CONVENT OF THE HOLY INFANT JESUS SECONDARY
Preliminary Examination in preparation for
The General Certificate of Education Ordinary Level 2021

CANDIDATE NAME

CLASS 4/ REGISTER NUMBER

HUMANITIES

2272/02

Paper 2 Geography

30 August 2021

Additional Materials: Answer Paper
Insert 1
Insert 2

1 hour 40 minutes

READ THESE INSTRUCTIONS FIRST

Write your name, class and register number in the spaces provided on the work you hand in.
Write in dark blue or black ink on both sides of the paper.
Do not use staples, paper clips, glue, correction fluid or correction tape.

Section A
Answer **one** question

Section B
Answer **one** question

Section C
Answer **one** question

Begin Section A, Section B and Section C **on a fresh sheet of paper.**

Write all answers on the Answer Paper provided.
Candidates should support their answers with the use of relevant examples.
Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

Insert 1 contains Fig. 1 for Question 1 and Fig. 5 for Question 2.
Insert 2 contains Figs. 3 and 4 for Question 1, Fig. 6 for Question 3, Fig. 7 for Question 4, Fig. 8 for Question 5 and Fig. 12 for Question 6.

At the end of the examination, fasten your work for each section together.
Submit your work for Section A, Section B and Section C **securely**.

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

This document consists of **9** printed pages and **1** blank page.

[Turn over

Section A

Answer **one** question from this section.

1 A group of students visited Qingjing Farm in Central Taiwan to investigate whether the number of activities the visitors are participating in would influence the number of days they are staying at the Qingjing guest house. The students intend to conduct this investigation over two days.

(a) State a suitable guiding question the students could use for the investigation. [1]

(b) Fig. 1 (Insert 1) shows the map of Qingjing Farm.

(i) Identify a suitable location to conduct the investigation by marking an 'X' on Fig. 1 and justify your choice on the writing paper. [2]

(ii) Outline considerations the students should take to ensure the data collected is accurate and reliable. [3]

(c) Fig. 2 shows the questionnaire survey.

Questionnaire Survey for Visitors

Name: _____

Age: _____

1. Which region are you from?

   ☐ Asia
   ☐ Europe
   ☐ North America
   ☐ South America
   ☐ Africa
   ☐ Oceania

2. Is this your first visit to Qingjing Farm?

   ☐ Yes
   ☐ No

3. How many days are you spending in Qingjing Farm?

   ☐ 1 – 2 days
   ☐ 3 – 4 days
   ☐ 5 – 6 days
   ☐ More than a week

4. Which activities are you planning to participate in during your stay at Qingjing Farm?

   ☐ Sheep-shearing show
   ☐ Trail Hiking
   ☐ Wool DIY Handicraft Workshop
   ☐ Veteran Museum
   ☐ Festival Celebrations
   ☐ Others: _____

Total number of activities: _____

Fig. 2

Describe a method to best represent the relationship between the results for questions 3 and 4 in Fig. 2 [3]

(d) The students decided to extend their investigation to find out more about the sustainable tourism practices adopted by Qingjing farm. They came up with the guiding question, "Does Qingjing farm practise sustainable tourism?". Figs. 3 & 4 (Insert 2) shows the results collected from 100 interviews with the locals.

What conclusions can the students draw from Figs. 3 & 4 to answer the guiding question? [4]

[Turn over

2 A group of students wanted to investigate variations in wind speed along the hiking trail of Tatra Mountain in Zakopane, Poland. The students separated into three teams and conducted the investigation at 0900, 1200 and 1500 at three locations during a day in July.

(a) State a suitable guiding question for this investigation. [1]

(b) Fig. 5 (Insert 1) shows the map of Tatra Mountain. Points A and B are two of the three locations where the students conducted the investigation.

(i) Identify a suitable third location where the students could have conducted the investigation by marking an 'X' on Fig. 5 and justify your choice on the writing paper. [2]

(ii) Outline considerations the students should take to ensure the data collected is accurate and reliable. [3]

(c) The students collected the average wind speed at three locations.

Suggest how the average wind speed at the three locations could be shown on one graph. [3]

(d) The students decided to extend their investigation to find out the relationship between altitude and the changes in air pressure during the day. They recorded the changes in pressure over 12 hours at each location. Table 1 shows the average readings of the measuring hand and the movable pointer at five locations of varying altitudes.

Table 1

Average readings of the measuring hand and the movable pointer at locations A to E

Location	Movable pointer (mb)	Measuring hand (mb)	Difference in air pressure (mb)	Altitude (m)
A	1013	1017	4	0
B	955	944	11	500
C	899	879	20	1000
D	846	813	33	1500
E	775	801	26	2000

Using Table 1, identify a weather instrument the students could use for this investigation and suggest what conclusions may be drawn from this data. [4]

Section B

Answer **one** question from this section

3 (a) Study Fig. 6 (Insert 2), which shows the general distribution of rainfall (mm) in the Indian Subcontinent from May to October.

With reference to Fig. 6, describe the general distribution of rainfall (mm) in the Indian Subcontinent from May to October. [4]

(b) "Climate change only brings about socio-economic risks."

How far do you agree? Give examples to support your answer. [8]

4 (a) Study Fig. 7 (Insert 2), which shows the location of Amsterdam and Warsaw, two cities in the Netherlands and Poland respectively, and Table 2, which shows some information of the two European cities.

Table 2

Cities	Amsterdam	Warsaw
Latitude	53.3 ° N	53.2 ° N
Annual temperature range	9°C	23°C

Using information from Fig. 7 and Table 2, account for the difference in annual temperature range of Amsterdam and Warsaw. [4]

(b) "The conservation of environments through ecotourism is significant in mitigating the negative impacts that tourism brings."

How far do you agree? Give examples to support your answer. [8]

Section C

Answer **one** question from this section.

5 (a) Study Fig. 8 (Insert 2), which shows the distribution and extent of hazards associated with Nevado del Ruiz, a volcano located in Colombia.

Describe the distribution and extent of hazards associated with Nevado del Ruiz. [4]

(b) With the aid of a well-labelled diagram, explain the processes that occur at an oceanic-continental convergent boundary. [5]

(c) Study Fig. 9, which shows Town X before and after a volcanic eruption.

Town X before and after a volcanic eruption

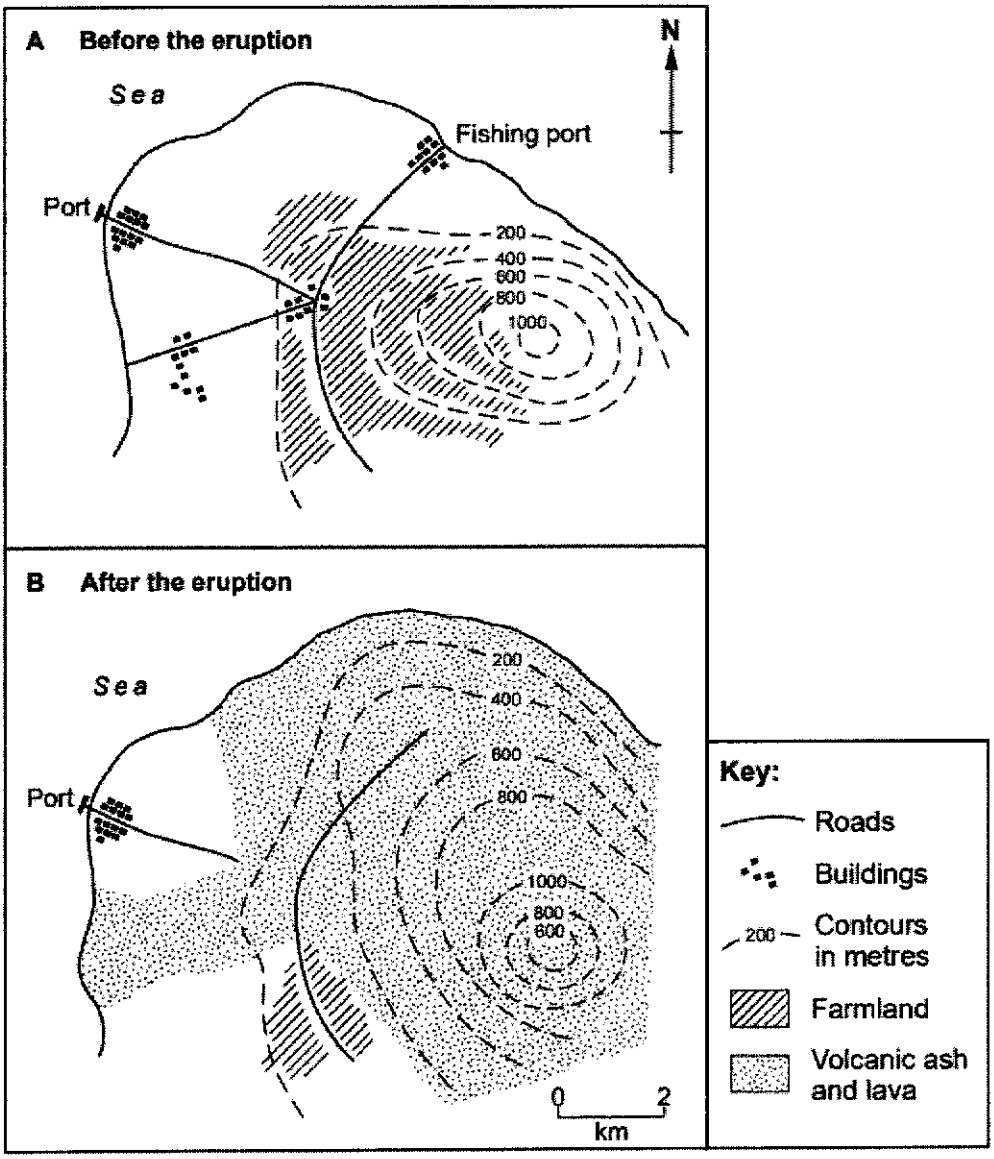


Fig. 9

Using evidence from Fig. 9, outline the impacts of the volcanic eruption on Town X. [4]

(d) Study Fig. 10, which shows the condition of a river before and after the excessive use of chemical fertilisers to intensify food production in its surrounding areas.

