



EXAMINATIONS COUNCIL OF ESWATINI  
Eswatini General Certificate of Secondary Education

CANDIDATE  
NAME

--

CENTRE  
NUMBER

--	--	--	--	--

CANDIDATE  
NUMBER

--	--	--	--

**GEOGRAPHY**

Paper 2 Geographical Skills

**6890/02**

**October/November 2019**

**2 hours**

Additional Materials:

Ruler  
Protractor  
Plain paper  
Calculator  
1:50 000 survey map extract enclosed with this Question Paper

**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name in the spaces provided.  
Write in dark blue or black pen.  
You may use a soft pencil for any diagrams, graphs, calculations, tables or rough working.

The Insert contains Photograph A for Question 5 (C), Fig. 10(a) for Question 7, and Fig. 11 for Question 8(a).

**SECTION A**

Answer **all** questions in this section.

**SECTION B**

Answer **one** question in this section (**Either** Question 7 **or** 8).

The number of marks is given in brackets [ ] at the end of each question or part question.

For Examiner's Use	
Section A	
Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
Question 6	
Section B	
Either Question 7	
Or Question 8	
Total	

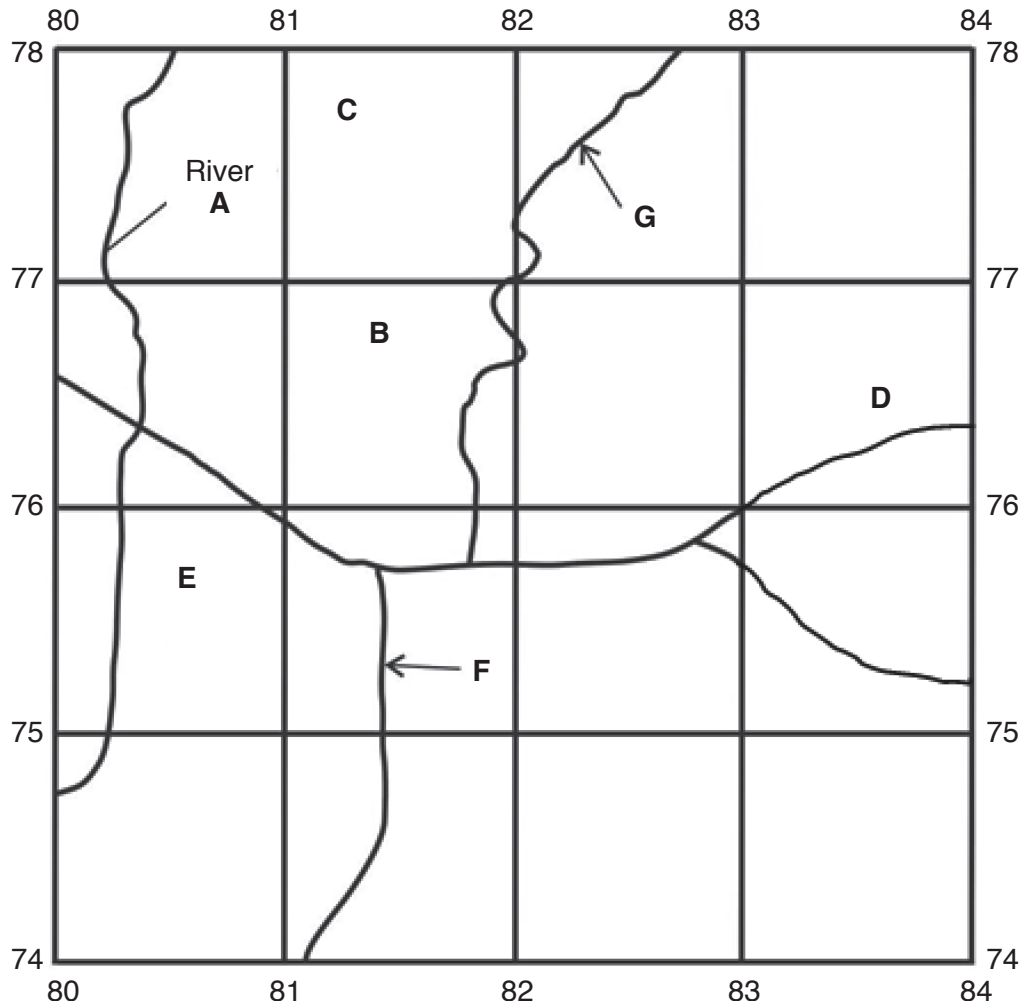
This document consists of **27** printed pages **1** blank page and **4** insert pages.

**SECTION A**

ANSWER **ALL** QUESTIONS IN THIS SECTION IN THE SPACES PROVIDED.

- 1** Fig. 1 shows the position of some features in part of the map extract.

The map extract is for Trinidad (Arouca) – The scale is 1: 25 000.



**Fig. 1**

- (a)** Using the map extract, identify the following shown on Fig.1:

- (i)** river **A**;

..... [1]

- (ii)** drainage pattern at **B**;

..... [1]

- (iii)** type of vegetation at **C**;

..... [1]

(iv) crops grown at **D** and **E**;

**D** ..... [1]

**E** ..... [1]

(v) types of roads **F** and **G**.

**F** ..... [1]

**G** ..... [1]

(b) Name the type of building located at grid reference 834747.

..... [1]

(c) Give the six figure grid reference of the school next to Kelly Village in the south west part of the map extract.

..... [1]

(d) Measure the distance of the Golden Groove Road in **metres** from the road junction in Arouca (815757) to the junction with the Churchill Roosevelt Highway at (810738).

..... [1]

(e) State the grid bearing of the junction of the Golden Groove Road, and the Churchill Roosevelt Highway (810738) from the main trigonometrical station at 786746.

..... [1]

(f) Using evidence from the map **only**, describe **four** advantages of the site of Piarco international airport in the southern part of the map.

1 ..... [1]

..... [1]

2 ..... [1]

..... [1]

3 ..... [1]

..... [1]

4 ..... [1]

..... [4]

**(g)** Study the map of the town of Arouca and:

**(i)** Describe the street pattern of Arouca town;

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

**(ii)** Give **three** reasons for the growth of Arouca town.

1 .....  
.....  
2 .....  
.....  
3 .....  
..... [3]

**(h)** Identify the crop that is mainly grown on the west of Easting 80.

..... [1]

**[Total: 20 marks]**



- 2 (a) Fig. 2 shows an instrument found in a weather station.

