



L-Università  
ta' Malta

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE  
EXAMINATIONS BOARD

**SECONDARY EDUCATION CERTIFICATE LEVEL  
2018 MAIN SESSION**

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SUBJECT:	<b>Geography</b>
PAPER NUMBER:	I
DATE:	21 <sup>st</sup> May 2018
TIME:	9:00 a.m. to 11:05 a.m.

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**Answer ALL questions.**

1) Study figure 1, Malta West extract, and then answer the following questions. The scale of the map is 1:25,000. The key/legend of the map is on page 3.

a) In which grid square is the village of Mġarr found?

\_\_\_\_\_ (1)

b) Give the six-figure grid reference of:

i) Bingemma Fort marked A; \_\_\_\_\_

ii) Roman Baths marked B. \_\_\_\_\_ (2)

c) Give the compass direction from Ras ir-Raġeb marked C to il-Karraba marked D.

\_\_\_\_\_ (1)

d) Measure the straight line distance in metres or kilometres, between Mġarr church marked E to Kuncizzjoni church marked F.

\_\_\_\_\_ (2)

e) Calculate the slope gradient along the line marked GH. Point G is Pellegrin at 127 metres above sea-level and point H is at sea-level. Show all your workings.

Ans: \_\_\_\_\_ (4)

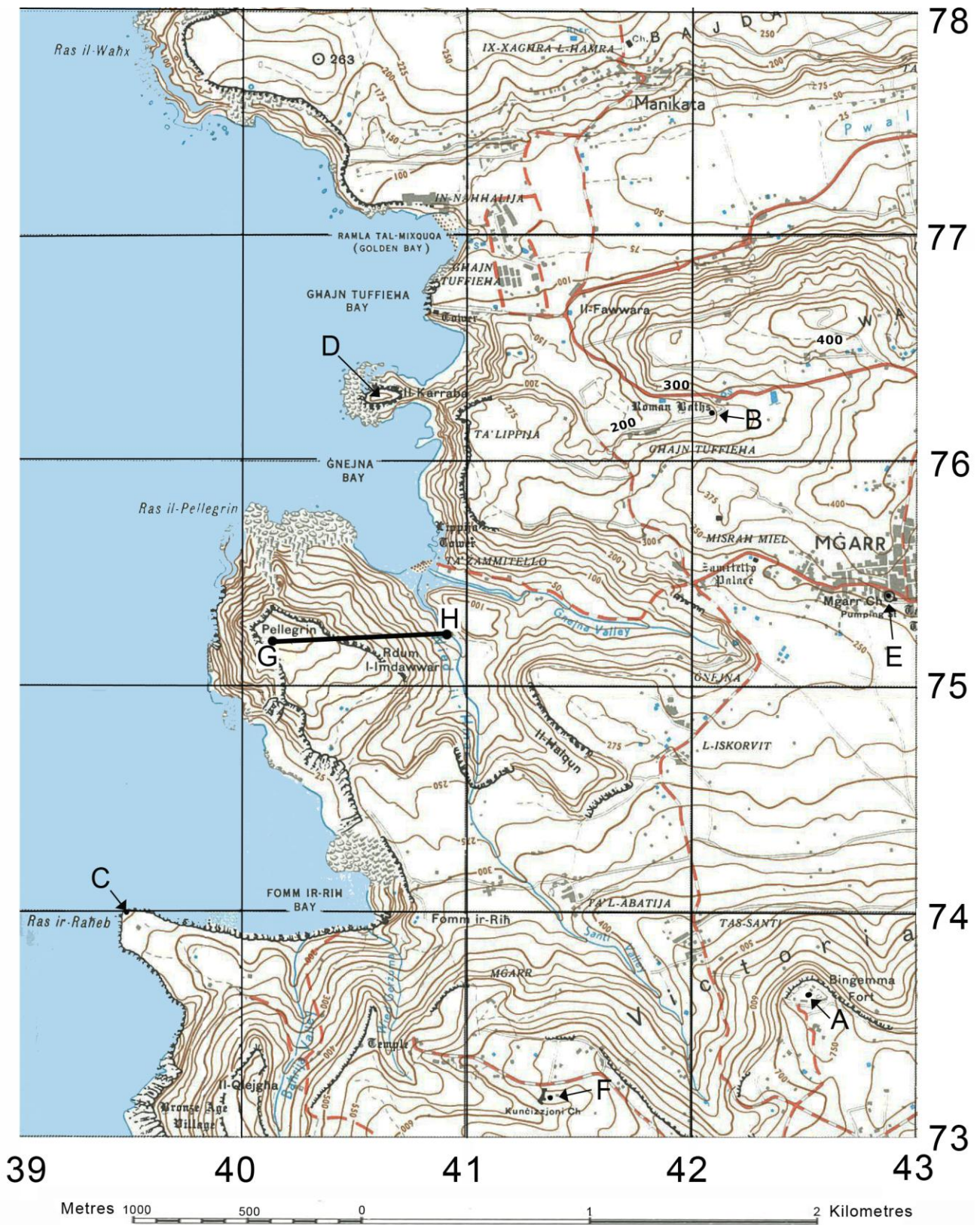


Figure 1: Malta West extract

(Source: Government of Malta (1984))

f) Would you be walking uphill or downhill if you walked for one kilometre westwards from grid reference 427766?

