

91243



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

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SUPERVISOR'S USE ONLY

Level 2 Geography, 2018

91243 Apply geography concepts and skills to demonstrate understanding of a given environment

2.00 p.m. Thursday 15 November 2018
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Apply geography concepts and skills to demonstrate understanding of a given environment.	Apply geography concepts and skills with precision to demonstrate in-depth understanding of a given environment.	Apply geography concepts and skills with precision to demonstrate comprehensive understanding of a given environment.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL parts of the question in this booklet.

Pull out Resource Booklet 91243R from the centre of this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–12 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

Achievement

TOTAL

4

ASSESSOR'S USE ONLY

INSTRUCTIONS

In this paper, you are to explain how interaction between the characteristics or features of Bhutan's natural and cultural environments contributes to the country's sustainability.

Refer to the resource booklet before beginning your answer to the question in this booklet.

Parts (a), (b), (c) and their related resources should enable you to gain an understanding of Bhutan, so that in part (d) you can explain how interaction between the characteristics or features of Bhutan's natural and cultural environments contributes to the country's sustainability.

Space is provided on page 8 to help you plan your answer to (d).

QUESTION

(a) Photograph interpretation and précis map drawing

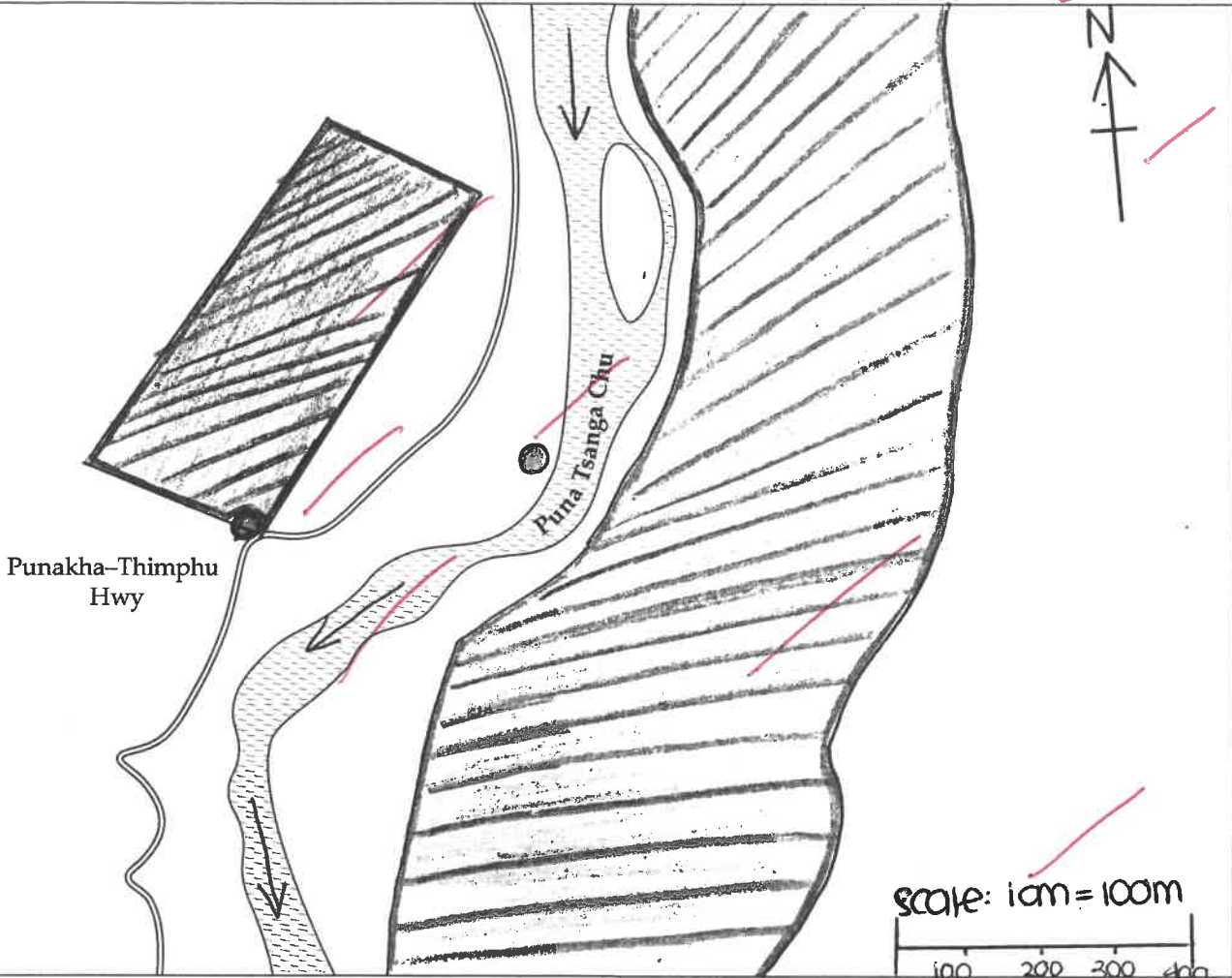
Use all figures in resource A on page 6 & 7
Refer to **Resource A** on pages 6 and 7 of the resource booklet.