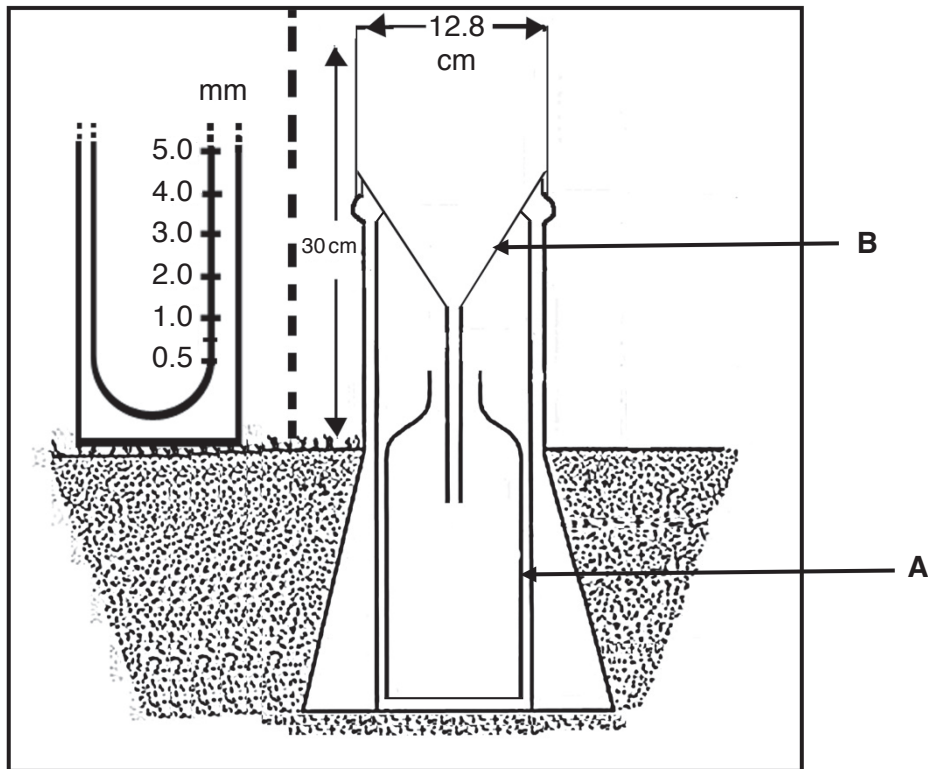


Fig. 2

- (i) Name the instrument shown in Fig. 2.

..... [1]

- (ii) Name the weather element measured by the instrument in Fig. 2.

..... [1]

- (iii) Label parts **A** and **B** shown in Fig 2.

**A** .....

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

- (b) The instrument shown in Fig. 2 is situated on grass and dug partly into the ground.

Explain why the instrument has these features.

Situated on grass .....

.....

Partly dug into the ground .....

..... [2]

(c) Study Table 1 and calculate the total annual rainfall.

**Table 1**

	J	F	M	A	M	J	J	A	S	O	N	D
Temp/°C	23	24	26	28	29	28	26	26	26	27	26	25
Rainfall/mm	25	0	25	0	20	300	350	200	150	30	10	0

.....

.....

.....

..... [2]

**[Total: 8 marks]**

- 3 (a) Study Fig. 3, which shows changes in the monthly mean temperatures for a place in Southern Africa between January and December 2015.

