



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
General Certificate of Education Ordinary Level

CANDIDATE  
NAME

CENTRE  
NUMBER

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CANDIDATE  
NUMBER

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**FISHERIES SCIENCE**

**5151/01**

Paper 1

**October/November 2010**

**1 hour 30 minutes**

Candidates answer on the Question Paper.

No Additional Materials are required.

**READ THESE INSTRUCTIONS FIRST**

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 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 **all** questions.

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.

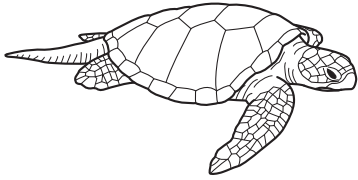
For Examiner's Use	
<b>1</b>	
<b>2</b>	
<b>3</b>	
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<b>6</b>	
<b>7</b>	
<b>8</b>	
<b>9</b>	
<b>10</b>	
<b>Total</b>	

This document consists of **15** printed pages and **1** blank page.



1 Fig. 1.1 shows six marine organisms.

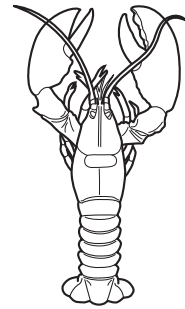
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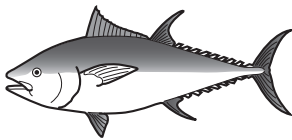
turtle



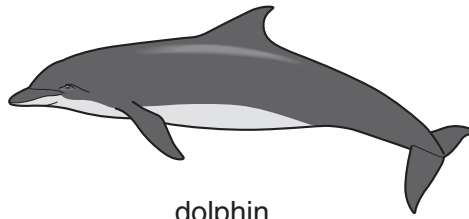
skate



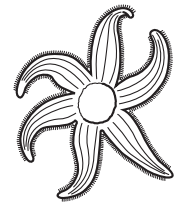
lobster



bluefin tuna



dolphin



starfish

(Not to the same scale)

**Fig. 1.1**

(a) Complete Table 1.2 to show each of the following;

- the name of the group,
- a feature of the group,
- an example of the group, using **only** the names of the animals shown in Fig. 1.1.

**Table 1.2**

name of group	a feature of the group	example of the group
Crustacea	two pairs of antennae	
Chondrichthyes		
	dry scaly skin	

[5]

(b) State the purpose of a biological key.

.....  
..... [1]

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2 (a) Name **two** materials used to make ropes.

1 ..... [1]

2 ..... [1]

(b) Table 2.1 lists the purpose of four different knots.

Complete the table using **only** names from the list below.

**bowline**

**figure eight**

**fisherman's knot**

**fisherman's bend**

**Table 2.1**

purpose	name
to tie two ropes of the same diameter together	
to fasten a boat to a jetty	
to tie a rope to an anchor	
to prevent a rope from unlaying	

[4]

(c) Explain what is meant by the term *splicing*.

.....

..... [1]

3 Fig. 3.1 shows a section through a reef.

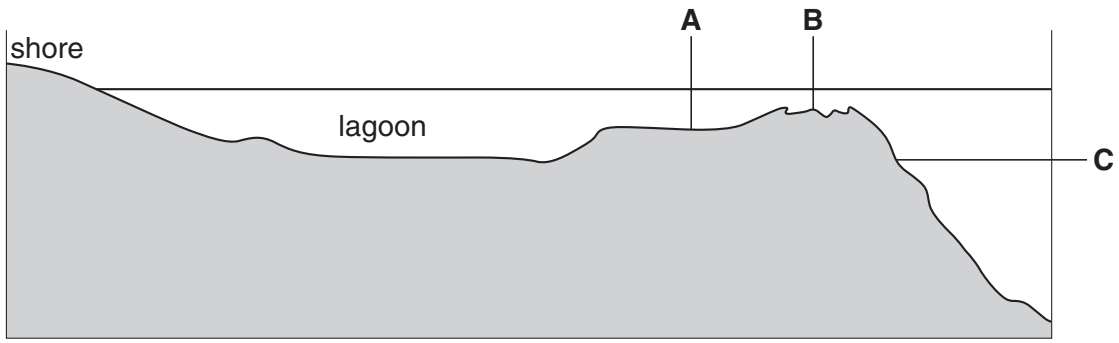


Fig. 3.1

(a) Name the parts labelled **A**, **B** and **C**.

**A** .....

**B** .....

**C** ..... [3]

(b) Name the part of the reef where each of the following types of coral are found.