Condition of a river before and after the intensification of food production

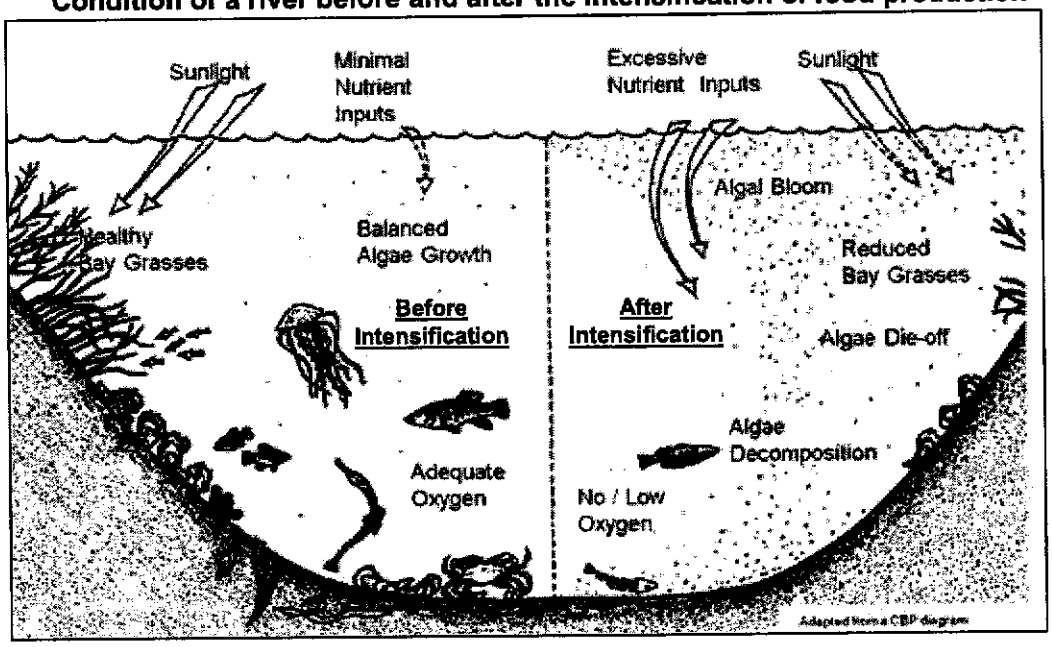


Fig. 10

With reference to Fig. 10, account for the differences in river condition before and after the intensification of food production in its surrounding area. [4]

(e) 'Intensification of food production in countries is heavily affected by physical factors.'

To what extent is this statement true? Give reasons to support your answer. [8]

[Turn over

6 **(a)** Study Fig. 11, which shows the location of meat processing factories in the North and South Islands of New Zealand.

Location of meat processing factories in New Zealand

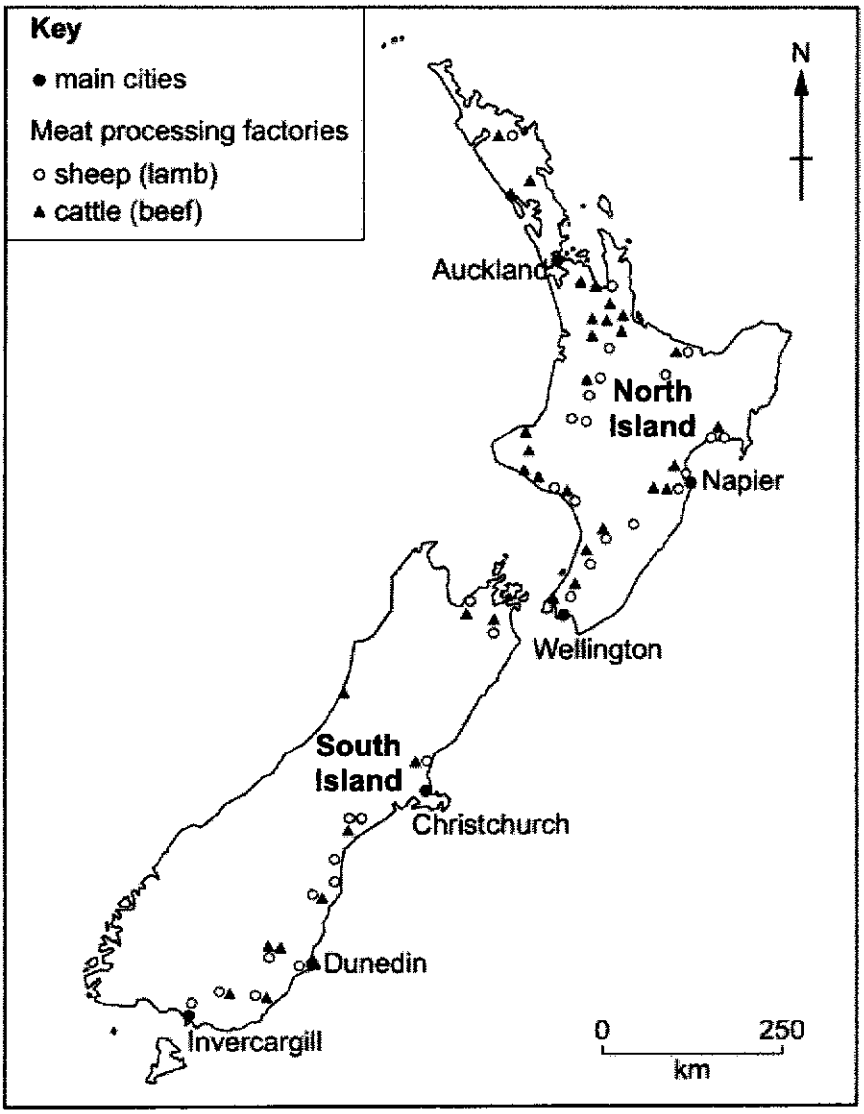


Fig. 11

Using Fig. 11, describe the differences in the distribution of meat processing factories in the North and South Islands of New Zealand. [3]

(b) Study Fig. 12 (Insert 2), which shows the maize yield for selected countries between 1961 and 2017.

Using information from Fig. 12, account for the differences in maize production between the countries. [4]

(c) With the aid of example(s), suggest how the Green Revolution has benefitted agribusinesses. [5]

(d) Study Fig. 13, which shows the different impacts of excess food consumption.

Impacts of excess food consumption

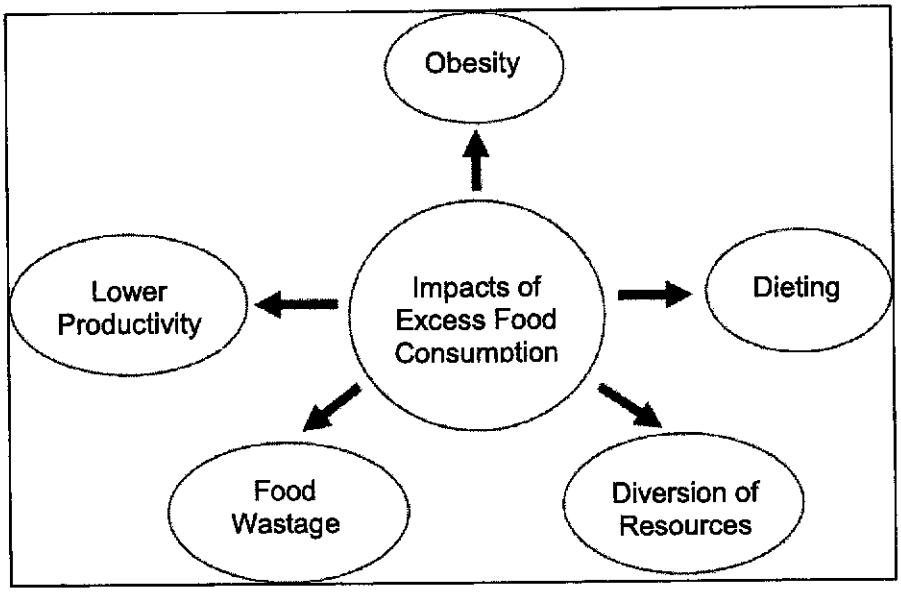


Fig. 13

With the help of Fig. 13, outline the impacts of excess food consumption on countries. [4]

(e) 'Food consumption patterns are primarily determined by the level of development of a country'.

To what extent is this statement true? Give reasons to support your answer. [8]

BLANK PAGE

- END OF PAPER -

Acknowledgements:

Question 1 Fig. 1	© https://www.cingjing.gov.tw/en/about/
Question 2 Fig. 5	© https://weepingredorger.files.wordpress.com/2013/12/dsc05055-61.jpg
Question 3 Fig. 6	© https://www.pmfias.com/south-west-monsoon-season-south-west-monsoons-arabian-sea-branch-bay-of-bengal-branch/
Question 4 Fig. 7	© Google Earth
Table 3	© https://www.climatestotravel.com/climate/netherlands/amsterdam
	© https://www.climatestotravel.com/climate/poland/warsaw
Question 5 Fig. 8	© https://www.researchgate.net/figure/Flood-caused-by-a-volcanic-eruption-Nevado-del-Ruiz-Colombia-1985_fig11_313428924
Fig. 9	© Cambridge IGCSE 0460/02 May/June 2005
Fig. 10	© https://www.pinterest.com/pin/506655026813152369/?d=t&mt=login
Question 6 Fig. 11	© Cambridge IGCSE 0976/01 Specimen Paper
Fig. 12	© https://www.economist.com/middle-east-and-africa/2019/09/28/better-seeds-could-help-african-farmers-grow-far-more

O

CONVENT OF THE HOLY INFANT JESUS SECONDARY
Preliminary Examination in preparation for
The General Certificate of Education Ordinary Level 2021