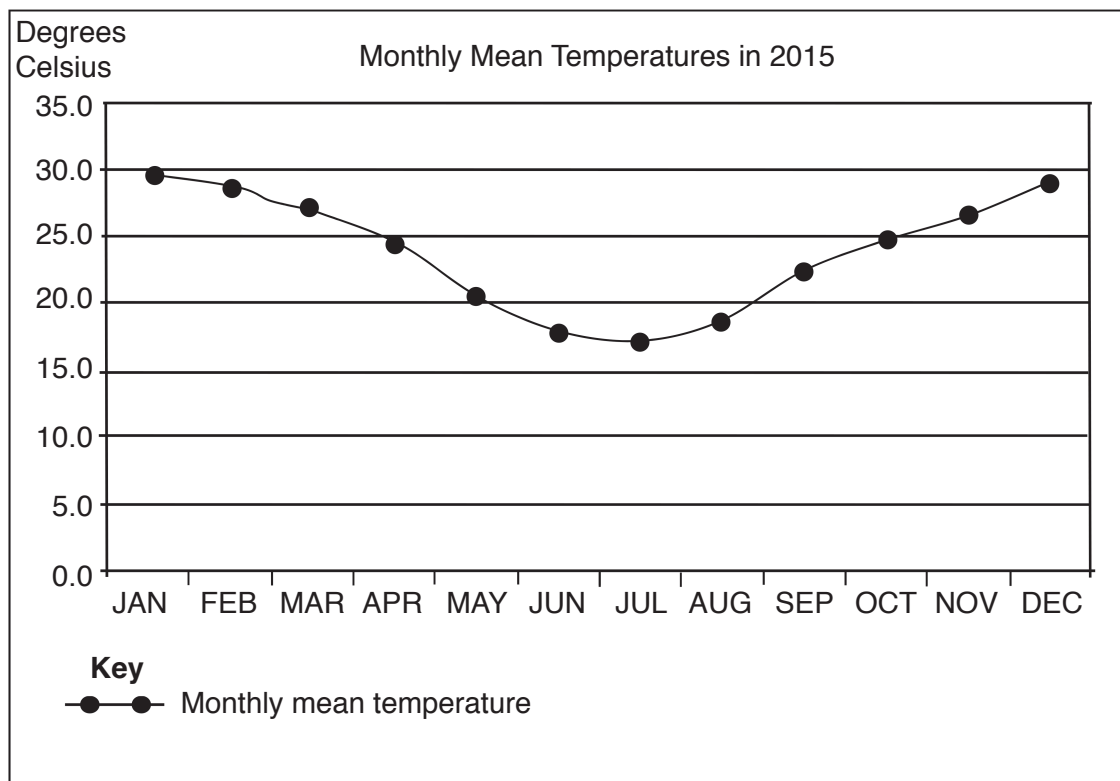


Fig. 3

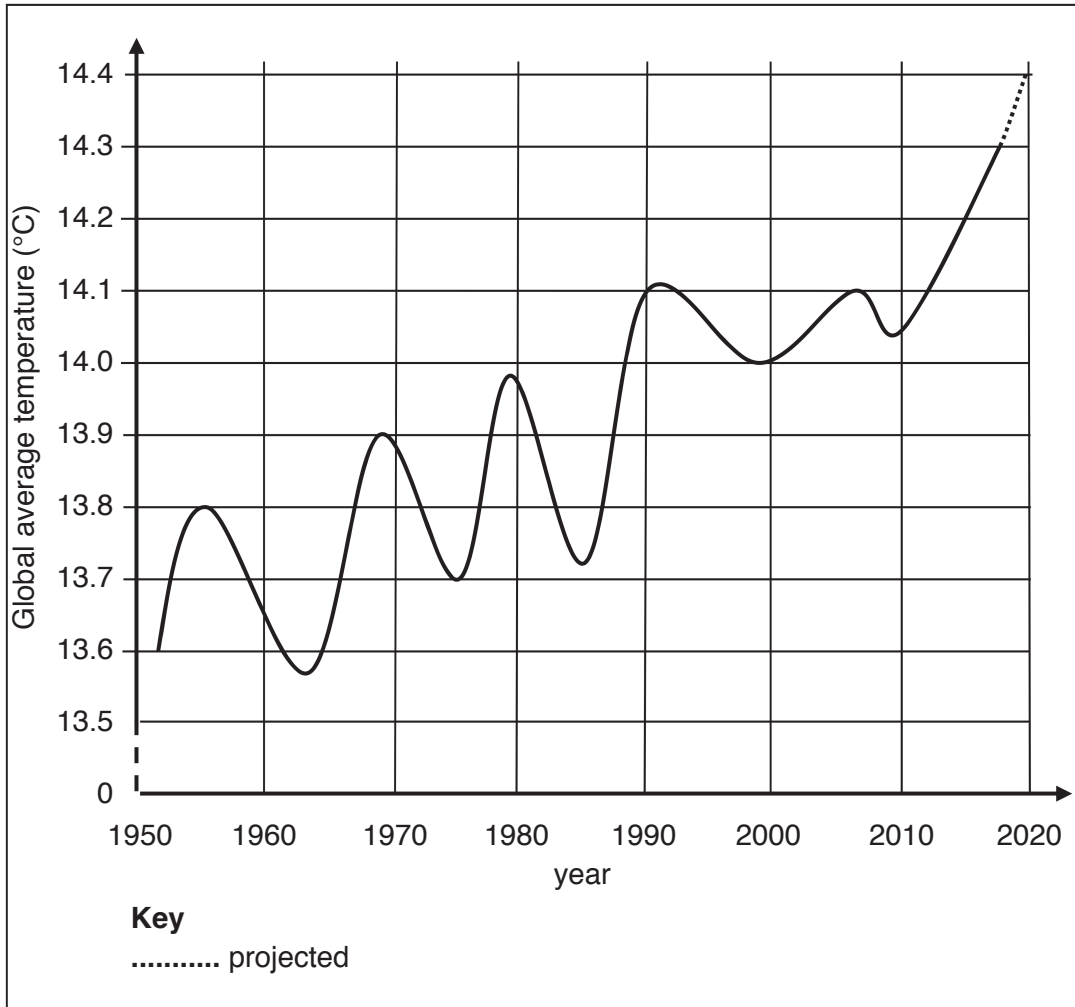
- (i) State the lowest monthly mean temperature shown in Fig. 3.

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

- (ii) Using Fig. 3, describe the changes in monthly mean temperatures between January and December.

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

(b) Study Fig. 4, which shows changes in global average temperatures.



**Fig. 4**

(i) Using Fig. 4, state the projected global average temperature in 2020.

..... [1]

(ii) Describe the changes in global average temperatures shown in the graph between 1950 and 2015.

.....

.....

.....

..... [2]

(iii) Suggest the causes of the changes in global average temperatures shown in Fig. 4.

1 .....

.....

2 .....

..... [2]

**[Total: 8 marks]**

- 4 (a) Study Fig. 5, which shows **two** types of arable farming systems; Fig. 5A and Fig. 5B; practiced in an LEDC.

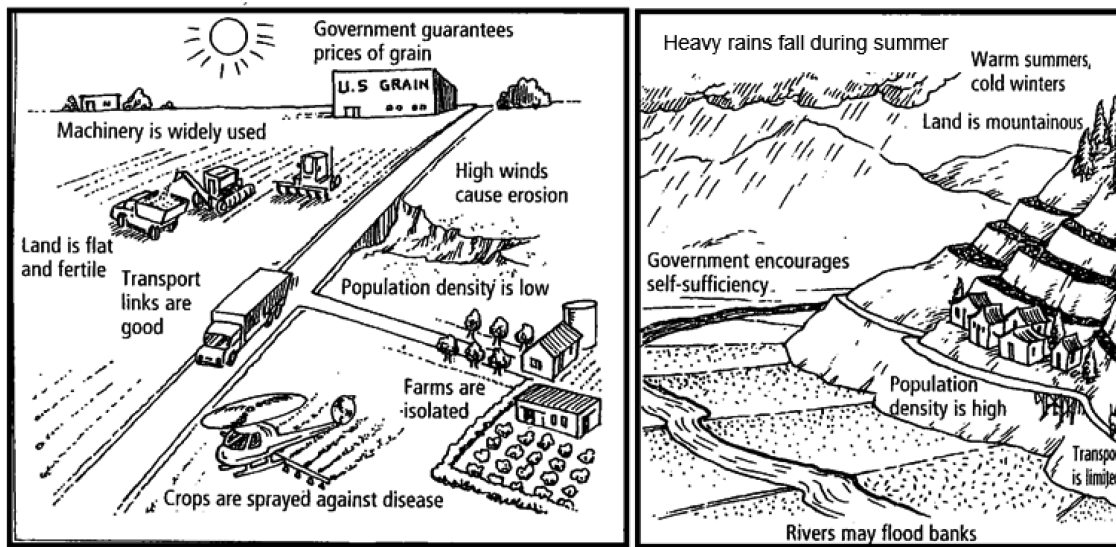


Fig. 5A

Fig. 5B

- (i) Name the **two** farming systems; **A** and **B** shown in Fig. 5.

**A** .....

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

- (ii) Using Fig. 5B, state **one** problem faced by farmers in this system of farming for each of the following headings;

Physical .....

.....

Economic .....

.....

Human .....

..... [3]

- (iii) Using Fig. 5A, state any **one** negative impact of this system on the environment.

.....

..... [1]

- (b) Using Fig. 5A, describe **two** farming practices that may cause a high output from this farm.

1 .....

.....

