



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education Ordinary Level

FISHERIES SCIENCE

5151/02

Paper 2

October/November 2010

1 hour 30 minutes

Additional Materials: Answer Booklet/Paper
 Graph paper



READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet.
Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO NOT WRITE ON ANY BARCODES.

Answer **both** questions in **Section A**. Answer any **two** questions in **Section B**.

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **3** printed pages and **1** blank page.



Section A

Answer **both** questions in this section.

- 1 Table 1.1 below shows the Maldivian catch of skipjack tuna for the years 1997, 1999, 2001, 2003 and 2005.

Table 1.1

Year	Catch of skipjack tuna / thousands of tonnes
1997	68.0
1999	91.7
2001	87.8
2003	103.9
2005	131.1

Data adapted from: A Bioeconomic Analysis of Maldivian Skipjack Tuna Fishery, Solah Mohamed.

- (a) Plot a line graph of the data in Table 1.1. [7]
- (b) Use your graph to estimate the catch in the year 2000. [2]
- (c) (i) Describe the trend shown by the data in Table 1.1. [1]
(ii) Suggest **three** reasons for this trend. [3]
- (d) Calculate the percentage increase in the catch of skipjack tuna from 1997 to 1999. [2]
- 2 (a) Make a labelled drawing of a simple hydrometer. [3]
- (b) Describe an experiment you could carry out to investigate changes in the density of a sample of seawater as evaporation occurs. In your answer, include a suitable table to record your results. [8]
- (c) Give an explanation for each of the following.
- (i) In an estuary, river water floats on top of the sea water. [2]
- (ii) Spring tides occur when there is a new Moon. [2]

Section B

Answer any **two** questions in this section.

- 3** When freshly-caught fish die, spoilage occurs rapidly unless precautions are taken.
- (a) Describe the types of spoilage that occur in dead fish. [12]
- (b) Describe **three** ways in which the spoilage of freshly-caught tuna may be reduced. [3]
- 4** Living organisms are classified into five Kingdoms. Name each of the five Kingdoms and describe the general features of each. Give **one** named example of an organism in each Kingdom. [15]
- 5** Describe each of the following fishing methods, as used in the Maldives.
- (a) Lift nets [5]
- (b) Trolling lines [5]
- (c) Pole-and-line [5]
- 6** Write an essay on the way in which organic substances are produced by phytoplankton. Explain how these substances are eventually incorporated into the muscle of a tuna. [15]

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