CANDIDATE NAME

CLASS 4/ ☐

REGISTER NUMBER ☐☐

HUMANITIES

2272/02

Paper 2 Geography

30 August 2021

INSERT 1

1 hour 40 minutes

READ THESE INSTRUCTIONS FIRST

This insert contains Fig. 1 for Question 1 and Fig. 5 for Question 2

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

[Turn over

Fig. 1 for Question 1

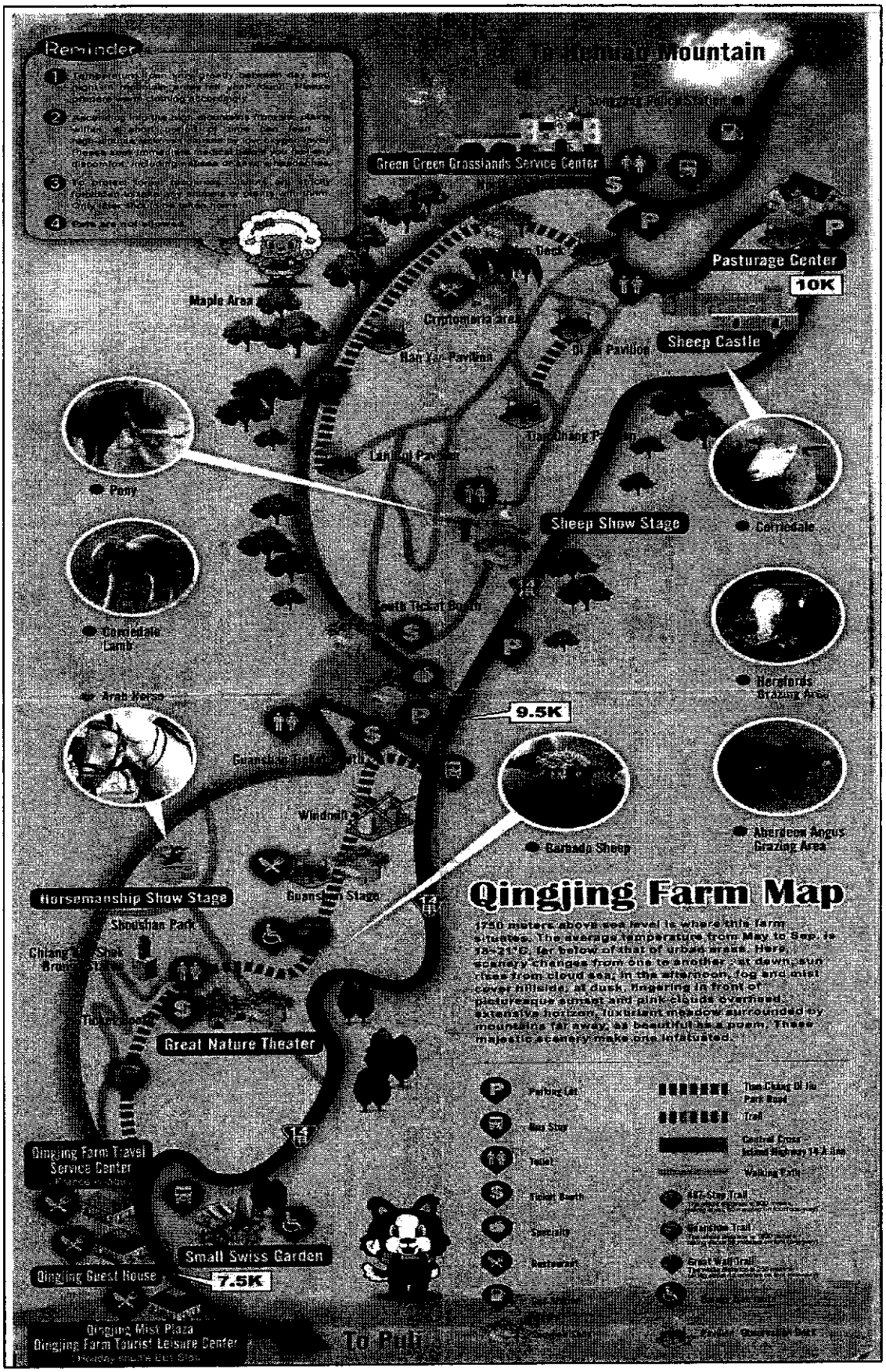
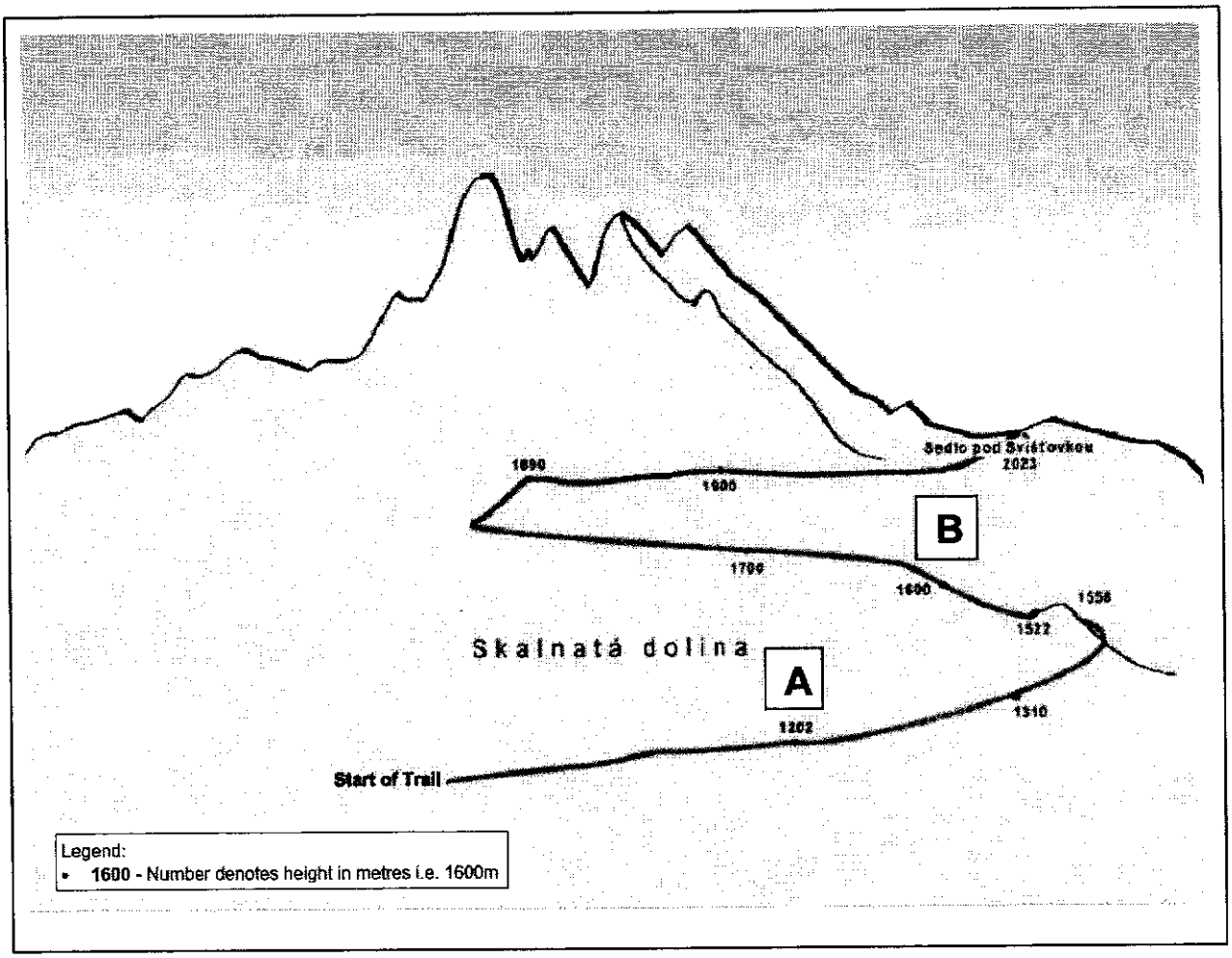


Fig. 5 for Question 2

Map of Tatra Mountain



BLANK PAGE

O

CONVENT OF THE HOLY INFANT JESUS SECONDARY
Preliminary Examination in preparation for
The General Certificate of Education Ordinary Level 2021

CANDIDATE NAME

CLASS 4/ ☐

REGISTER NUMBER ☐☐

HUMANITIES

2272/02

Paper 2 Geography

30 August 2021

INSERT 2

1 hour 40 minutes

READ THESE INSTRUCTIONS FIRST

This insert contains Figs. 3 and 4 for Question 1, Fig. 6 for Question 3, Fig. 7 for Question 4, Fig. 8 for Question 5 and Fig. 12 for Question 6.