2 .....

..... [2]

**[Total: 8 marks]**

- 5 (a) Study Fig. 6, which shows rural settlement patterns.

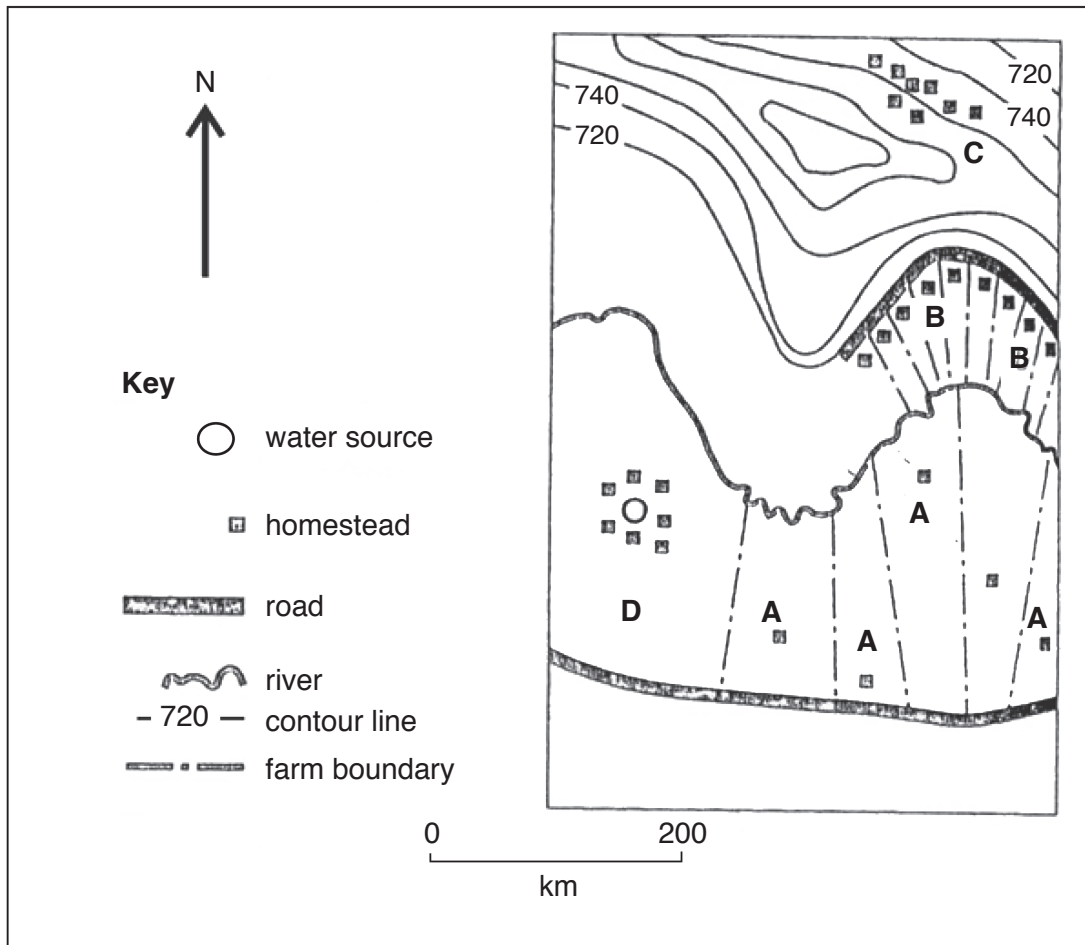


Fig. 6

- (i) Name each of the rural settlement patterns **A**, **B** and **C**.

**A** .....

**B** .....

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

- (ii) For each of the settlements, **B** and **C**, give **one** factor that may have influenced its pattern.

**B** .....

.....

**C** .....

..... [2]



**(b)** Study Photograph **A** (Insert) which shows a land use zone found in towns.

Describe **three** features of the landscape shown.

1 .....

.....

2 .....

.....

3 .....

..... [3]

**[Total: 8 marks]**

- 6 (a) Study Fig. 7, which shows the population of four parts of the world in 2010 and the projected in 2060.

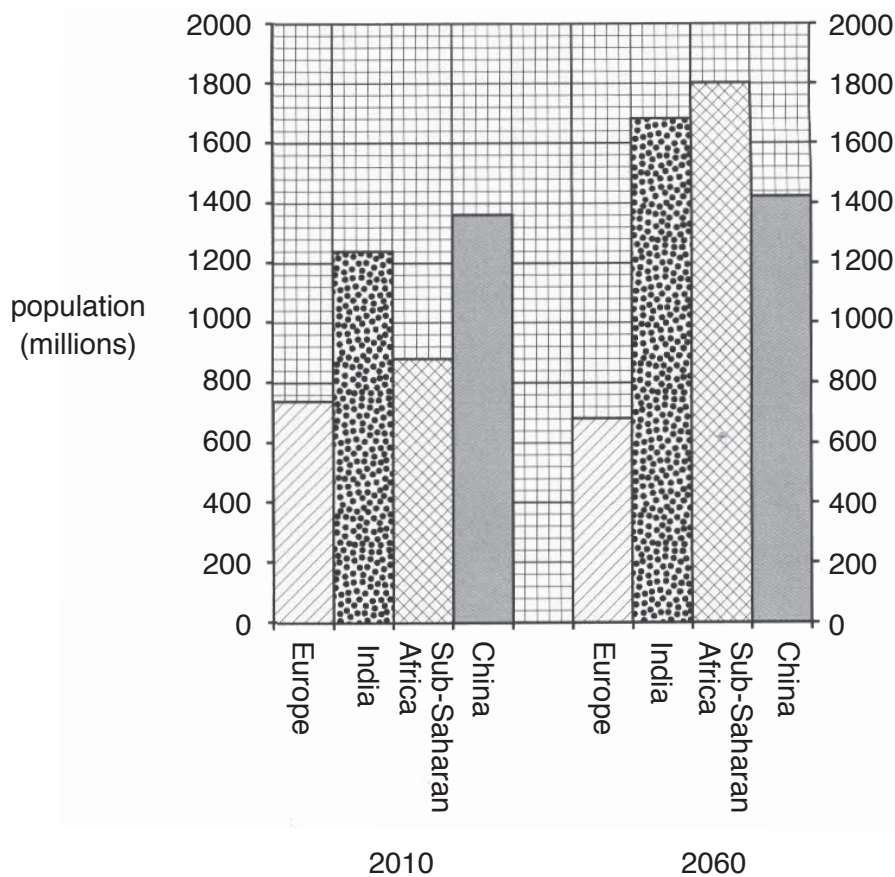


Fig. 7

- (i) What was the population of Sub - Saharan Africa in 2010?

