(b) Enumerate the problems technology has brought to fisheries (3 marks)

Question 7

Provide the meaning and uses of the following terms as used in fishery

a) Trawling

b) Echo sounder

c) Sample

d) Beach seine (4 marks)

Question 8

Mention field in fisheries science where computers are used (3 marks)

SECTION B Answer TWO questions, Question 9 is compulsory

Question 9 (compulsory)

In an effort to improve the production of fisheries in Nyamira County, the government commissioned 3rd Year student at the Department of Fishery and Aquatic sciences Kisii University to study Kijauri Dam with an aim of finding out the present status fishery.

On seining the dam two species of tilapia were recorded. The following data presents the total lengths (cm) of the specimens of the sample taken:

Oreochromis esculentus:

12,8,6,11,16,17,13,12,8,4,12,18,20,21,18,12,14,15,16,12,11,14,13,14,16,11,10,10,19,14,9,6,8,3,15, 14, 18, 19, 20, 17, 16, 16, 14, 18, 21, 26, 22, 9, 18, 11,15,17,12, 22,15,14.

Oreochromis niloticus:

10,12,15,23,25,16,18,19,25,23,25,29,23,22,21,12,6,3,4,23,27,29,20,20,30,31,32,26,28,29,23,21,22,20,25,24,23,25,29,23,22,21,12,32,23,26,12,23,22,28,24,32,16,18,10,4,6,13,24,13,17,18,12,24,23,27,20,13,15,16,13,15,18,22,27,28,6,8,10,12,32.

Using excel

- (a) Calculate the mean and standard error lengths of both species
- (b) Illustrate (a) in a bar chart
- (c) Draw a pie chart showing the composition of the fish in the dam
- (d) Using t-test determine if there was significant difference in the lengths of the 2 species.

(Post the file (with your reg no) to my email address or flash before the end of exam time)

(15 marks)

Question 10

Marketing of fresh fish produce in Lake Victoria has been a major challenge due to perishability. This is more so during rainy seasons when most roads are impassable. This have generally led to exploitation of fishermen by middlemen and also to traders who sell the product in far areas.

Describe an app to help in traders in knowing the prices at the beaches, condition of routes and tracking of trucks to their destinations (15 marks)

Question 11

Discuss how GIS can be used in fisheries (15 marks)