

PART I (30 MARKS)
ANSWER ALL QUESTIONS

Question 1

Answer briefly each of the following questions:

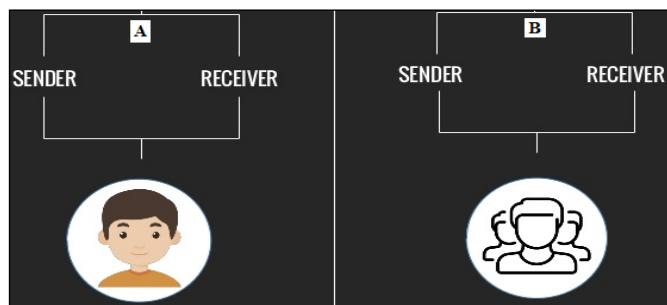
a) Name the organization responsible for carrying out Environment Impact Assessment (EIA). [1]

b) 'A conurbation is a region comprising of a number of metropolises, cities, large towns and other urban areas that, through population growth and physical expansion, have merged to form one continuous urban area.' Name the person who first coined the term 'conurbation'. [1]

c) Motor roads are the chief mode of transport in our country. Explain **TWO** significance of road transport. [2]

d) The illustration below depicts the types of communication.

[2]



Write any **TWO** differences between 'A' and 'B'.

A	B	

e) With urbanization, waste is the biggest problem confronting the nation today. [2]

The amount of waste generated is directly proportional to the pace of urbanization.

Suggest **TWO** ways to address this issue.

f) The COVID-19 pandemic has caused social and economic disruptions. Turning this threat to an opportunity, a tour guide Ms. Wangmo and her friends started commercial farming. What do you think has motivated them? Give **THREE** reasons. [3]

g) List any **TWO** examples each of conventional and non-conventional energy resources. [2]

h) To safeguard the people from the COVID-19 pandemic, individuals were discouraged to use public transport such as buses and taxis. What other alternative forms of transport would you recommend during such a crisis? Mention **TWO**. [2]

i) Sustainable development is one of the pillars of Gross National Happiness. It implies that any development that takes place should be inclusive, equitable and balanced in nature. The holistic approach should also give an equal importance to non-economic aspects of wellbeing. [2]

Explain any **TWO** significant goals of sustainable development.

j) According to Population and Housing Census of Bhutan (PHCB) 2017, rural to rural migration tops the flow of internal migration. Why do you think it dominates the internal migration? Discuss any **THREE** reasons. [3]

k) Environmental Impact Assessment is one way to ensure a sustainable natural resource base. Why? State any **TWO** reasons. [2]

1) According to PHCB 2017, the total population of Bhutan is 727,145. Using the total area of Bhutan, calculate the arithmetic density of population. [2]

m) 'Dispersed settlement is the best settlement to live in a rural community'. Do you agree? Give **TWO** justifications. [2]

n) 'Mass media has more advantages than disadvantages.' Do you agree? Justify with **TWO** points. [2]

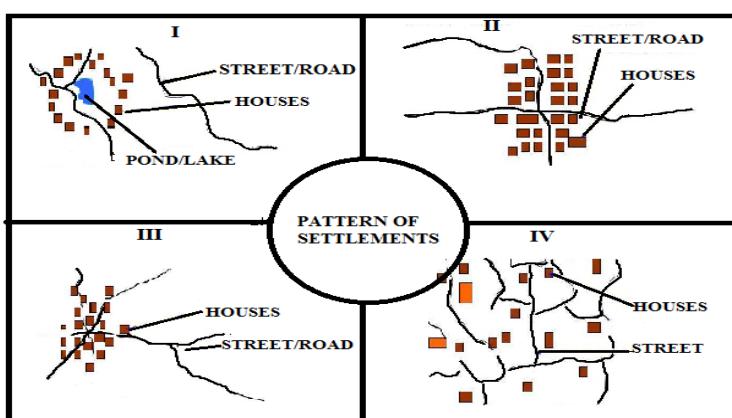
o) Waste such as smoke and harmful gases released from industries pollute land, water and air. Give **TWO** solutions to reduce air pollution. [2]

PART II (70 MARKS)
ANSWER ANY SEVEN QUESTIONS

Question 2

a) According to 2017 PHCB, the total population of Bhutan is 727,145. What share of the population is male and female? [2]

b) Study the following diagram. [4]



Settlement patterns show the spatial organization of houses that describe the shape, appearance and identification of the settlement.