Fig. 3 for Question 1

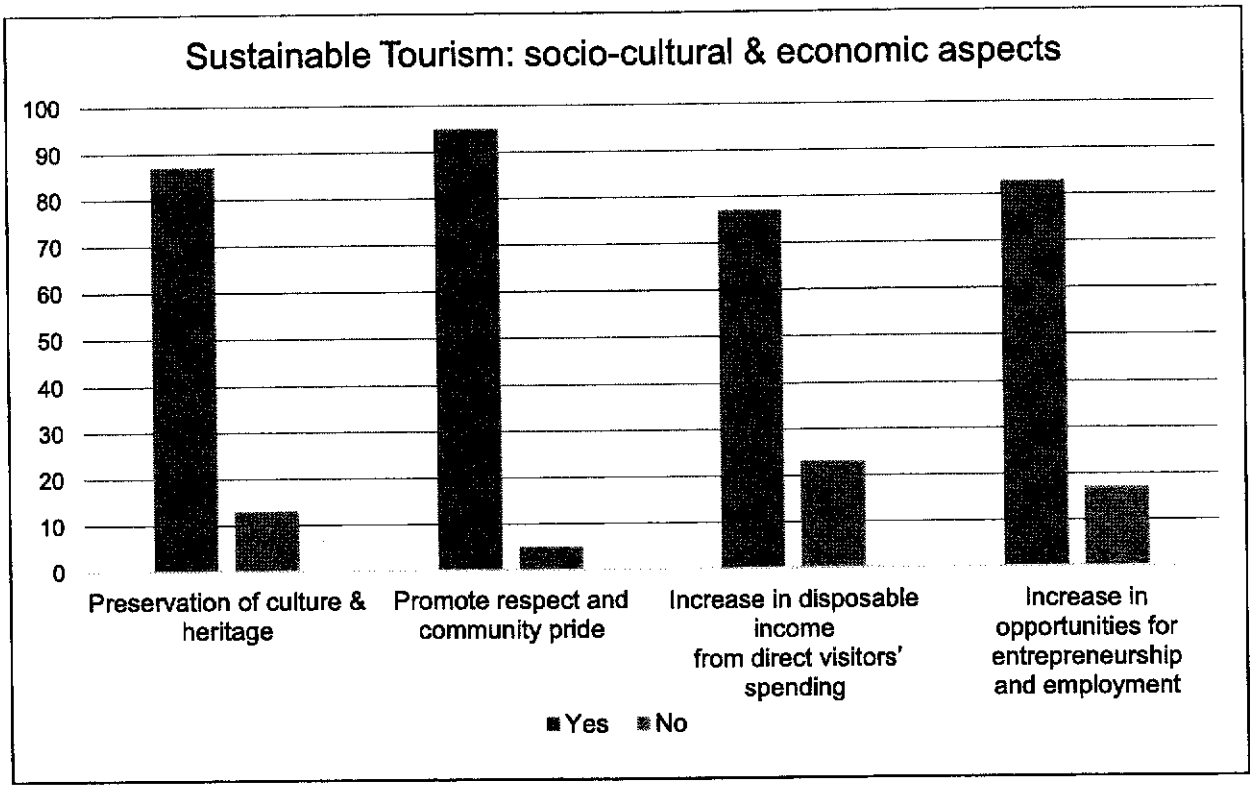
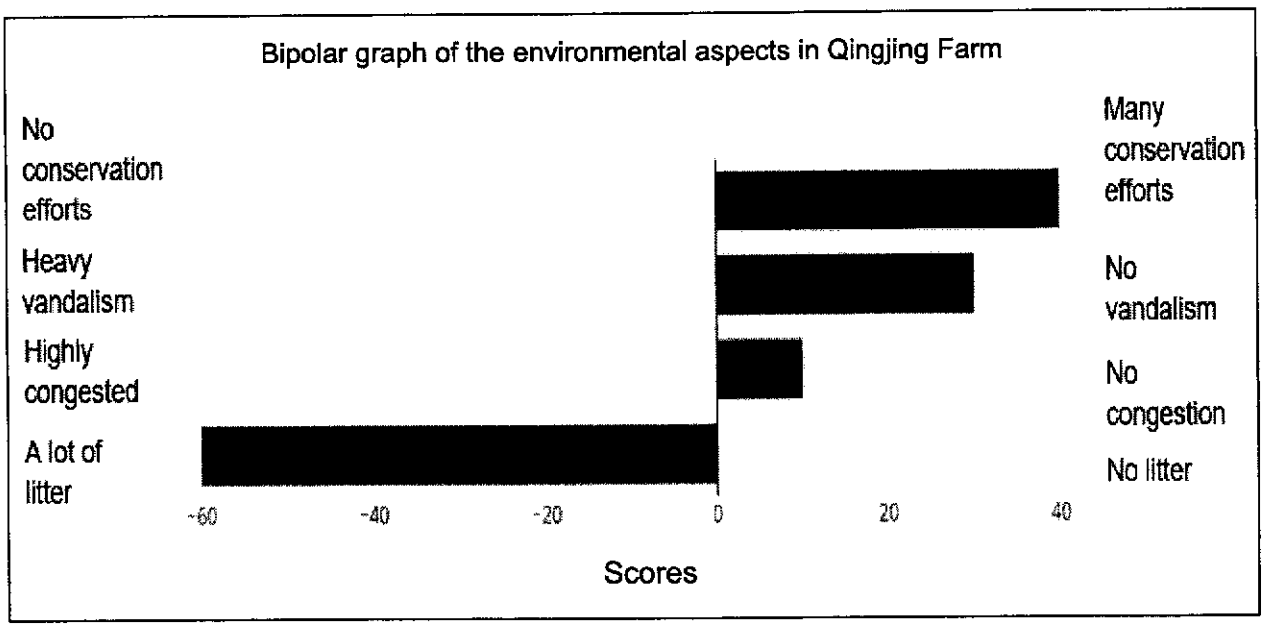