\_\_\_\_\_

(1)

g) Describe and account for the character of the coastline in grid squares 4075 and 4076.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

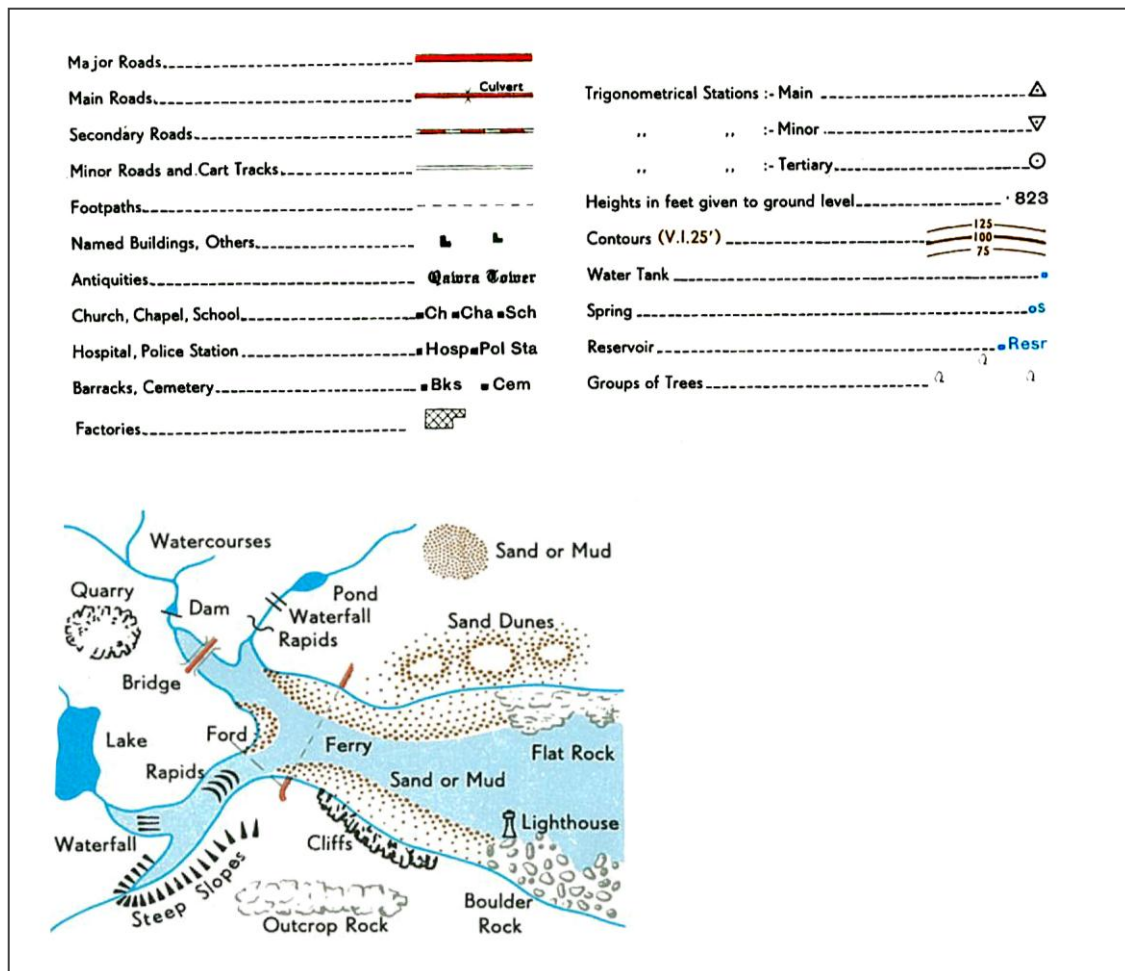
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(5)

**(Total: 16 marks)**



Legend to Figure 1: Malta West

***Please turn the page.***

2) Study the world map (figure 2 on page 5) and then answer the following questions.

a) Name the shaded countries 1 to 4.

1. \_\_\_\_\_ 2. \_\_\_\_\_  
 3. \_\_\_\_\_ 4. \_\_\_\_\_ (4)

b) Match the following volcanoes, marked on the map and numbered 5 to 8.

Volcanoes	Numbers
Surtsey	
Mt. St. Helens	
Kilimanjaro	
Cotopaxi	

(4)

c) Name the rivers numbered 9 and 10.

9. \_\_\_\_\_ 10. \_\_\_\_\_ (2)

d) On the map itself draw a line from one edge to the other along the map to show the approximate location of the Equator. (1)

e) Name the ocean current marked by an arrow and numbered 11. Is this a cold or a warm ocean current?

11. \_\_\_\_\_ (2)

f) City 12 is located at 50°N 60°W. Calculate the time at city 12 if it is noon at Greenwich. Show all your workings.

(3)