..... [1]

- (ii) Using Fig. 7, identify the part of the world which is likely to:

**A** have the highest increase in population in 2060;

..... [1]

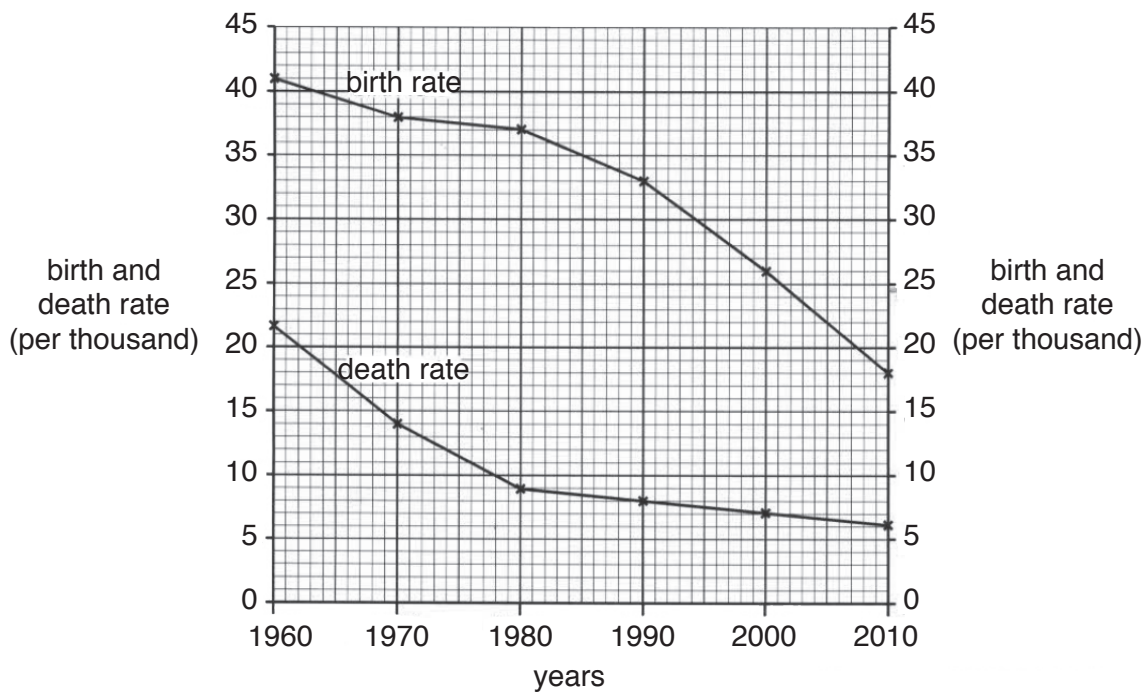
**B** decrease its population in 2060.

..... [1]

(iii) Describe **three** problems caused by high population growth.

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

(b) Study Fig. 8 which shows the birth and death rate of an LEDC between 1980 and 2010.



**Fig. 8**

Calculate the natural population growth rate in this country in 1990. Show your calculations and answer in the box.

Answer .....

[2]

**[Total: 8 marks]**

## SECTION B

ANSWER EITHER QUESTION 7 OR 8

- 7 (a) A group of students from a high school in the Shiselweni region carried out an investigation in two shopping complexes **A** and **B**. Shopping complex **A** is located near the city centre and shopping complex **B** is located 10km away from the city centre.

They agreed on two hypotheses:

**Hypothesis 1:** *shopping complex A is busier and more convenient than shopping complex B*

**Hypothesis 2:** *shopping complex A has a larger sphere of influence than shopping complex B*

- (i) State **one** advantage of the location of shopping complex **B**.

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

- (ii) The students decided to count every third person that comes to the shopping complexes.

What type of sampling method did they use?

..... [1]

- (iii) List **two** advantages of the sampling method you have given in a (ii) above.

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

- (iv) Before carrying out the investigation, they decided to do a preliminary visit.

List **three** advantages of such a visit.

1 .....  
.....  
2 .....  
.....  
3 .....  
..... [3]

- (b) The teacher decided to divide the students into two equal groups, each group to investigate a different shopping complex. Table 2 shows the results from the two shopping complexes **A** and **B**, and Table 3 shows the difference between high order and low order goods.

**Table 2**

Data Collected	Shopping complex <b>A</b>	Shopping complex <b>B</b>
Distance	1 km from City Centre	10 km from City Centre
Location	Located at intersection of roads	Located on a busy road
Staff employed	200 employees	15 employees
Type of goods sold	Higher order & low order	Low order
Measurements of the shops (Area)	70 square metres	30 square metres
Customer count between 1300–1400hrs	200 people	70 people

**Table 3**

	Low order	High order
Pricing	Cheap	.....
Frequency of buying	.....	Bought once in a while
Range travelled	Less distance	.....
Example	.....	Furniture

- (i) Use the information from Table 2, and any other information you know to complete Table 3. [4]

- (ii) Use the information from Table 2 to draw bar graphs on Fig. 9. showing the number of customers counted between 1300–1400 hrs for shopping complex **A** and **B**.