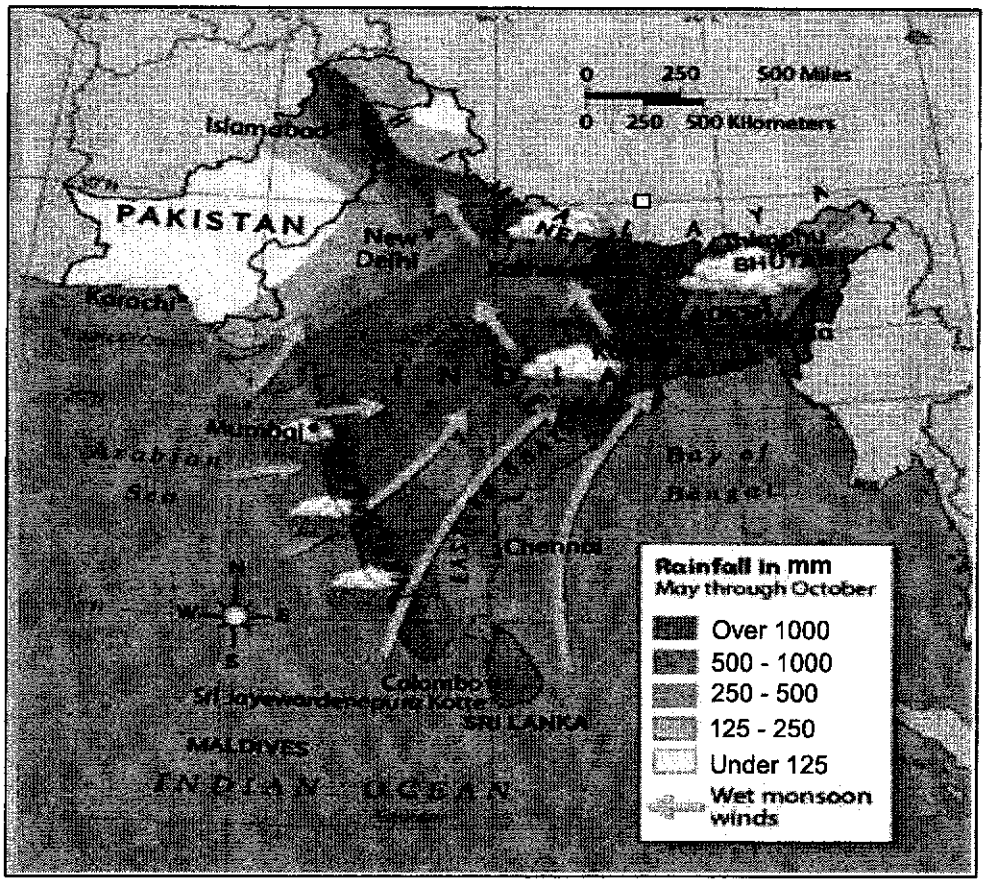
Fig. 4 for Question 1



3

Fig. 6 for Question 3

Distribution of rainfall in Indian Subcontinent

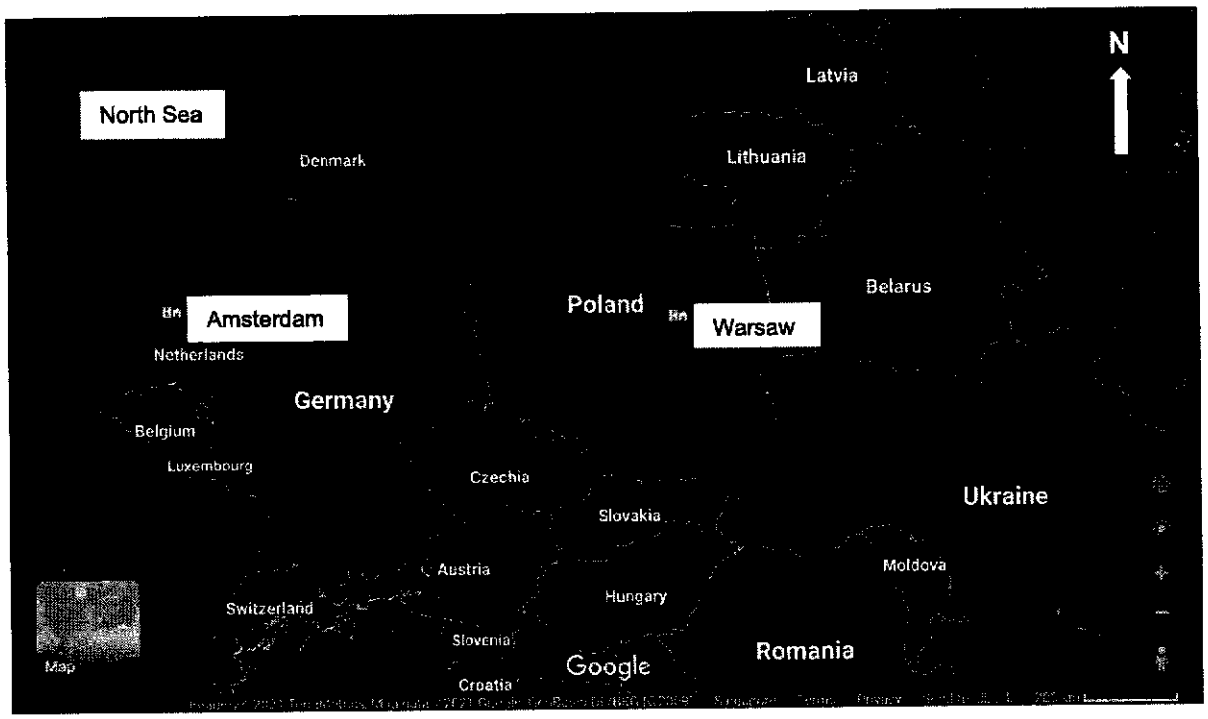


[Turn over

4

Fig. 7 for Question 4

Location of Amsterdam and Warsaw

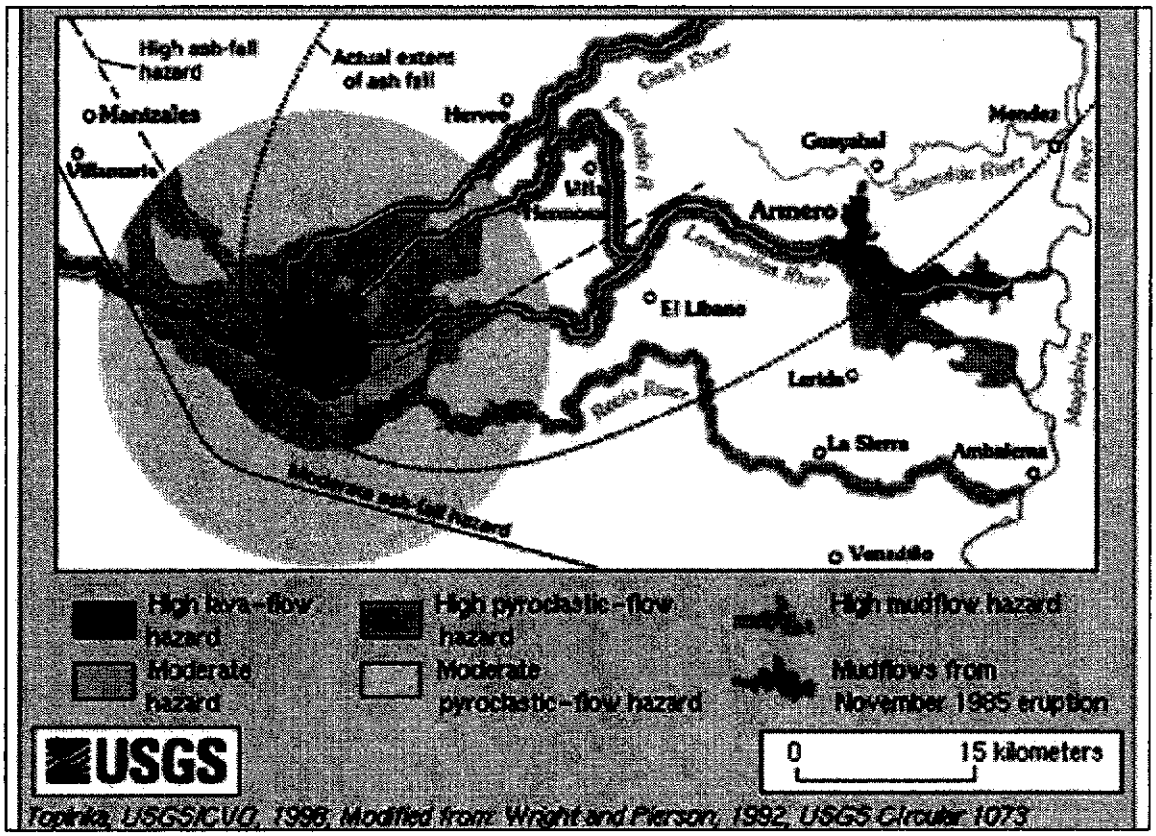


CHIJSec/2021/Prelims/4E/2272/Insert2

5

Fig. 8 for Question 5

Distribution and extent of hazards associated with Nevaldo del Ruiz

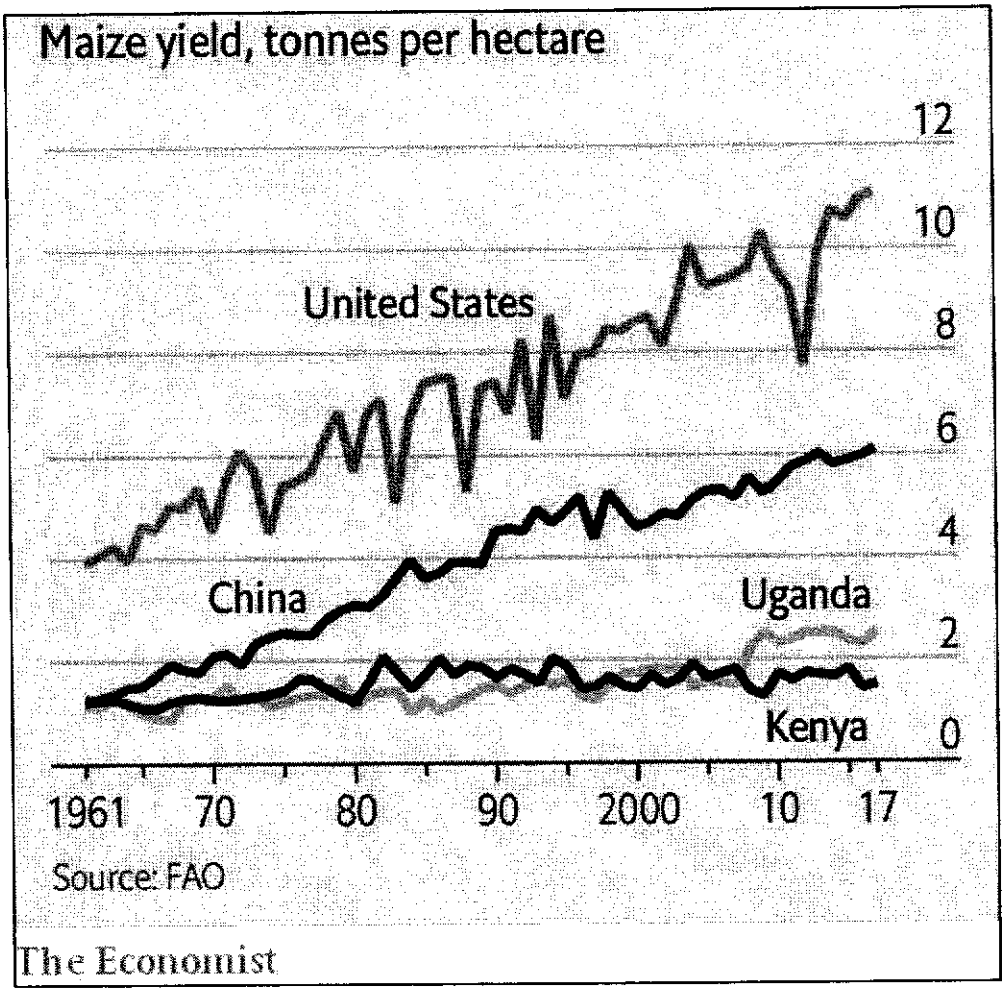


[Turn over

6

Fig. 12 for Question 6

Maize yield between 1961 and 2017



CHIJ Sec Sch
4E5N Prelim 2021
- Suggested Answers

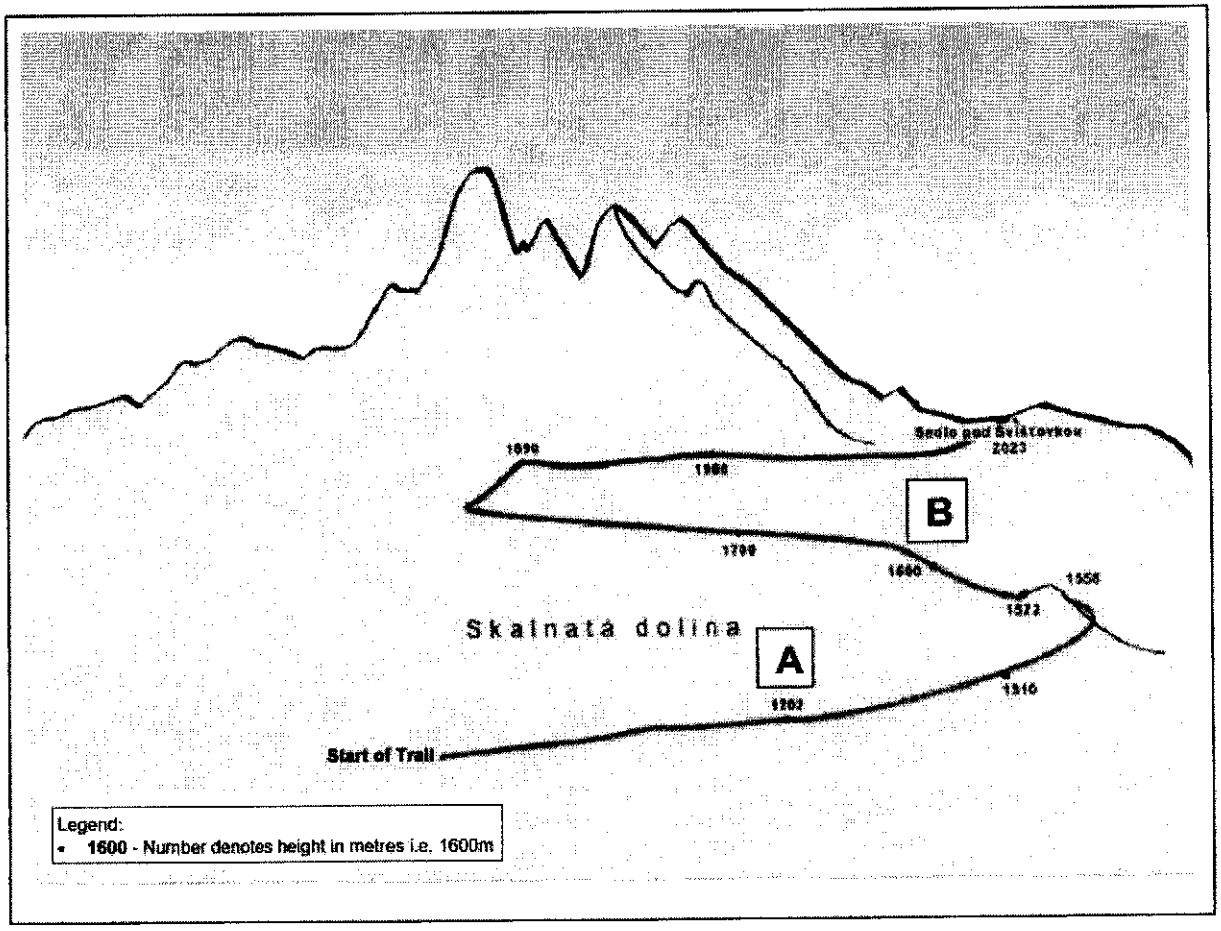
(2) A group of students wanted to investigate variations in wind speed along the hiking trail of Tatra Mountain in Zakopane, Poland. The students separated into three teams and conducted the investigation at 0900, 1200 and 1500 at three locations during a day in July.