**(Total: 16 marks)**



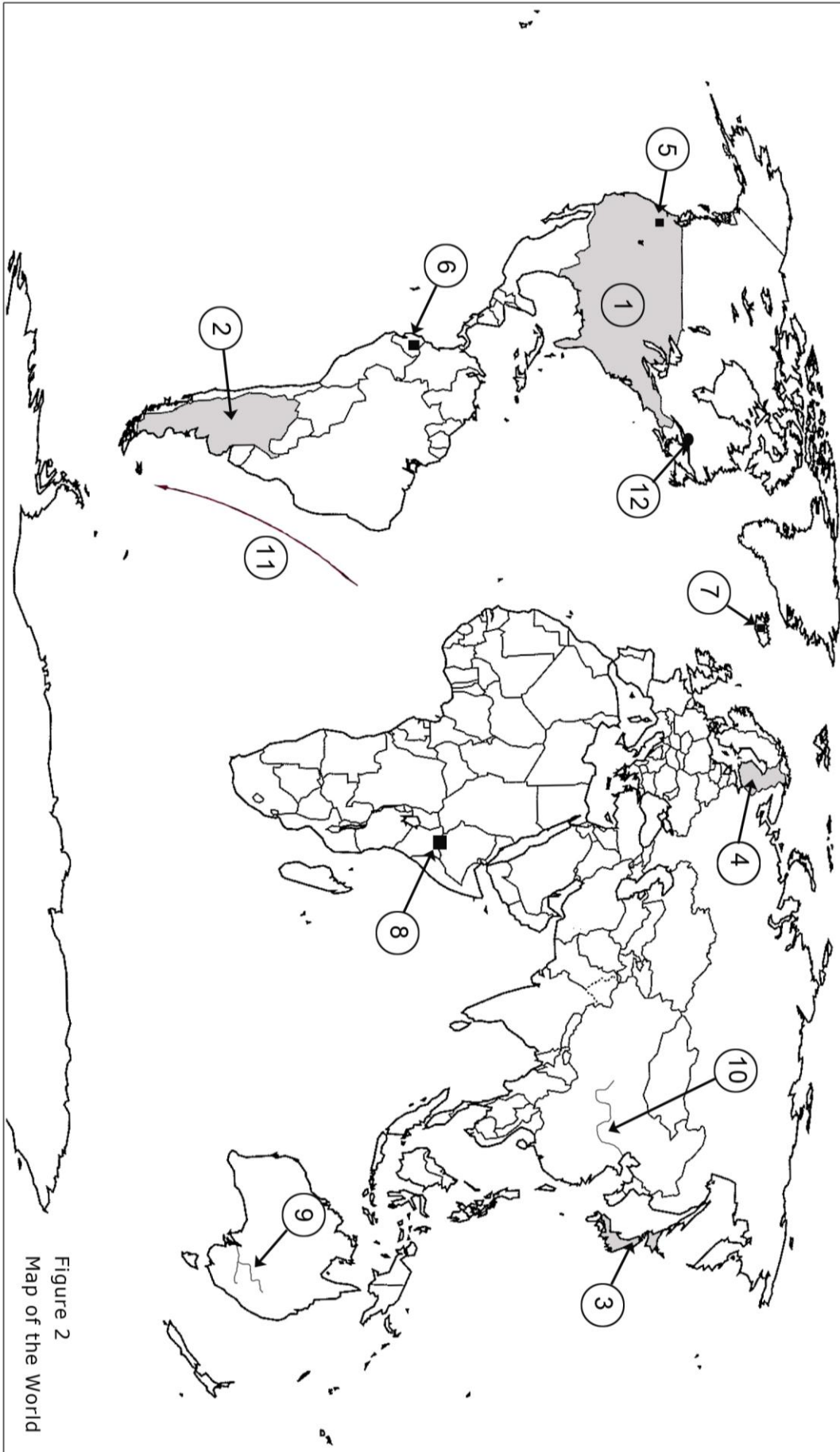


Figure 2  
Map of the World

3) Figure 3 shows the climate graph for the city of Timbuktu in Mali.

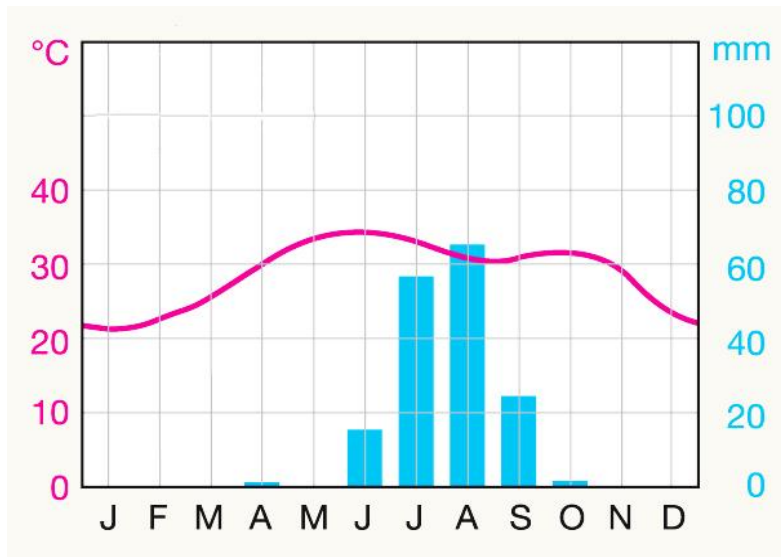


Figure 3: Climate graph

(Source: <http://www.diercke.com>)

a) With the help of the Climate Graph in figure 3, describe **FOUR** characteristics of the climate shown.

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(4)

b) Explain **FOUR** ways by which plants and wildlife have adapted to survive in the hot desert.

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(4)

**(Total: 8 marks)**

4) Traffic congestion is a major problem in most large cities.

a) Give **THREE** reasons why city centres are often congested.

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(3)

b) At what time of the day do urban areas suffer severe traffic congestion? Explain why.

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(1)

c) Many cities have implemented a number of schemes to reduce traffic congestion. Describe **THREE** ways how traffic can be reduced in city centres.

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(3)

**(Total: 7 marks)**

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5) Figure 4 shows a synoptic/weather chart.