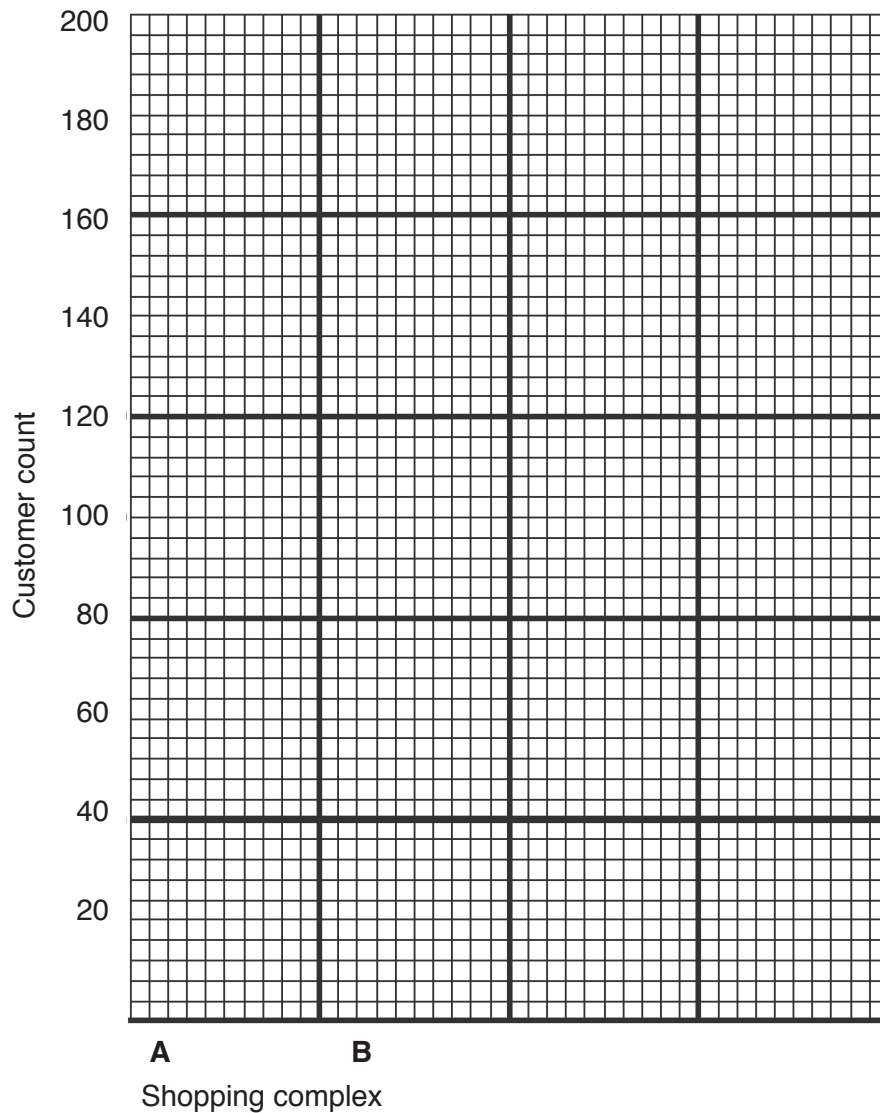


Fig. 9

[3]

- (iii) Suggest **one** reason why the customer count was carried out between 1300–1400 hrs.

..... [1]

- (c) (i) Write a conclusion to the investigation on **Hypothesis 1**: *shopping complex A is busier and more convenient than shopping complex B.*

Use data from Table 2, Table 3 and Fig. 9 to support your conclusion.

.....

.....

.....

.....

.....

..... [3]

- (ii) Suggest how the investigation could be improved.

.....

.....

.....

..... [2]

- (d) The students further investigated **Hypothesis 2**: *shopping complex A has a larger sphere of influence than shopping complex B.*

- (i) What is a sphere of influence?

.....

..... [1]

Table 4 shows the results of the investigation on the sphere of influence for shopping complex **A** and **B** for a variety of goods, their range and threshold population.

**Table 4**

	Shopping complex <b>A</b>	Shopping complex <b>B</b>
Types of goods/ services and range	<ul style="list-style-type: none"> <li>• Furniture shop – 2 km</li> <li>• Jewellery shop – 4 km</li> <li>• Chemist – 8 km</li> </ul>	<ul style="list-style-type: none"> <li>• Market – 0.5 km</li> <li>• Grocery shop – 1.5 km</li> <li>• Café – 3 km</li> </ul>
Threshold population	12 000	2000

- (ii) Fig. 10A (Insert) shows the sphere of influence for shopping complex **B**, and Fig. 10B shows the sphere of influence for shopping complex **A**

Complete Fig. 10B by drawing an isoline to show the sphere of influence for the jewellery shop for shopping complex **A** [1]

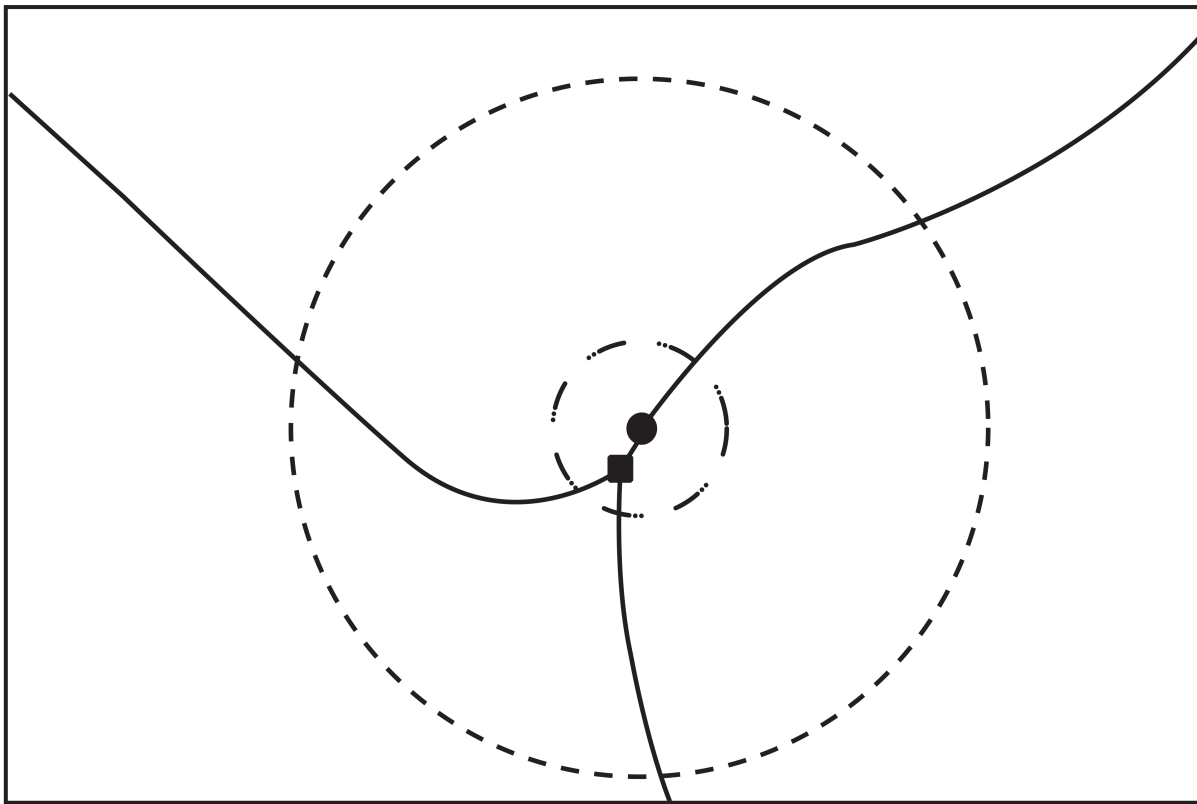






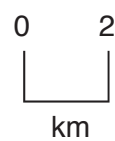


Fig. 10B

Key

- |   |                           |
|---|---------------------------|
|  | furniture shop            |
|  | jewellery shop            |
|  | chemist                   |
|  | city centre               |
|  | shopping complex <b>A</b> |
|  | main road                 |





- (iii) Using information from Table 4, Fig. 10A and Fig. 10B compare the sphere of influence of shopping complex **A** and shopping complex **B**.