In the space on the opposite page, complete a précis map of the satellite photograph shown in Figure 1, by:






- (i) Locating and labelling the following features:
 - The area of agriculture (terraced rice fields) on the eastern side of the Puna Tsanga Chu river ✓
 - The main built-up area of buildings in Khuruthang village. ✓
- (ii) Showing the location of the following features: ✓
 - The fuel station in Khuruthang village ✓
 - The Damchen Resort. ✓
- (iii) Showing the direction of the flow of the Puna Tsanga Chu river, using an arrow. ✓
- (iv) Providing the map with an appropriate scale, using the distance from the Damchen Resort to the fuel station in Khuruthang (400 metres). ✓
- (v) Giving the map a title and appropriate key, and indicating the compass direction north. ✓

Frame ✓
Arrow ✓
Colour ✓
Key ✓
Title ✓
Scale ✓

Title: Précis Map of Khuruthang village in Punakha



Key:

Key	Feature
	Area of Agriculture (rice fields)
	Fuel station
	Damchen Resort
	Main built up area
	Thimphu Hwy

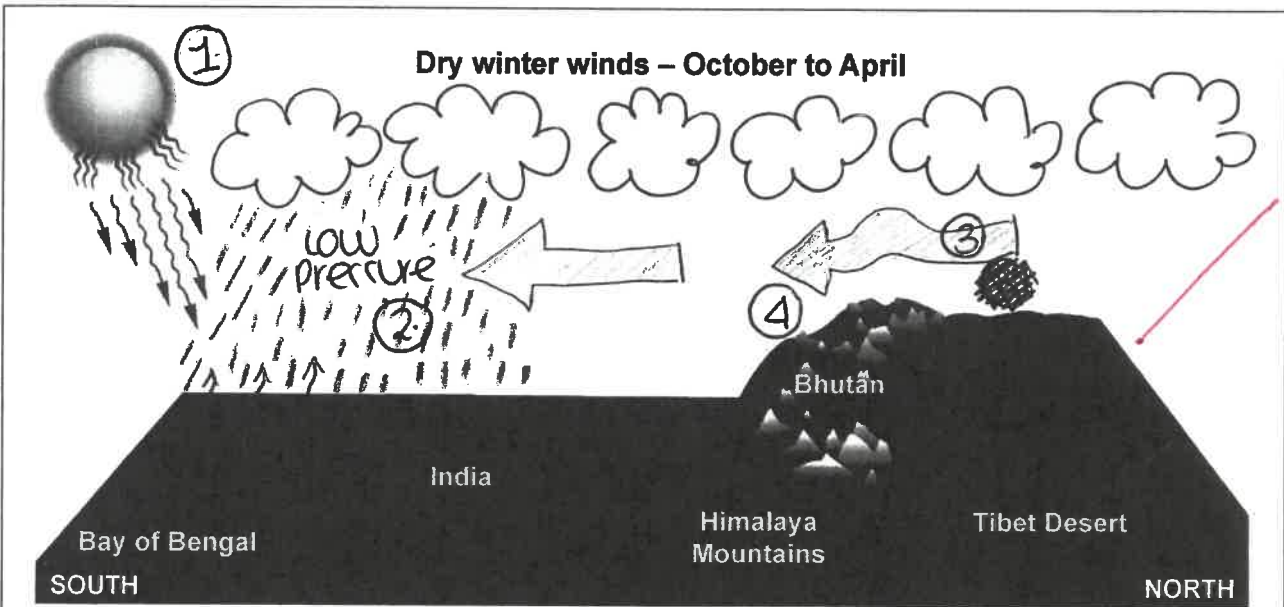
(b) **Diagram construction**

Refer to **Resource B** on page 8 of the resource booklet.

- (i) Using information from Figure 7, complete the diagram below to explain the **dry winter monsoon winds** in the same way that the wet summer monsoon winds are explained in Figure 6.

The position of the sun in winter has been shown.

You need to show the location and direction of the winds, other features, and complete a key, including annotation notes.



Key:

key	Feature
	sun & sun's radiation
	cool heavy air
	warm air rising

- (ii) Explain why there is temporal (seasonal) variation in the monsoon winds, and how this affects rainfall in Bhutan.

In your answer, refer to specific information provided about the summer and winter monsoons, as well as the geographic concept of **Processes** on page 2 of the resource booklet.