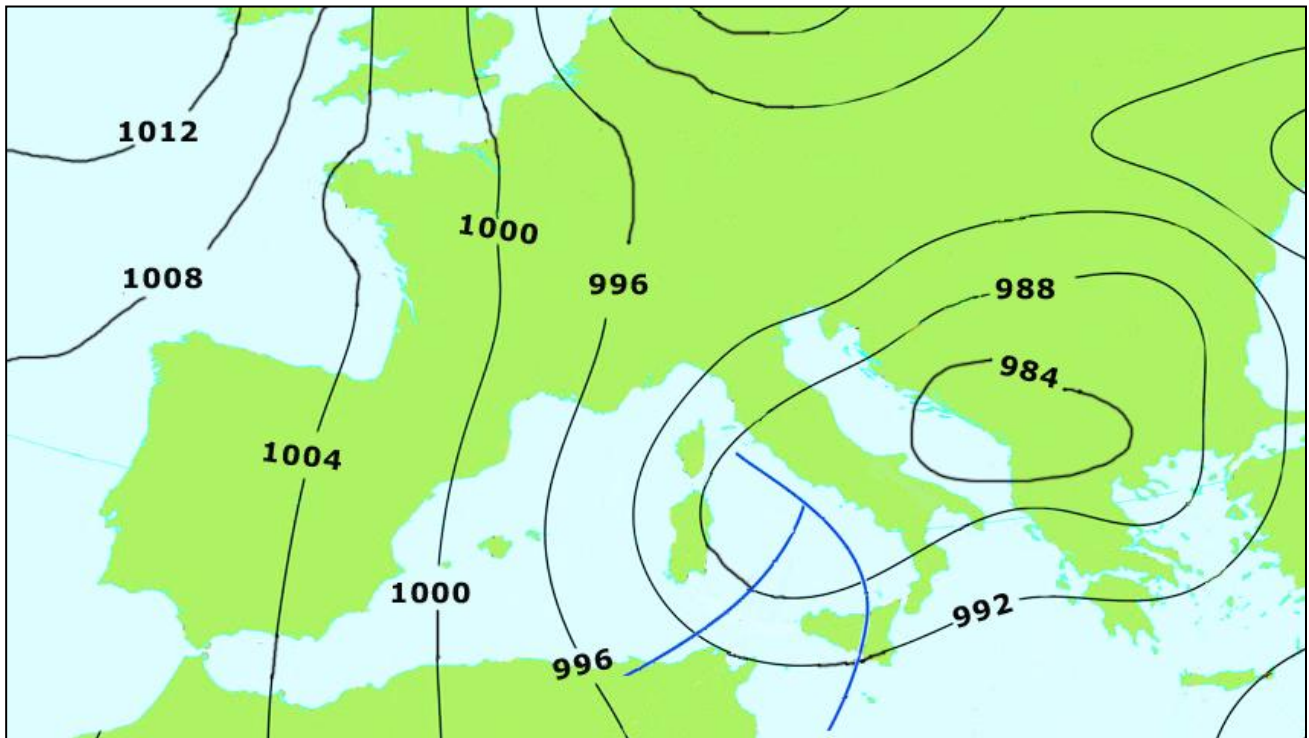


Figure 4: Synoptic/Weather Chart

a) The map in figure 4 is covered with a number of lines called isobars. What are isobars?

\_\_\_\_\_ (1)

\_\_\_\_\_

b) Insert on the map itself the letter **L** (Low) in the appropriate place on the map. (1)

c) The outline of a depression is marked on figure 4. On this depression and by using the correct symbols, mark:

- i) a warm front; and
- ii) a cold front. (2)

d) Lightly shade in those areas on the map where rain was most likely falling at the time the map was drawn. (2)

**(Total: 6 marks)**



6) Figure 5 shows some features produced by glaciers.

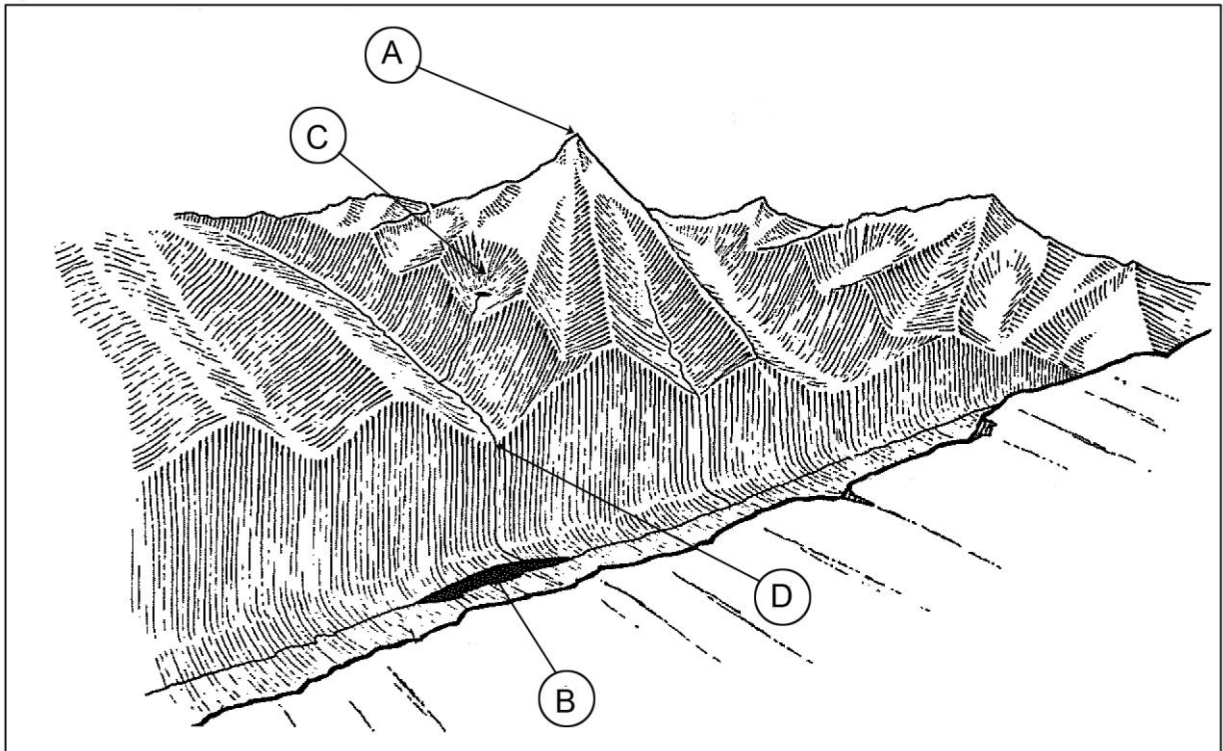


Figure 5: Glacial features  
 (Source: R.B. Bunnett (1971) *Physical Geography in Diagrams*)

a) Four glacial features are marked and lettered A to D on figure 5. Match the features labelled on the diagram to the letters in the table below. Choose from:

drumlins	corrie/cirque/cwm	hanging valley	meander
delta	erratics	ribbon lake	pyramidal peak/horn

Letter	Glacial Feature
A	
B	
C	
D	

(2)

***This question continues on the next page.***

b) Explain how any **TWO** of the features marked on figure 5 are formed.

Feature 1 \_\_\_\_\_

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(2)

Feature 2 \_\_\_\_\_

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(2)

**(Total: 6 marks)**

7) Define the terms 'primary', 'secondary' and 'tertiary' industries.

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(3)

**(Total: 3 marks)**

8) Figure 6 shows a river feature.