(i) massive corals ..... [1]

(ii) branching corals ..... [1]

(iii) table corals ..... [1]

(c) Explain why it is difficult for some organisms to live in the lagoon.

.....

.....

.....

..... [2]

4 Fig. 4.1 shows a sea cucumber (beche-de-mer).

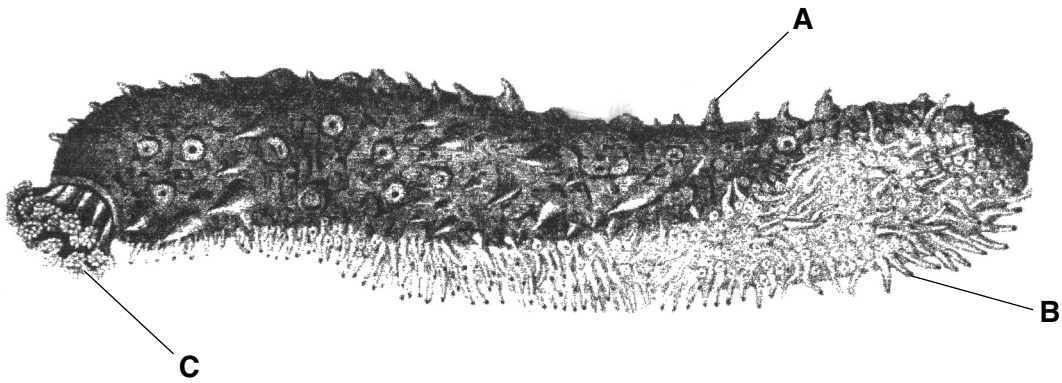


Fig. 4.1

(a) Name the parts labelled **A** and **B**.

**A** .....

**B** ..... [2]

(b) State the function of the part labelled **C**.

.....

..... [1]

(c) Fig. 4.2 shows the number of common, very common, rare and very rare species of sea cucumber around five islands.

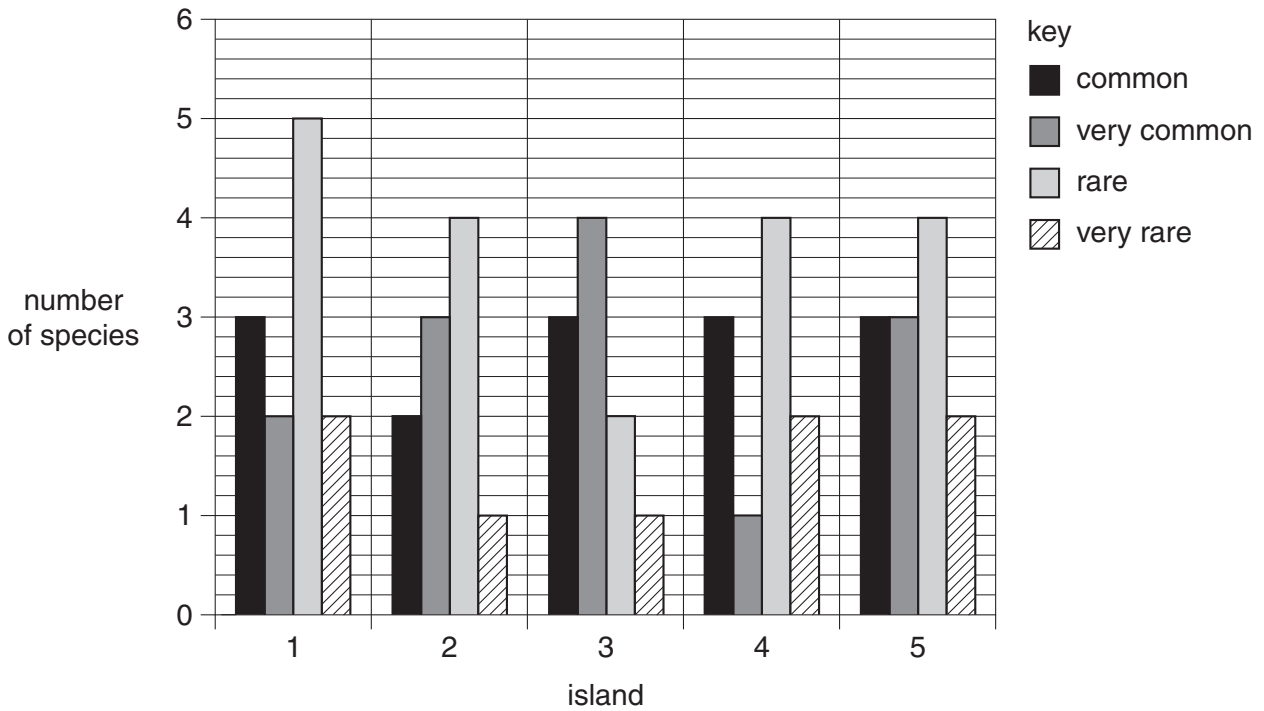


Fig. 4.2

(i) State the number of common species around island 4.  
..... [1]