(a) State a suitable guiding question for this investigation. [1]

- Does the wind speed change along the hiking trail of Tatra Mountain?
- Does the height of the mountain influence wind speed?
- Does the wind speed increases with increasing altitude?

(b) Fig. 5 (Insert 1) shows the map of Tatra Mountain. Points A and B are two of the three locations where the students conducted the investigation.

Map of Tatra Mountain



(i) Identify a suitable third location where the students could have conducted the investigation by marking an 'X' on Fig. 5 and justify your choice on the writing paper. [2]

1M	Any point above Point B (i.e. above 1600m)/ any point in between Point A and B (i.e. between 1202m and 1600m) **OR** Any point below Point A (i.e. below 1202m)
1M	Justification: Students will be able to investigate if the wind speed differs at three different altitudes.

(ii) Outline considerations the students should take to ensure the data collected is accurate and reliable. [3]

A balanced answer must include both aspects.

Accuracy – max 2m

1M	They should ensure that the anemometers used have the same usage functions.
1M	They should ensure that they hold the anemometer above the head to prevent any blockage of wind.
1M	They should read the measurement at eye level to prevent parallax error.
1M	Check weather forecast for heavy storm as it may cause strong wind that may increase the wind speed.

(ii) Outline considerations the students should take to ensure the data collected is accurate and reliable. [3]

Reliability – max 2m

1M	They should cross check the data collected with the data from the meteorological observatory stations in Zakopane.
1M	They should decide on the number of times they are repeating the investigation in that particular duration to get the average data.

(c) The students collected the average wind speed at three locations. Suggest how the average wind speed at the three locations could be shown on one graph. [3]

Data representation

1M	Comparative line graph/ Comparative bar graph/ Simple bar graph
	Description for comparative line graph:
1M	Name the graph with a title such as 'Comparative line graph of average wind speed collected at three locations' and label the x-axis as time (0900, 1200, 1500) and the y-axis as average wind speed (m/s)
1M	The line graph of each location are differentiated using different colours/patterns indicated in a legend

(c) The students collected the average wind speed at three locations. Suggest how the average wind speed at the three locations could be shown on one graph. [3]

OR

	Description for comparative bar graph:
1M	Name the graph with a title such as 'Comparative bar graph of average wind speed collected at three locations' and label the x-axis as location (Location A, Location B, Location C) and the y-axis as average wind speed (m/s)
1M	The bar graph of each time are differentiated using different colours/patterns indicated in a legend.

(c) The students collected the average wind speed at three locations. Suggest how the average wind speed at the three locations could be shown on one graph. [3]

OR

	Description for simple bar graph
1M	Name the graph with a title such as 'Simple bar graph of average wind speed collected at three locations' and label the x-axis as location (Location A, Location B, Location C) and the y-axis as average wind speed (m/s)
1M	The wind speed of the 3 different timings were added and divided by 3 to achieve the average wind speed of the specific location

(d) The students decided to extend their investigation to find out the relationship between altitude and the changes in air pressure during the day. They recorded the changes in pressure over 12 hours at each location. Table 1 shows the average readings of the measuring hand and the movable pointer at five locations of varying altitudes.

Average readings of the measuring hand and the movable pointer at locations A to E

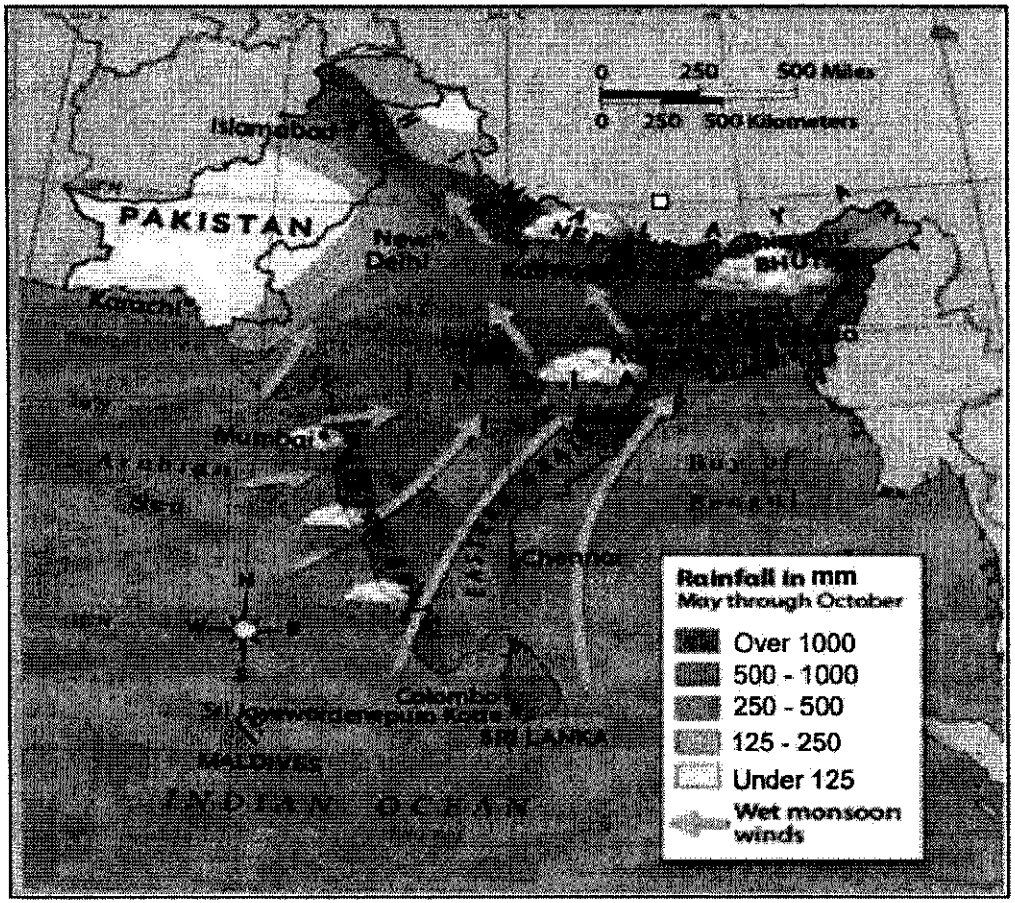
Location	Movable pointer (mb)	Measuring hand (mb)	Difference in air pressure (mb)	Altitude (m)
A	1013	1017	4	0
B	955	944	11	500
C	899	879	20	1000
D	846	813	33	1500
E	775	801	26	2000

Using Table 1, identify a weather instrument the students could use for this investigation and suggest what conclusions may be drawn from this data. [4]

1M	Barometer
1M	Conclusion: Difference in air pressure increases as altitude increases (positive relationship)
1M	As the altitude increased from 0m to 2000m, the difference in air pressure also increased from 4mb to 26mb
1M	However, there is a dip in the air pressure difference from 33mb to 26mb as altitude increased from 1500m to 2000m.

3(a) Study Fig. 6 (Insert 2), which shows the general distribution of rainfall (mm) in the Indian Subcontinent from May to October.

Distribution of rainfall in Indian Subcontinent



With reference to Fig. 6, describe the general distribution of rainfall (mm) in the Indian Subcontinent from May to October. [4]

Both aspects must be included.

General description (max 2m)

1M	The rainfall is **unevenly distributed** in the Indian Subcontinent
1M	There is **increasing amount** of rainfall towards the northeast region of India Subcontinent from **500mm to more than 1000mm**
1M	There is **higher amount** of rainfall of **above 500mm** in the regions along with the wet monsoon winds

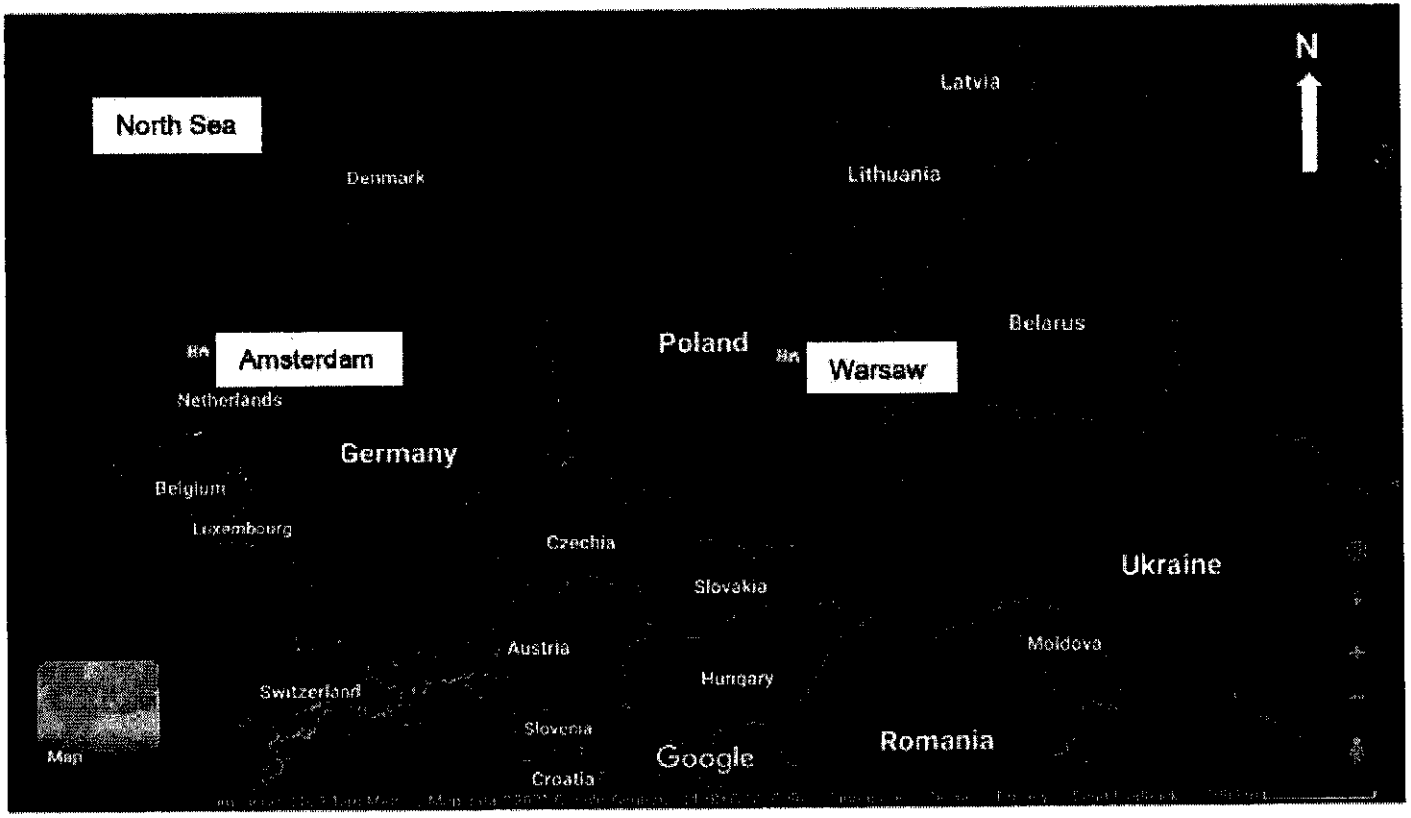
With reference to Fig. 6, describe the general distribution of rainfall (mm) in the Indian Subcontinent from May to October. [4]