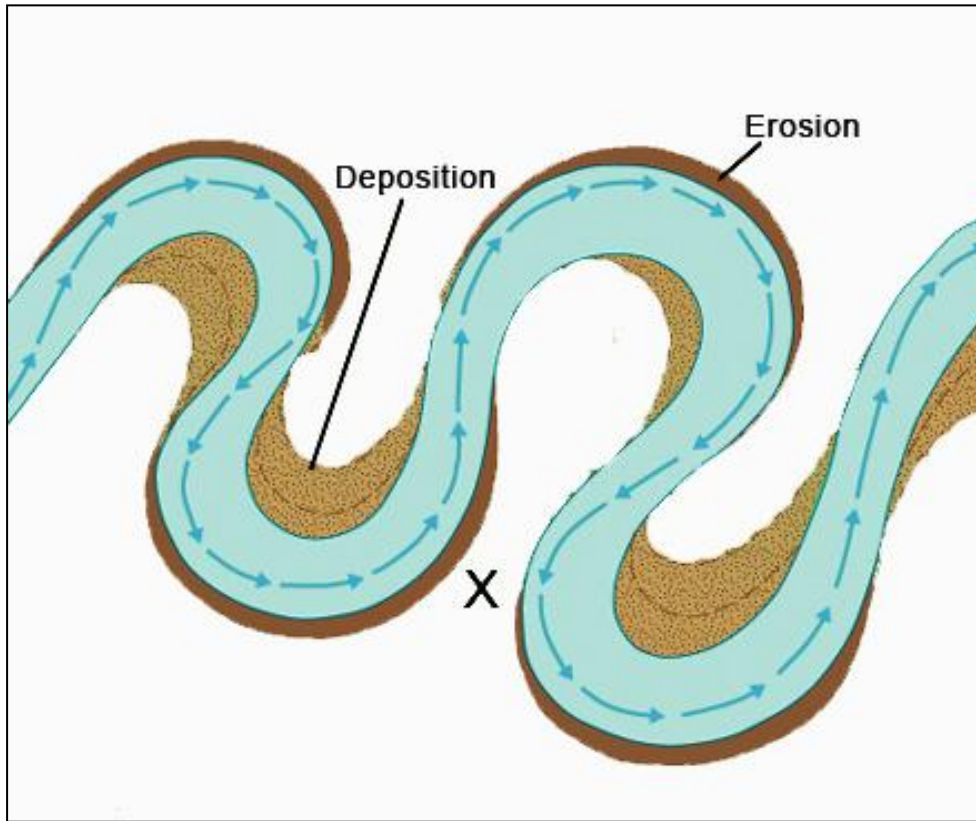


Figure 6: River feature

(Source: Adapted from <http://glacialmass.blogspot.com.mt/2013/05/river-features.html>)

a) Name the river feature seen in figure 6. \_\_\_\_\_ (1)

b) What new feature might form over the years as a result of continuous erosion at point X marked on figure 6?

\_\_\_\_\_ (1)

c) Briefly explain how the new feature you named in question 8b forms.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (2)

**(Total: 4 marks)**

***Please turn the page.***

9) Figure 7 shows the trans-Alaska oil pipeline which runs from Prudhoe Bay to Valdez.



Figure 7: Trans-Alaskan oil pipeline  
(Source: Adapted from <http://www.sfgate.com>)

a) Pipeline builders faced many problems during the construction of the trans-Alaska pipeline. Some of these problems are listed below. Under each problem explain what measures have been taken to overcome each problem.

**Problem 1:** Pipeline crosses earthquake zone.

**Solution:**

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(2)

**Problem 2:** Extreme cold with temperature down to  $-50^{\circ}\text{C}$  accompanied with heavy snow falls.

**Solution:**

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(2)

**Problem 3:** Pipeline crosses Caribou migration route.

**Solution:**

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(2)

b) The oil tanker Exxon Valdez ran aground at the point marked X on figure 7. Describe **FOUR** effects of the Exxon Valdez oil spill.

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(2)

**(Total: 8 marks)**

***Please turn the page.***



10) Answer the following questions on acid rain.

a) Name the **TWO** gases mostly responsible for acid rain. From where is each gas emitted?

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(2)

b) Describe **TWO** effects of acid rain.

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(2)

c) State **TWO** ways how the levels of acid rain can be reduced.

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(2)

**(Total: 6 marks)**

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SUBJECT:	<b>Geography</b>
PAPER NUMBER:	IIA
DATE:	22 <sup>nd</sup> May 2018
TIME:	9:00 a.m. to 11:05 a.m.

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Answer any **TWO** questions from Section A and any other **TWO** questions from Section B.

Answer **FOUR** questions in total. Answers are to be written on the booklet provided.

Each question carries a total of 25 marks. Marks allocated to parts of the questions are indicated.

Good use of language and orderly presentation are important. Credit will be given for relevant illustrations. The use of non-programmable calculators and geometric instruments is permitted.

### **SECTION A**

**Answer TWO questions from this section.**

1. a) What is a drainage basin? (3)
- b) The main aim of a river is to cut an efficient course from its source to its mouth. In the upper section of the river erosion is more common. Name and explain **FOUR** types of river erosion. (8)
- c) Vertical erosion in the highland part of the river helps to create steep-sided V-shaped valleys with interlocking spurs and waterfalls. Explain with the help of labelled diagrams how waterfalls and interlocking spurs form. (14)

**(Total: 25 marks)**

2. a) What are tropical storms? (4)
- b) Name a tropical storm that caused significant devastation. (1)
- c) How and why do tropical storms develop? (8)
- d) List and explain **THREE** typical effects that are likely to be experienced with the passing of a tropical storm. (12)

**(Total: 25 marks)**

***Please turn the page.***

3. a) Explain how a composite cone volcano is formed. Give **ONE** example of a composite cone volcano. (3)
- b) With the help of a labelled diagram, describe **FIVE** features of a composite cone volcano. (10)
- c) List and explain **THREE** hazards and **THREE** benefits of living near a volcano. (12)

**(Total: 25 marks)**

4. a) Describe **TWO** processes of glacial erosion. (6)
- b) Moraines are deposits of till that are different from the underlying bedrock. With the help of a labelled diagram, name and explain **THREE** types of moraine. (13)
- c) Discuss **ONE** advantage and **ONE** disadvantage of tourism in glaciated areas. (6)

**(Total: 25 marks)**

## **SECTION B**

**Answer TWO questions from this section.**

5. a) Explain the differences between extensive and intensive farming. (4)
- b) List **TWO** aims of the 1992 agricultural reforms of the CAP, the EU Agricultural Policy. (4)
- c) Discuss **THREE** environmental impacts of farming. (9)
- d) Rice is one of the world's most important crops necessary to provide food and reduce famine. Describe **TWO** physical inputs to rice cultivation in India. (8)

**(Total: 25 marks)**

6. Three major urban zones are: Central Business District (CBD), Inner City and Residential suburbs.
- a) Briefly define the **THREE** major urban zones listed above. (6)
- b) List and briefly explain **THREE** main characteristics of a Central Business District. (9)
- c) Describe **TWO** changes that have taken place recently in many Central Business Districts. (4)
- d) List **TWO** main issues of inner cities, and discuss in detail these issues. (6)

**(Total: 25 marks)**



7. a) Figure 1 shows the demographic transition model.