.....

.....

.....

.....

.....

..... [3]

- (iv) With reference to Fig. 10B, suggest how the location of shopping complex **A** has affected its sphere of influence.

.....

.....

..... [1]

- (v) Write a conclusion to the investigation on **Hypotheses 2**: *shopping complex A as a larger sphere of influence than shopping complex B*.

Use data from Table 4, Fig. 10A and Fig. 10B

.....

.....

.....

..... [3]

- (vi) Suggest how this investigation could be improved for the results to be reliable.

.....

..... [1]

**[Total: 30 marks]**

- 8 (a) A group of students investigated how the size and shape of pebbles/rocks change from upper course to the lower course of a river. They further investigated how the wetted perimeter changes from the upper course to the lower course of a river.

They agreed to test two hypotheses.

**Hypotheses 1:** *rocks/pebbles are larger and angular in the upper course and become smaller and rounded in the lower course.*

**Hypotheses 2:** *the wetted perimeter decreases downstream.*

To investigate **Hypothesis 1**, the students measured the size of the pebbles/rocks by using a pebbleometer shown in Fig. 11 (Insert), and to measure the shape they used a scale of roundness shown in Fig. 12.

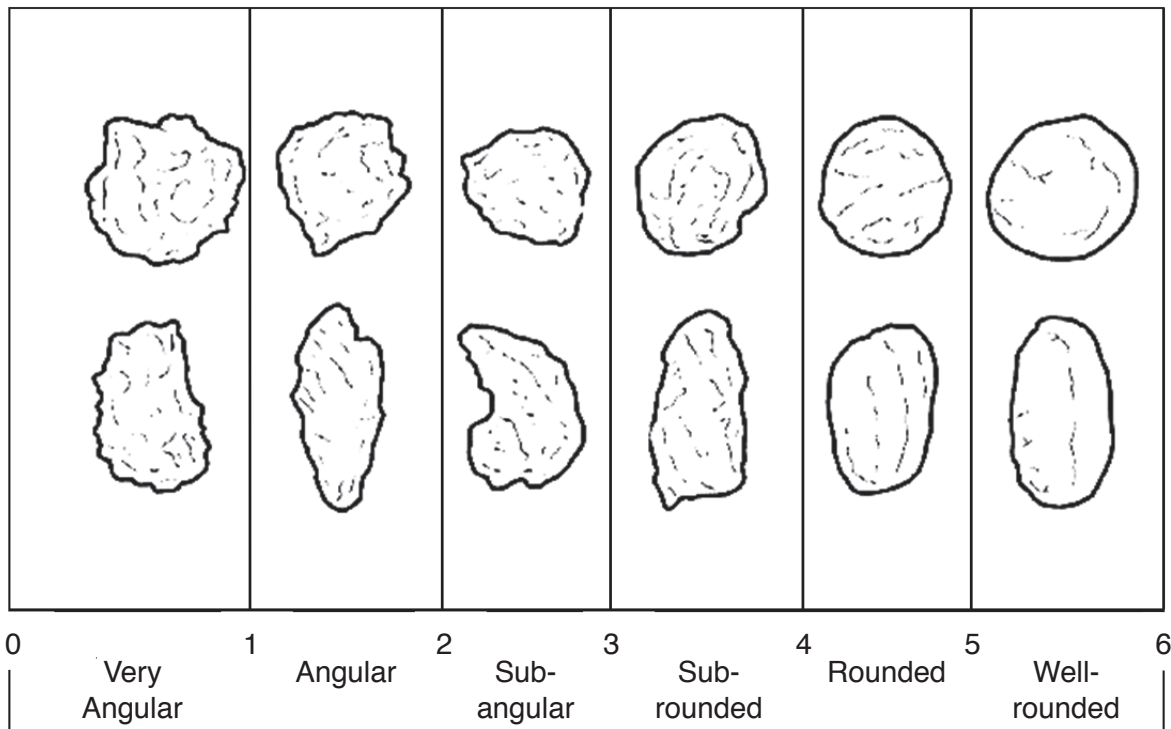


Fig. 12

- (i) Define a pebble

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

- (ii) Suggest how the students used a pebbleometer such as the one shown in Fig. 11 (Insert)

.....

.....

.....

.....

.....

..... [3]

- (b) The students identified 3 sites to be investigated **U**- upper course, **M** – middle course and **L** – lower course.

- (i) Suggest how the students might have selected their samples.

.....

.....

.....

.....

.....

..... [3]

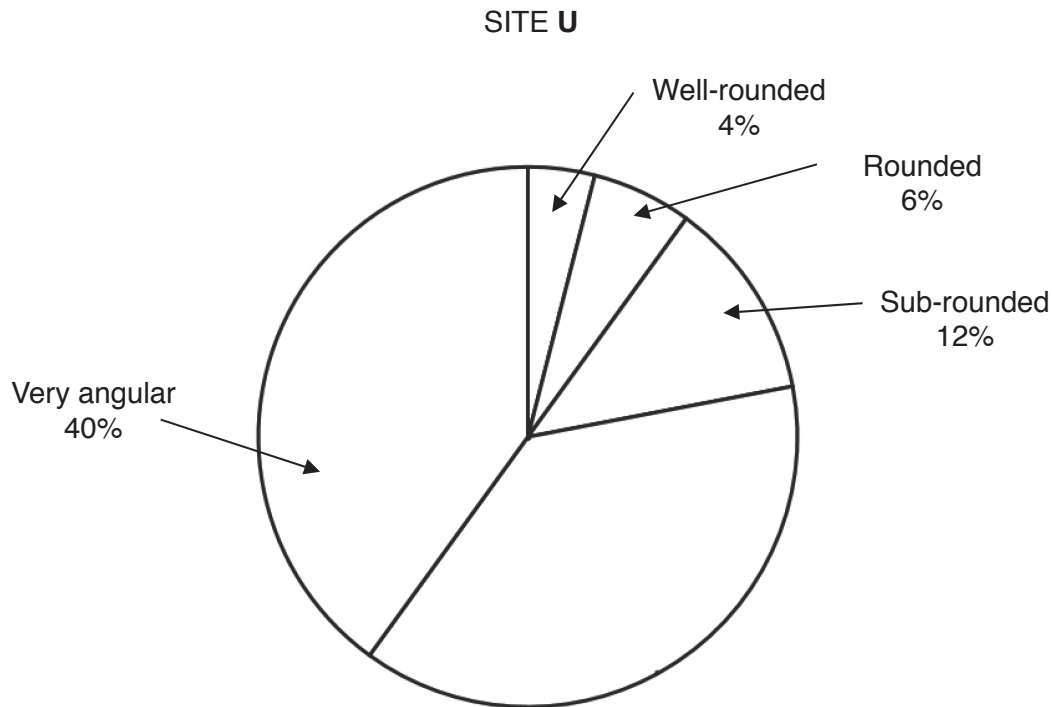
- (ii) The results of the investigation for shape are shown in Table 5.