(ii) State the **total** number of rare and very rare species around island 2.  
..... [1]

(iii) Calculate the **total** number of species around island 5.  
Show your working.  
..... [1]

(iv) Use your answer from part (iii) to calculate the percentage of very common species around island 5.  
Show your working.  
..... % [1]

5 Fig. 5.1 shows a section of a dhoani.

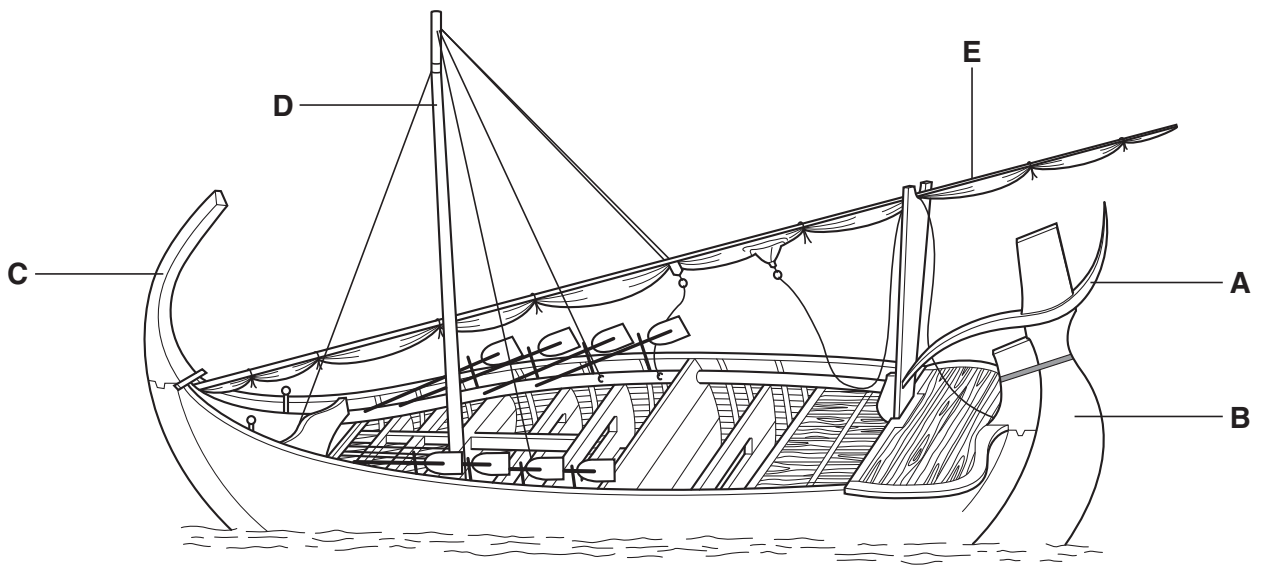


Fig. 5.1

(a) Name the parts labelled **A**, **B**, **C**, **D** and **E**.

- A** .....
- B** .....
- C** .....
- D** .....
- E** ..... [5]

(b) Dhoanis can be made from wood.

Name **two** other materials used to make boats.

- 1 .....
- 2 ..... [2]

(c) State a use for each of the following types of boat.

- (i) Bokkuraa ..... [1]
- (ii) Baththeli ..... [1]
- (iii) Safaari dhoani ..... [1]



**Please turn over for Question 6.**

6 Turtles are an endangered species in many parts of the world.

(a) Fig. 6.1 shows the number of hawksbill turtles near the coast of Mexico from 1978 to 2006.