- i) Explain what the model shows. (2)
- ii) Give a detailed explanation of what is happening in each stage. Explain why these changes are taking place. (15)

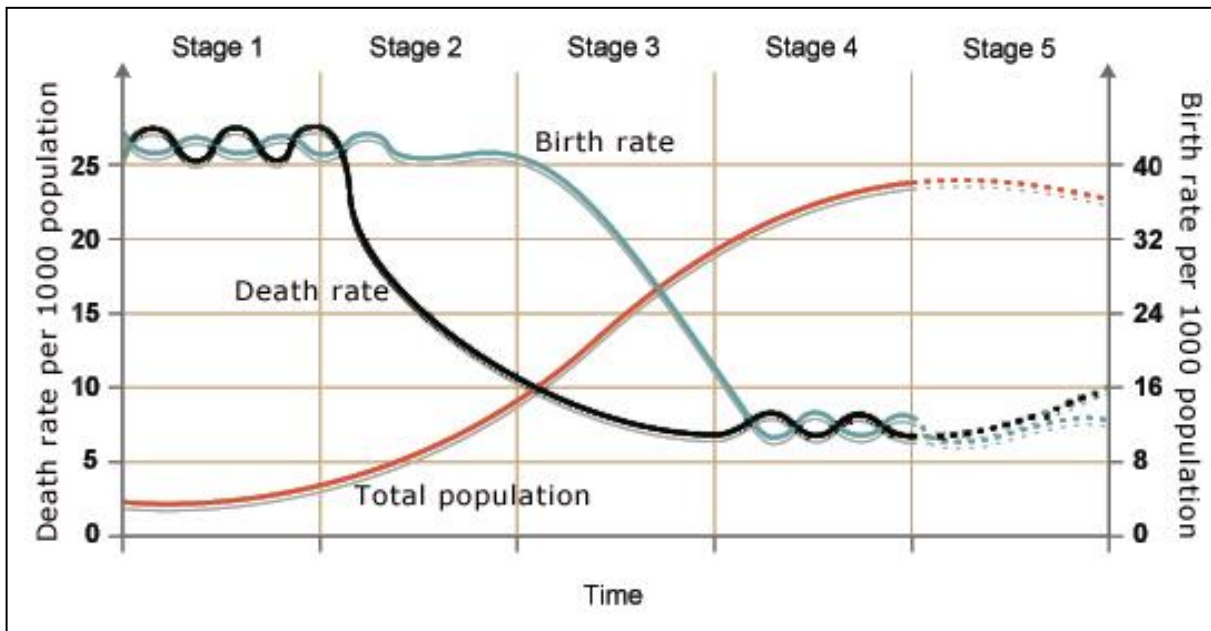


Figure 1: The Demographic Transition Model  
 (Source: adapted from <http://www.bbc.co.uk/schools>)

b) Figure 2 below shows a population pyramid for Italy. Summarise **FOUR** problems created by such a population structure. (8)

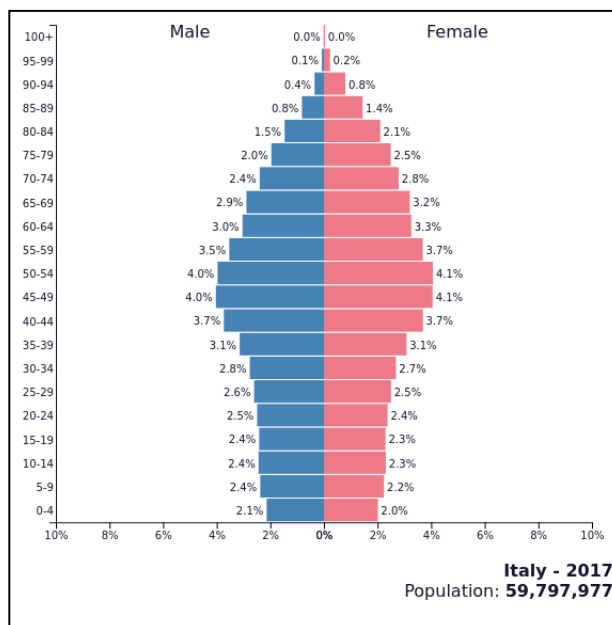


Figure 2: Population Pyramid (Italy 2017)  
 (Source: <https://www.populationpyramid.net/italy/2017/>)

**(Total: 25 marks)**  
**Please turn the page.**

8. a) Global energy consumption is rising, associated with a greater demand for resources. Describe the **TWO** reasons why demand for the world's resources continues to grow. (4)
- b) What are fossil fuels? (3)
- c) Write about **THREE** advantages and **THREE** disadvantages of **ONE** type of fossil fuel. (6)
- d) The Aswan High Dam was built on the Nile River in Egypt bringing socio-economic benefits, however it also created several problems. Discuss **THREE** benefits and **THREE** disadvantages brought about by the building of this dam. (12)

**(Total: 25 marks)**



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SUBJECT:	<b>Geography</b>
PAPER NUMBER:	IIB
DATE:	22 <sup>nd</sup> May 2018
TIME:	9:00 a.m. to 11:05 a.m.

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Answer any **TWO** questions from Section A and any other **TWO** questions from Section B.

Answer **FOUR** questions in total. Answers are to be written on the booklet provided.

Each question carries a total of 25 marks. Marks allocated to parts of the questions are indicated.

Good use of language and orderly presentation are important. Credit will be given for relevant illustrations. The use of non-programmable calculators and geometric instruments is permitted.