**Table 5 (Number of pebbles)**

SITE	Very angular	Angular	Sub-angular	Sub-rounded	rounded	Well-rounded
U	20	10	9	6	3	2
M	10	8	6	6	8	12
L	3	6	9	9	13	20

The results for site **U** were presented in a pie graph shown in Fig. 13.

- Use the information in Table 5 to plot the percentages for angular and sub-angular pebbles on the pie graph, Fig. 13.



**Fig. 13**

[3]

- (c) The results for the size of pebbles/rocks are shown in Table 6. The students calculated the average length at each site.

**Table 6**

Site	Average length (cm)
U (Upper course)	50
M (Middle course)	28
L (Lower course)	3

- (i) Using Fig. 13, Table 5, and Table 6 write a conclusion to the investigation on **Hypothesis 1** : *rocks/pebbles are larger and angular in the upper course and become smaller and rounded further downstream.*

.....

.....

.....

.....

.....

..... [3]

- (ii) Suggest how the investigation to the hypothesis could be improved.

.....

..... [1]

- (d) The students further investigated **Hypothesis 2** : *the wetted perimeter decreases downstream.*

- (i) Define wetted perimeter.

.....

..... [1]

- (ii) Name any **two** pieces of equipment used to measure wetted perimeter of a stream.

1 .....

2 ..... [2]

- (iii) Suggest how the students might have measured the wetted perimeter.

.....

.....

.....

.....

.....

..... [3]

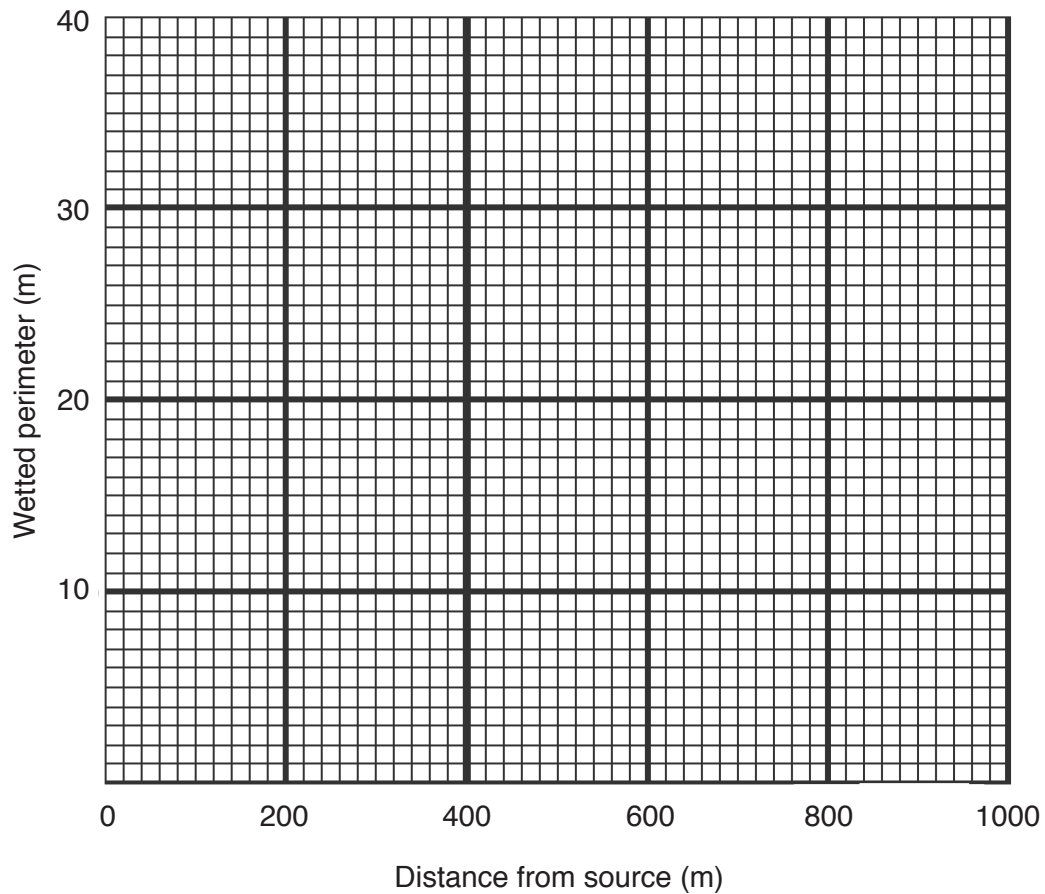
- (e) Four sites were chosen to carry out the investigation: **S**, **T**, **U** and **V**, where the students measured the wetted perimeter.

The results are shown in Table 7.

**Table 7**

Site	distance from source (m)	wetted perimeter (m)
S	200	5
T	400	10
U	600	20
V	800	30

- (i) Use the information from Table 7 to draw a line graph on Fig. 14.



**Fig. 14**

[4]

- (ii) Write a conclusion to the investigation on the **Hypothesis 2: *the wetted perimeter decreases downstream***. Use data from table 7 and Fig. 14 to support your conclusion.

.....

.....

.....

.....

.....

..... [3]

- (iii) Critically evaluate the data collection method.

.....

.....

.....

.....

.....

..... [3]

**[Total: 30 Marks]**