The monsoon wind processes in Bhutan are caused by the positioning of the sun in each season. In the summer it is wet because the sun is positioned to the North of Bhutan causing a low pressure system over the Tibet desert. Low pressure systems are associated with high winds and rain. ~~with it~~ The wind blows from Bay of Bengal to Tibet desert because wind moves from high to low pressure. Due to the low pressure system there is also high volumes of rain. In the winter it is cold and dry because the sun is positioned to the south of Bhutan causing a low pressure system over the Bay of Bengal*. Due to the processes noted previously this causes cold dry wind (from high to low pressure) and no rain.

From Tibet desert to Bay of Bengal

* and a high pressure system over Tibet Desert. High pressure systems are associated with clear skies and little wind.

(c) Graph interpretation

Refer to **Resource C** on page 9 of the resource booklet.

- (i) Using specific information from Figure 8 and Figure 9, explain how Bhutan's climate affects monthly hydroelectricity production.

From the ~~bar graph~~ climate graph we can see that during the summer months (monsoon season) that the rainfall significantly increases. This directly correlates with the bar graph on hydroelectricity production as when there is increased rainfall there is increased hydroelectricity production. //

- (ii) Using specific information from Figure 8 and Figure 10, explain how Bhutan's climate affects the monthly number of tourist arrivals.

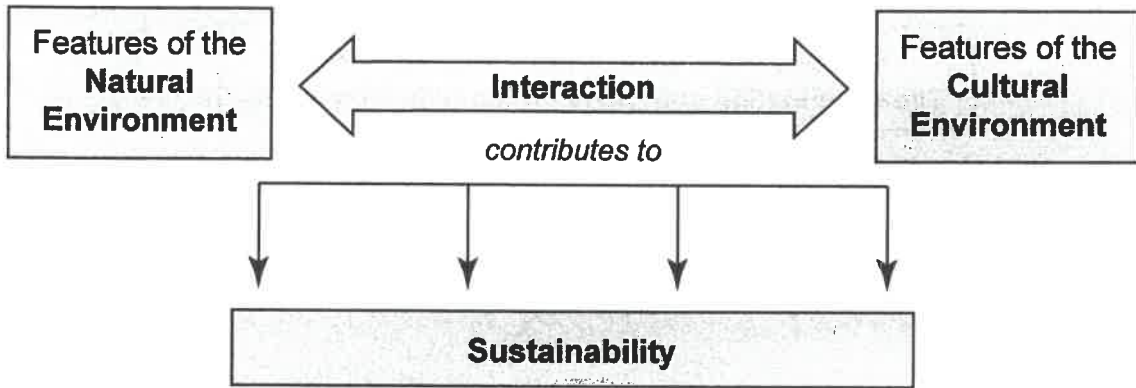
From the climate graph we can see that during the winter months the temperature drops as do^{es} the rainfall. ~~Having~~ This decrease in rainfall causes an increase in tourism during the winter months. Having less rainfall would be ideal for tourism as the sky would be clear and tourists could experience the whole area without being limited by weather. //