### **SECTION A**

**Answer TWO questions from this section.**

1. a) The process of freeze-thaw weathering (frost shattering) is important in glacial landscapes. With the help of a labelled sketch, describe this process. (6)
- b) Choose **TWO** of the following types of moraines and describe them:
  - i) Ground moraine.
  - ii) Lateral moraine.
  - iii) Medial moraine.
  - iv) Terminal moraine. (6)
- c) What is an erratic in a glacial landscape? (5)
- d) List and describe **TWO** types of human land use in glaciated areas. (8)

**(Total: 25 marks)**

***Please turn the page.***

2. a) Many people settle near rivers. List and explain **THREE** reasons why rivers are important for people. (9)
- b) Figure 1 shows **FOUR** different river transportation processes. Explain each process. (8)

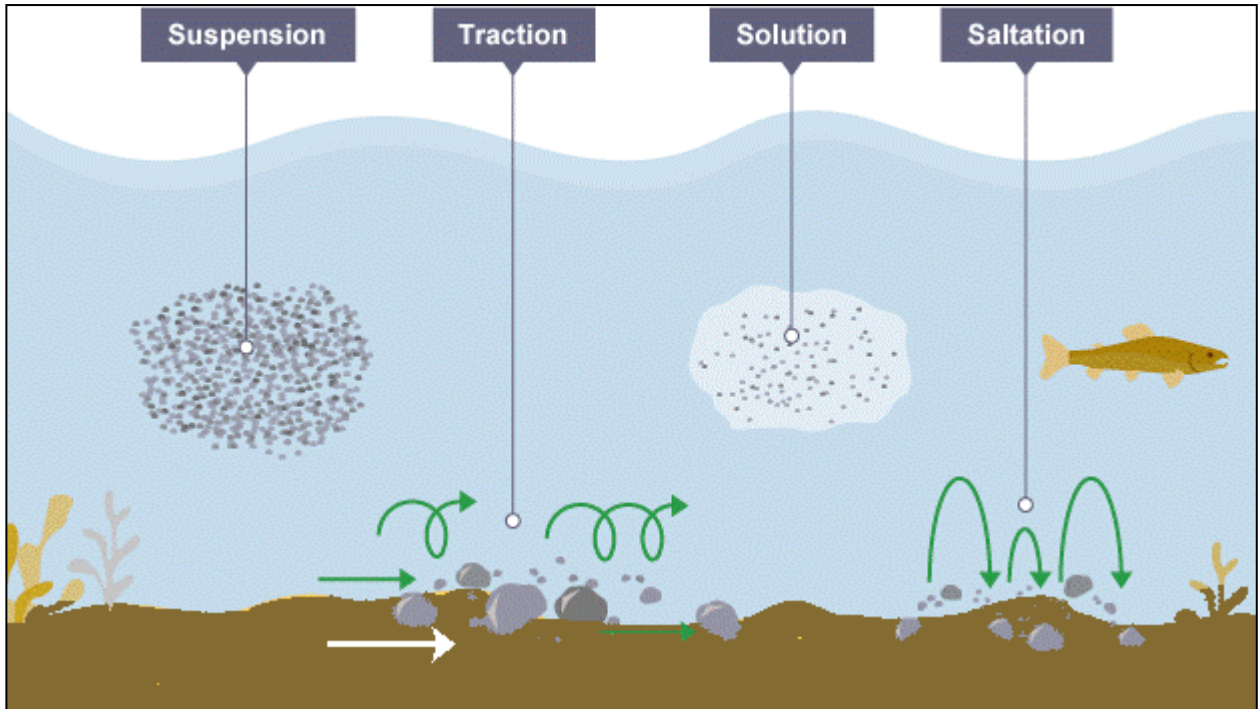


Figure 1: River transportation processes

(Source: <https://www.bbc.co.uk/>)

- c) Humans may have negative impacts on rivers. Discuss **TWO** ways how people are harming rivers. (8)

**(Total: 25 marks)**

3. a) Explain the difference between weather and climate. (3)
- b) Latitude, distance from the sea, prevailing winds, ocean currents and altitude are factors that influence global temperatures. Explain in detail how each of these **FIVE** factors affect temperature. (10)
- c) With the use of diagrams explain **TWO** main types of rainfall. (12)

**(Total: 25 marks)**

4. a) Describe and explain the distribution of earthquakes and volcanoes shown on the map of the world in figure 2. (5)

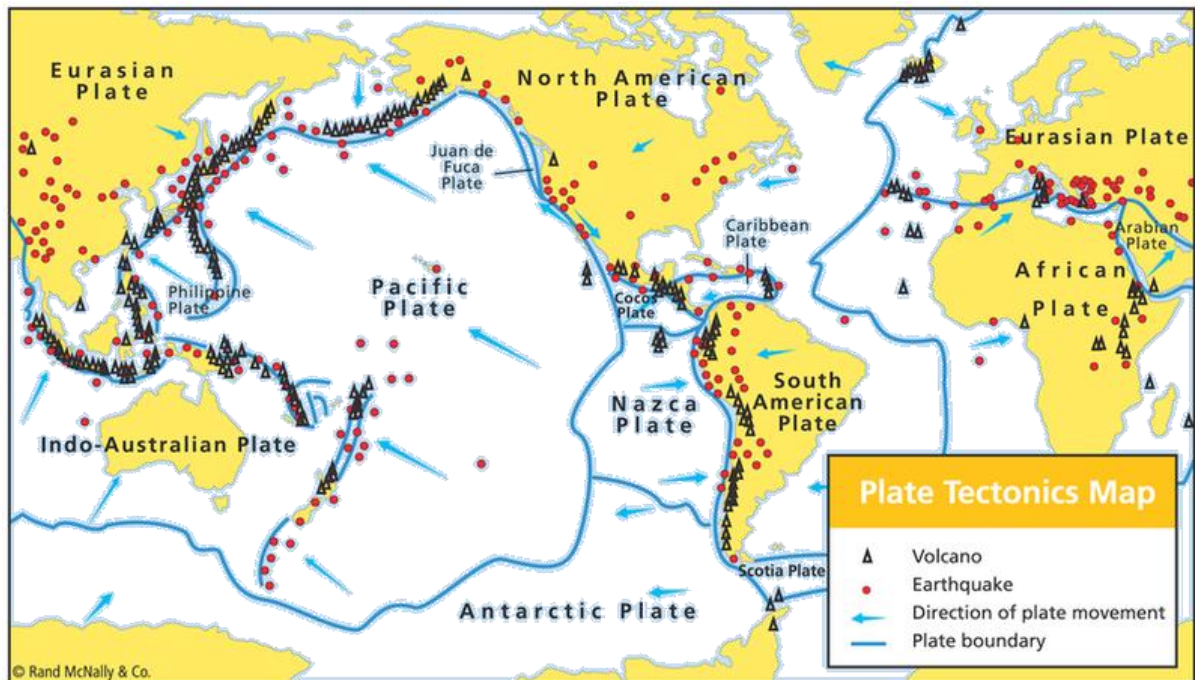


Figure 2: Distribution of earthquakes and volcanoes in the world  
 (Source <http://www.geocoops.com/quakes--volcanoes.html>)

- b) With the help of a labelled diagram, including the features listed below, explain the formation of a volcano.