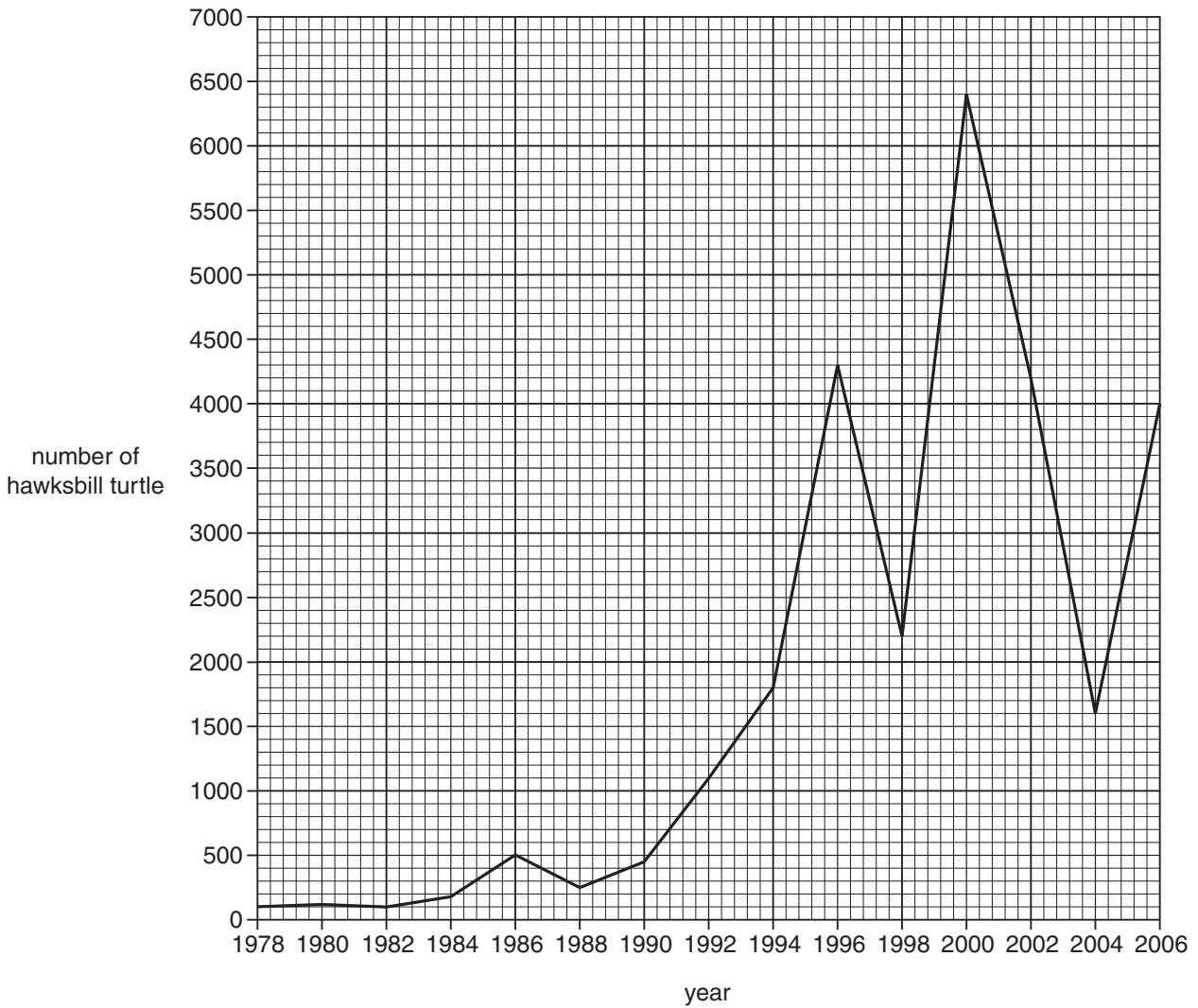


Fig. 6.1

(i) Calculate the overall increase in the number of hawksbill turtles between 1978 and 2006.

Show your working.

..... [2]

- (ii) Calculate the mean decrease per year in the number of hawksbill turtles from 2000 to 2004.

Show your working.

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..... [2]

- (iii) Suggest **two** reasons for the increase in the number of hawksbill turtles after 2004.

1 .....

.....

2 .....

..... [2]

7 (a) Name the **three** types of fishing grounds in the Maldives.

1 .....

2 .....

3 ..... [3]

(b) (i) State the use of reef fish such as silver sprat and fusiliers in pole-and-line fishing.

.....

..... [1]

(ii) Many reef fish are sold as aquarium fish.

Circle the **two** aquarium fish in the list below.

- |                    |                 |                   |
|--------------------|-----------------|-------------------|
| <b>angel fish</b>  | <b>anchovy</b>  | <b>blue sprat</b> |
| <b>damsel fish</b> | <b>groupers</b> | <b>trevally</b>   |

[2]

8 (a) Name **four** methods of fish processing.