Specific description (max 2m)

1M	Countries such as **Bangladesh, Bhutan, Sri Lanka, Nepal and majority of India and the region of the Western Ghats** receive the **highest** amount of rainfall of **above 1000mm**
1M	**Majority of Pakistan** receive **very low** rainfall of **under 125mm**
1M	The **northwest of India** receive **moderate** amount of rainfall of **125mm – 500mm**
1M	**The northeast of Pakistan** receive **moderate to high** amount of rainfall of **above 125mm**

4(a) Study Fig. 7 (Insert 2), which shows the location of Amsterdam and Warsaw, two cities in the Netherlands and Poland respectively, and Table 2, which shows some information of the two European cities.

Location of Amsterdam and Warsaw



4(a) Study Fig. 7 (Insert 2), which shows the location of Amsterdam and Warsaw, two cities in the Netherlands and Poland respectively, and Table 2, which shows some information of the two European cities.

Table 2

Cities	Amsterdam	Warsaw
Latitude	53.3 ° N	53.2 ° N
Annual temperature range	9°C	23°C

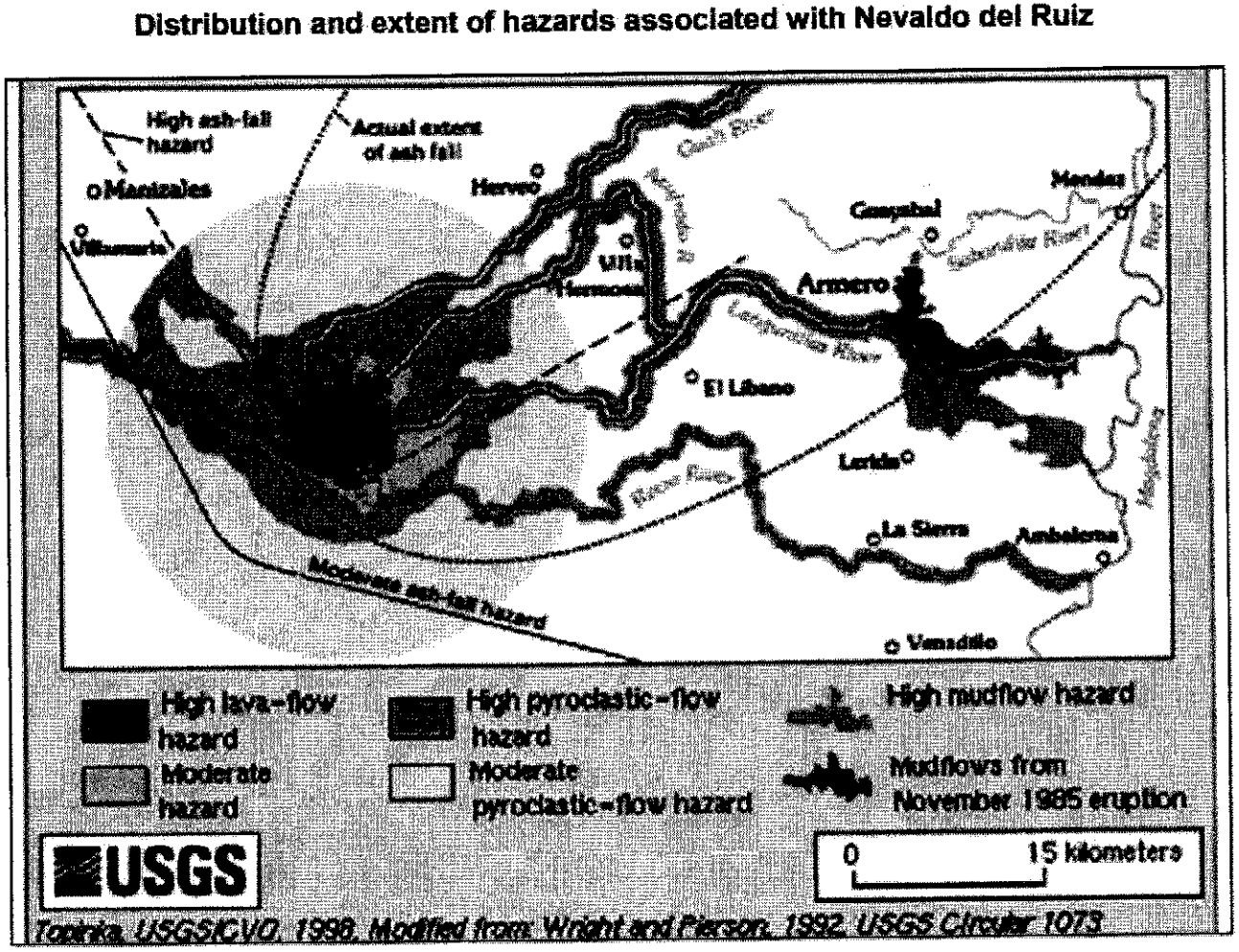
Using information from Fig. 7 and Table 2, account for the difference in annual temperature range of Amsterdam and Warsaw. [4]

1M	Amsterdam located at close proximity to the North Sea will experience the maritime effect as it is cooled by the water during summer and warmed up by the water during winter resulting in lower temperature and higher temperature Respectively
1M	This is because **water has higher specific heat capacity** compared to land hence **water gains heat and loses heat slower than land**

Using information from Fig. 7 and Table 2, account for the difference in annual temperature range of Amsterdam and Warsaw. [4]

1M	Warsaw located **<u>further inland</u>** will experience the **<u>continental effect</u>** resulting in higher temperature during summer and lower temperature during winter
1M	Hence, **<u>Amsterdam</u>** experiences a **<u>smaller annual temperature range of 9°C</u>** while **<u>Warsaw</u>** experiences a **<u>larger annual temperature range of 23°C</u>**

5(a) Study Fig. 8 (Insert 2), which shows the distribution and extent of hazards associated with Nevado del Ruiz, a volcano located in Colombia.

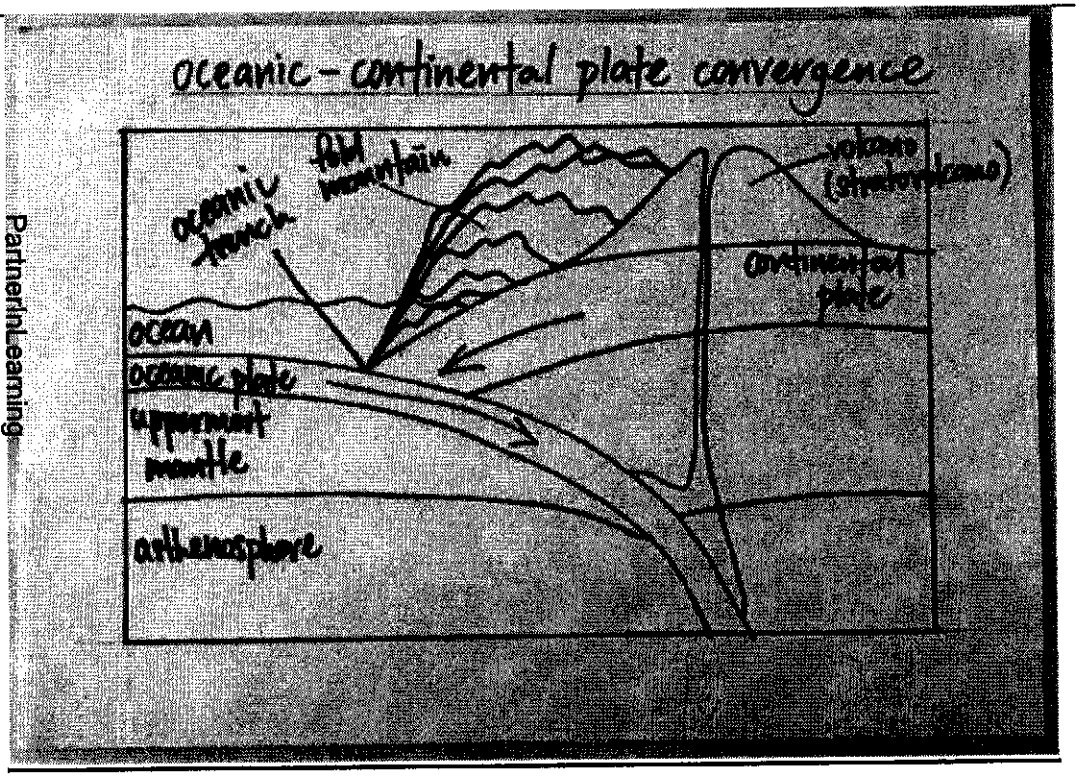


Describe the distribution and extent of hazards associated with Nevado del Ruiz. [4]

Any 4 points

1M	High mudflow hazard is associated with the areas northeast, east and southeast of Nevado del Ruiz
1M	where it spread to 40.9km, 56.8km and 58.2km respectively
1M	Mudflows from the November 1985 eruption is also associate with areas northwest of Nevado del Ruiz
1M	where it spreads to 24.5km
1M	High lava flow hazard is concentrated around Nevado del Ruiz, where it does not spread beyond 6.4km

(b) With the aid of a well-labelled diagram, explain the processes that occur at an oceanic-continental convergent boundary. [5]



Key labels in the diagram

- Oceanic crust, continental crust, direction of movement, movement of mantle material in the asthenosphere
- Folding, subduction, formation of volcanoes

(b) With the aid of a well-labelled diagram, explain the processes that occur at an oceanic-continental convergent boundary. [5]

Explanation

1M	The **sinking motion of two adjacent convection cells** caus the plates to move towards each other
1M	**Compressional force** is generated and the **denser oceanic plate will subduct under the less dense continental plate** **Slab-pull force** drives the downward movement of the subducted plate deeper into the asthenosphere.
1M	**Part of the subducted plate melts** due to **immense heat and pressure**, **forming magma** which **rises through fractures** on the earth's surface to form volcanoes.

