



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Ordinary Level

**FISHERIES SCIENCE**

**5151/02**

Paper 2

**October/November 2009**

**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.

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 Cod is an important food fish, caught in the North Atlantic Ocean and North Sea. Cod is caught mainly by trawling and by gill netting.

Table 1.1 shows the spawning stock biomass of cod, for the years 1985 to 2005.

**Table 1.1**

Year	Spawning stock biomass (thousand tonnes)
1985	120
1990	80
1995	90
2000	50
2005	30

[Data adapted from *The Centre for Environment, Fisheries & Aquaculture Science*]

- (a) Draw a line graph of the data in Table 1.1. [8]
- (b) Calculate the overall change in spawning stock biomass from 1985 to 2005. [2]
- (c) Describe the trend shown by the data. [1]
- (d) Suggest what is meant by the term *spawning stock biomass*. [2]
- (e) Cod is a species of fish that is over-fished. State **two** ways in which fisheries practices are regulated, to maintain sustainable yields. [2]
- 2 (a) You are asked to carry out an experiment to investigate how the temperature of seawater varies to a maximum depth of 4 metres.
- (i) Describe the method you would use, including the names of the apparatus and equipment you would need. [5]
- (ii) Draw a suitable table you would use to record your results. [3]
- (iii) Draw and label the axes of a graph you would use to present your results. [2]
- (b) Describe how you would determine the fecundity of a large female tuna. [5]

**Section B**

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

- 3** Fishing methods used in the Maldives include the use of nets. Describe how each of the following types of nets are used for fishing in the Maldives.
- (a)** Lift nets [5]
  - (b)** Gill nets [5]
  - (c)** Cast nets [5]
- 4** Porifera (sponges) are simple animals found in the marine environment. Write an account of the Porifera, giving details of each of the following.
- (a)** Their structure [5]
  - (b)** Method of feeding [5]
  - (c)** Methods of reproduction [5]
- 5** Write an account of the ways in which freshly caught fish should be handled to reduce the risk of spoilage. [15]
- 6** Write an essay on the ways in which skipjack tuna are adapted to their way of life. [15]

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