- 1 .....
- 2 .....
- 3 .....
- 4 ..... [4]

(b) Fish processing can be used to produce food products, food by-products and non-food by-products.

Complete Table 8.1 using **only** products from the list below.

- fish extract**
- fertiliser**
- fish meal**
- fish silage**
- glue**
- pet food**

**Table 8.1**

food products	food by-products	non-food by-products

[6]

- 9 'Maldivian fish' is a type of fish product exported from the Maldives.

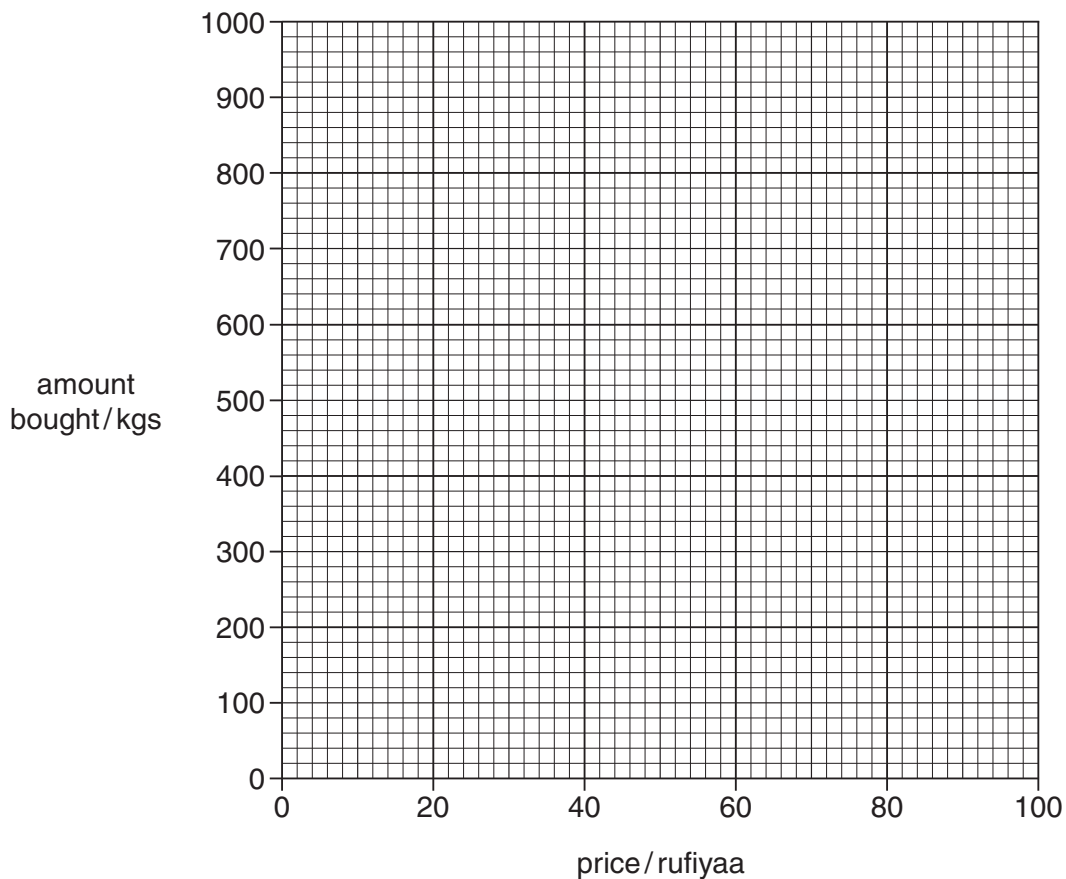
Table 9.1 shows how price affected the amount of 'Maldivian fish' bought.

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Use

**Table 9.1**

Price/kg (rufiyaa)	Amount bought/kgs
20	800
40	600
60	450
80	250
100	100

- (a) (i) Use the graph paper to plot a bar chart of this data.



[4]

(ii) Describe the relationship between price and the amount of 'Maldivian fish' bought.

.....  
..... [1]

(iii) Suggest **two** other factors that affect the amount of 'Maldivian fish' bought.

1 .....  
2 ..... [2]

(b) Explain the difference between *national* and *international* trade.

.....  
.....  
.....  
..... [2]

(c) *Tariffs* and *embargos* may be used as part of a country's trading policy.

Explain the meaning and purpose of a *tariff* and the meaning and purpose of an *embargo*.

(i) *tariff*

meaning .....  
.....  
purpose .....  
..... [2]

(ii) *embargo*

meaning .....  
.....  
purpose .....  
..... [2]