- Magma chamber.
- Crater.
- Main vent.
- Secondary vent.
- Lava flow.
- Ash, steam and gas.
- Layers of ash and lava. (12)

- c) Discuss **FOUR** ways in which a volcano can be of value for the people living in the area. (8)

**(Total: 25 marks)**

***Please turn the page.***



**SECTION B**

**Answer TWO questions from this section.**

5. Look at figure 3 showing the demographic transition model.

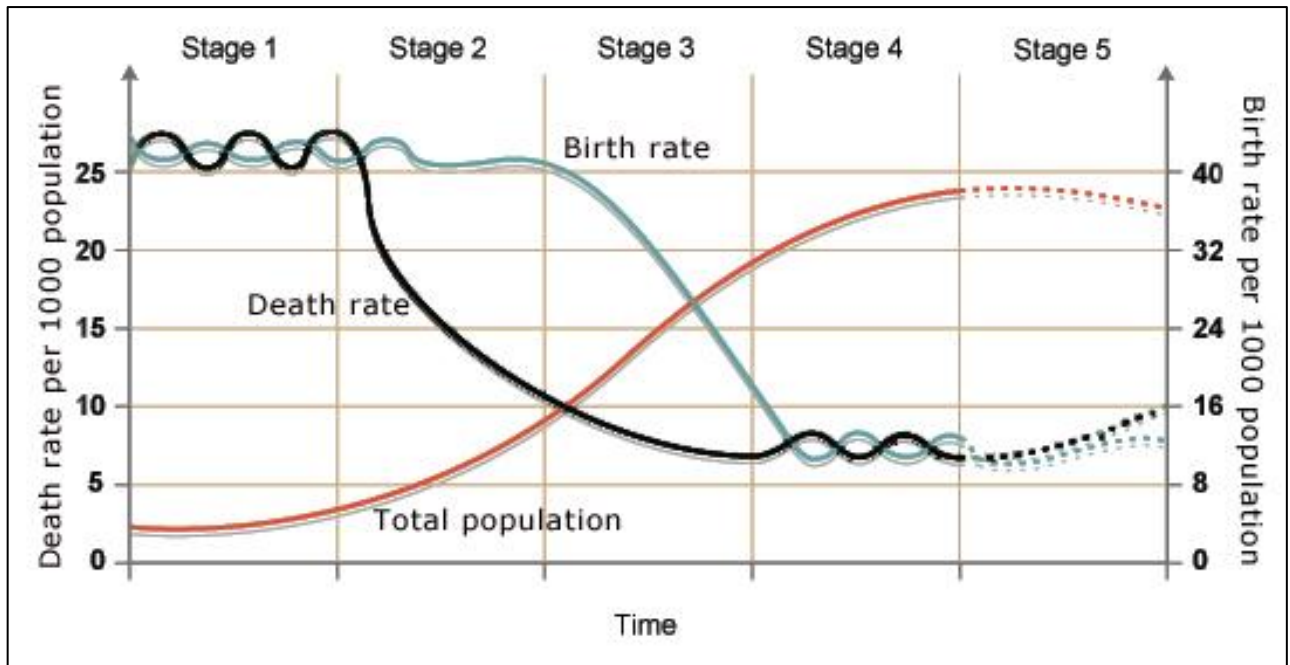


Figure 3: The demographic transition model

(Source: <http://www.bbc.co.uk/schools>)

- a) Define the terms:
  - i) Birth rate;
  - ii) Death rate;
  - iii) Natural increase of population. (6)
- b) Which stage has a high birth rate and a high death rate? (1)
- c) Explain **THREE** reasons why the death rate in stage 2 fell rapidly. (9)
- d) Explain **TWO** reasons why the birth rate fell rapidly in stage 3. (4)
- e) Which country from the following has reached stage 5?  
Choose from: Egypt, Jamaica, Italy, Brazil, India. (1)
- f) Stage 5 shows an ageing population. Describe **TWO** problems that a country might face because of an ageing population. (4)

**(Total: 25 marks)**

6. a) Briefly define the following terms:
- i) Extensive farming;
  - ii) Shifting farming. (4)
- b) Explain the difference between subsistence farming and commercial farming. (4)
- c) What is organic farming? (5)
- d) Choose **TWO** negative environmental impacts of farming from the below and explain them:
- i) Chemical use.
  - ii) Removal of hedgerows/rubble walls.
  - iii) Loss of wildlife habitat. (6)
- e) The Green Revolution involved the introduction of modern farming practices to poorer countries. Discuss **ONE** advantage and **ONE** disadvantage brought about by the Green Revolution. (6)

**(Total: 25 marks)**

7. Cities in developing countries are growing rapidly.
- a) What is the movement of people from rural areas to large cities called? (1)
- b) List and explain **FOUR** urban pull factors attracting people to large cities from the surrounding countryside. (8)
- c) List and explain **FOUR** rural push factors encouraging people to leave the countryside. (8)
- d) Explain briefly **FOUR** problems likely to occur in large cities due to large numbers of people moving into them from the countryside. (8)

**(Total: 25 marks)**

***Please turn the page.***

8. a) Explain the difference between non-renewable and renewable energy resources. (4)
- b) Energy generation from fossil fuels can lead to global warming. Define 'global warming'. (5)
- c) Choose **ONE** of the following renewable energy sources and discuss **TWO** advantages:
- i) Wind energy.
  - ii) Solar energy.
  - iii) Hydro-electric power. (8)
- d) Explain **TWO** ways by which we can increase energy efficiency in our homes and lifestyles. (8)

**(Total: 25 marks)**