(d) **Bhutan and sustainability**

Explain how interaction between the characteristics or features of Bhutan's natural and cultural environments contributes to the country's sustainability.

In your answer, refer to:

- the geographic concepts of **Environments, Interaction, and Sustainability** on page 2 of the resource booklet
- **Resource D** on pages 10 and 11 of the resource booklet, and any other resources
- specific information from your answers in parts (a), (b) and (c).



PLANNING (OPTIONAL)

Cultural Beliefs

All decisions must be sustainable, preserve traditional culture and environmental conservation.

Terrain meant it was isolated from the rest of the world.

Because of their pristine country

Rivers to produce hydroelectricity
subsidizing electric cars

+ farming + organic by 2020

Winter months see dear weather for tourism

free solar power and hydro-electricity

Tourism is the 2nd main economic activity

sustainably interacting with the environment

~~Mean~~ way of thinking that allows society to meet their needs without preventing future generations meeting theirs

The natural environment of Bhutan interacts with the cultural environment to make a sustainable country. Because of Bhutan's official religion of Buddhism (74% Buddhist) their cultural belief systems mean that they will take what they need and nothing more allowing future generations to meet theirs. The government makes all decisions based on whether the decision is socially and environmentally sustainable to ensure the preservation of its traditional culture and ensure environmental conservation. Bhutan uses the abundance of water resources to create hydro-electricity. They generate 150 MW of hydroelectricity which means they can provide free hydroelectricity to households and subsidized electric vehicles which further lead to sustainability. The constitution requires for 60% of the country to remain forest which preserves the natural environment and this attracts tourists to see the unspoiled natural environment. Tourism is the 2nd main economic activity of Bhutan. ~~While~~ The country is currently covered 72% by forests which not only attract tourism but allows Bhutan to be carbon negative, furthering sustainability. ~~Bhutan's natural~~ Natural environment of water and forests allow Bhutan to be carbon negative because hydroelectricity is used for cars and to provide power to homes and the forests and pristine condition of the

land allow the country to be carbon negative
and attract ~~tourists~~ tourists.

Achievement Exemplar 2018

Subject	Geography		Standard	91243	Total score	4
Q	Grade score	Annotation				
	A4	<p>The paper demonstrates the use of conventions – but not consistently with a high level of accuracy – in skills, and an understanding of geographic concepts, although not in detail.</p> <p>The features shown on the map in part (a) have used appropriate symbols and key, and accuracy is shown in their locations. However, the diagram in part (b) shows use of appropriate conventions in showing the key features but lacks annotated notes to accurately explain the reasons for the dry winter winds. In interpretation of the graphs in part (c), conventions have been used to interpret the graphs and describe the two relationships, but this is not to a high level of accuracy as there is neither specific data (such as that for rainfall and hydroelectricity use) nor accurately describing the relationship in that there are "shoulder" autumn and spring tourist seasons.</p> <p>In explaining the temporal variation in the monsoon winds in part (b), an understanding of temporal variations is shown, but the explanation of a process is not supported by detailed explanation (e.g. only "the sun is over the north of Bhutan causing slow pressure system") nor a range of detailed supporting information.</p> <p>In explaining the sustainability of Bhutan in part (d), the response demonstrates an understanding of the concepts of environment, interaction and sustainability. The concepts are applied and expanded, but these are not supported by detailed explanation. Some supporting information is provided.</p>				