(b) With the aid of a well-labelled diagram, explain the processes that occur at an oceanic-continental convergent boundary. [5]

Explanation

1M	**Compressional force** generated at the boundary also cause **layers of rocks on the continental plate to buckle and fol upwards and sideways**, resulting in the process of **folding**.

5(c) Study Fig. 9, which shows Town X before and after a volcanic eruption.

Town X before and after a volcanic eruption

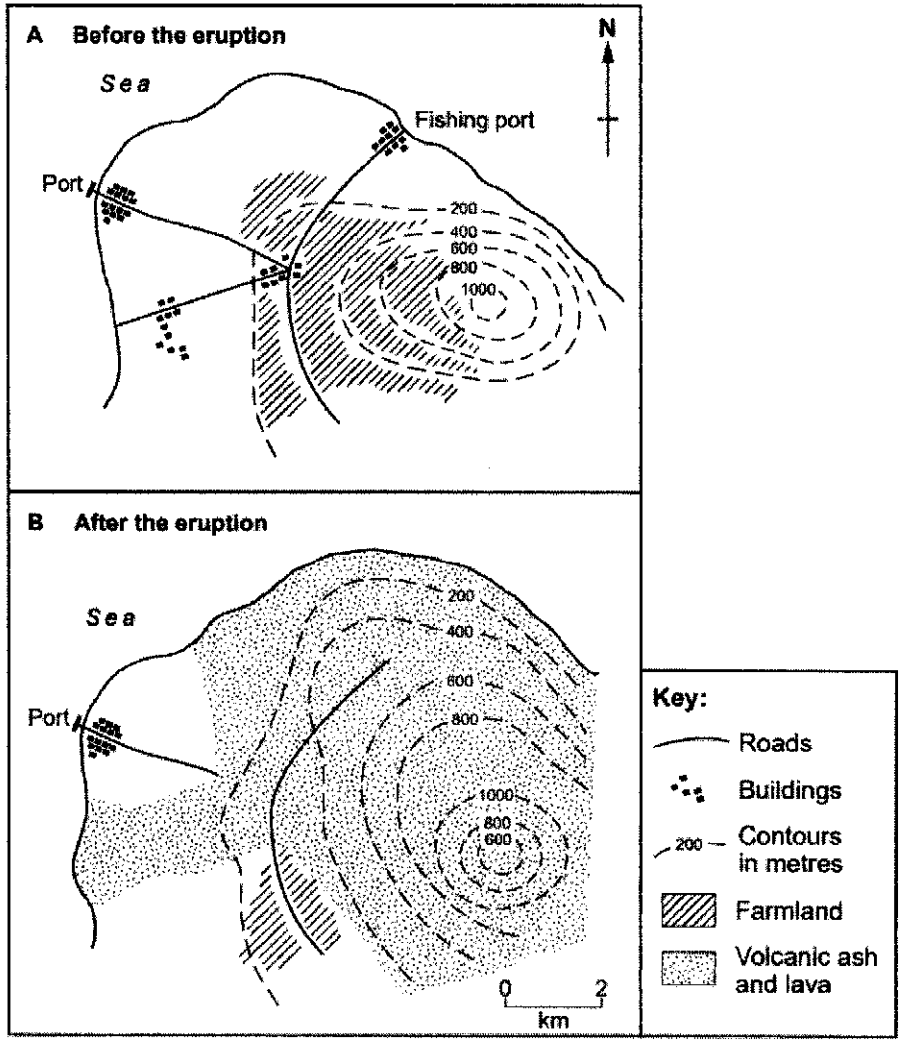


Fig. 9

Using evidence from Fig. 9, outline the impacts of the volcanic eruption on Town X. [4]

1M	The volcanic eruption would result in a **large number of deaths**, as the **volcanic ash and hot lava had engulfed three settlements in the area**
1M	Those who survived may **suffer respiratory illnesses after breathing in the ash particles**, as the **volcanic ash and ho lava had engulfed three settlements in the area**
1M	The volcanic eruption resulted in **food shortages** in the area as the **hot lava had destroyed a large area of farmland on the western side of the volcano**

Using evidence from Fig. 9, outline the impacts of the volcanic eruption on Town X. [4]

1M	The volcanic eruption could have resulted in **water pollution and the death of aquatic life**, as the **ash and lava flow had reached all the way till the edge of the island on the northern and eastern side of the volcano**

6(d) Study Fig. 13, which shows the different impacts of excess food consumption.

Impacts of excess food consumption

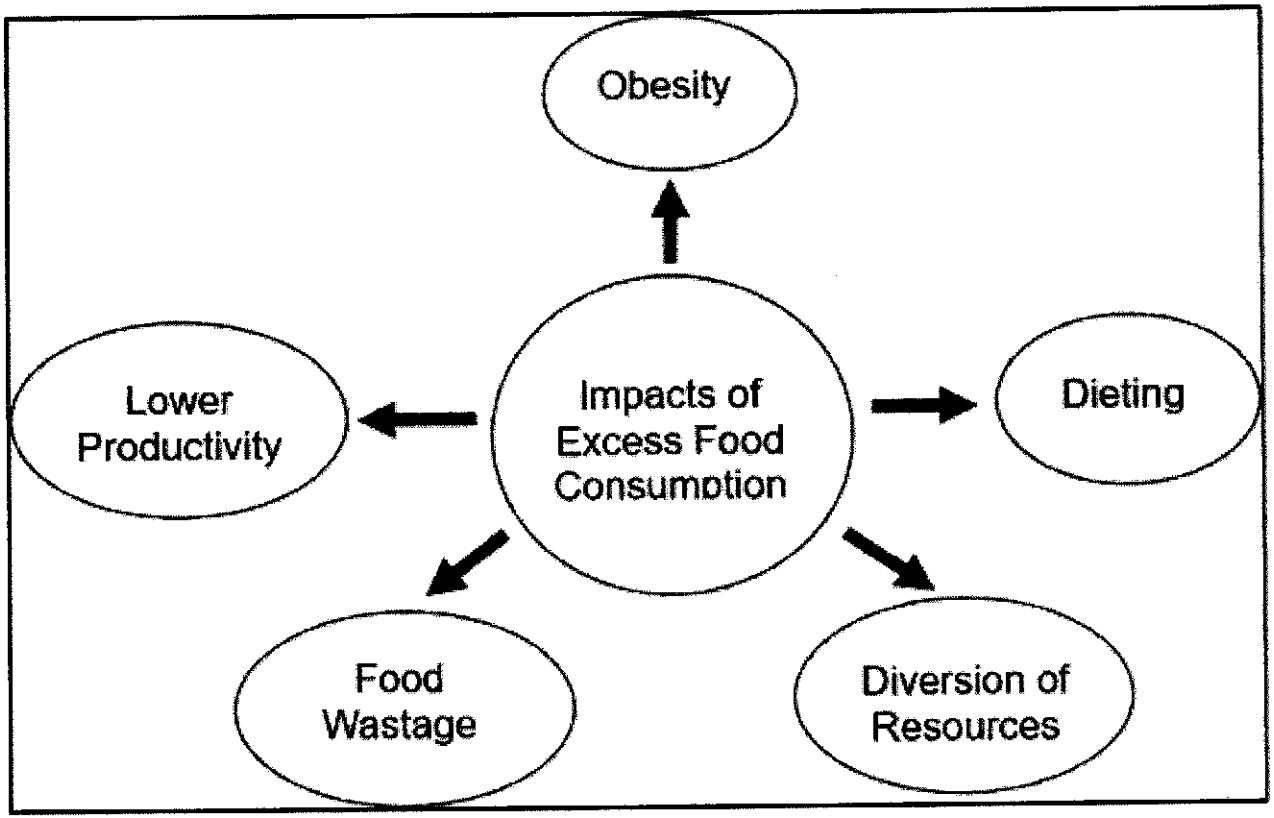


Fig. 13

With the help of Fig. 13, outline the impacts of excess food consumption on countries. [4]

Any 2 impacts with explanation.

1M	Excess food consumption can lead to **obesity**, which is a condition in which the **body has excessive fat accumulatio due to over-consumption of nutrients**, to the extent that it may have a negative impact on health.
1M	This might lead to **people falling sick more frequently** due problems like high blood pressure, diabetes and coronary heart disease, **lowering their work productivity** which in tur would **decrease the rate of economic growth of a country**

With the help of Fig. 13, outline the impacts of excess food consumption on countries. [4]

1M	Excess food consumption might lead to **food wastage**, as producers and consumers **throw away food that is still edible**
1M	This would result in the **generation of additional waste that must be disposed of,** which puts a **strain on a country's landfills**

With the help of Fig. 13, outline the impacts of excess food consumption on countries. [4]

1M	Excess food consumption can lead to countries **having to divert financial resources to healthcare** to treat obesity-related health conditions which are **more chronic in nature**
1M	This would result in **less resources available to develop other sectors of the economy** and with time would **contribute to the overall decline of a country's progress**