Identify the settlement patterns in:

I -	
II -	
III -	
IV -	

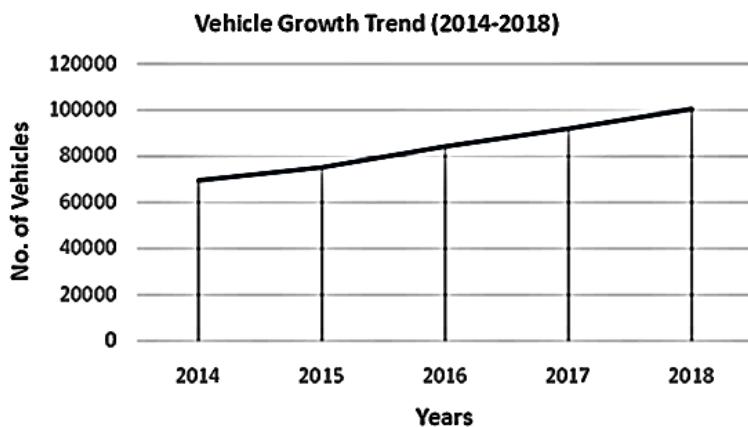
c) Concentric Zone Theory states that the growth of a town takes place outward from its central area to form a series of concentric zones. Is this theory applicable to Bhutan? Justify with **FOUR** points. [4]

Question 3

a) Write **TWO** characteristics of population.

[1]

b) The graph below shows increasing number of vehicles in Bhutan which has resulted in traffic congestion, road accidents and air pollution. [3]



(Source: Road Safety and Transport Authority)

Explain **THREE** ways to reduce vehicle import.

c) Mass media such as cinema and television give audio-visual information to the mass. [3]
Discuss **THREE** differences between them.

	Cinema	Television	

d) According to the Environmental Performance Index (EPI, 2020), Bhutan is ranked [3]
first followed by Sri Lanka, Maldives, Nepal and Bangladesh in South Asia. How
has Bhutan achieved this? Explain with **THREE** points.

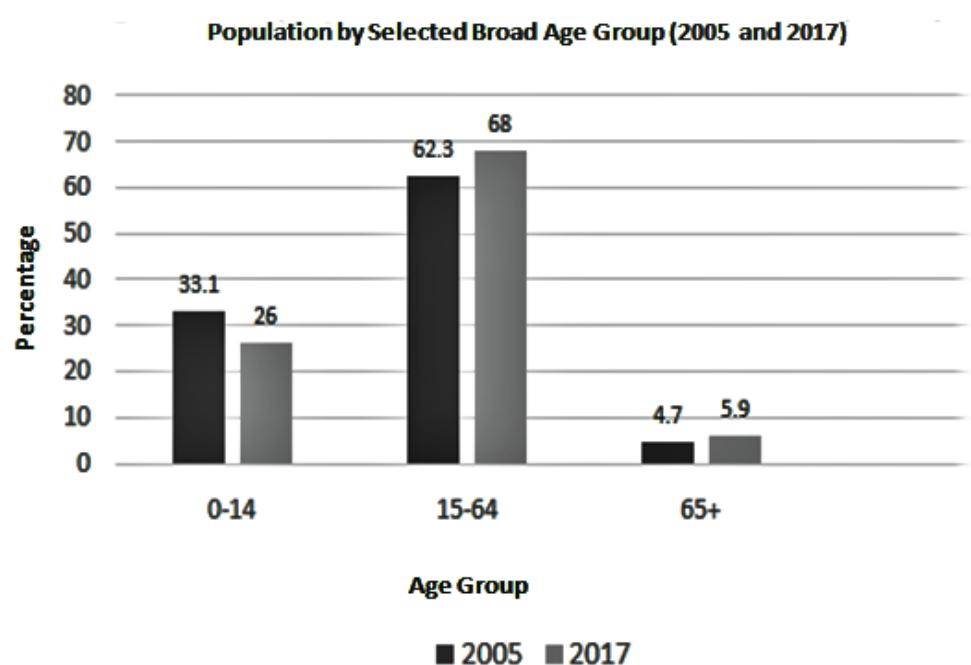
Question 4

a) Bhutan solely depends on hydropower energy despite the availability of other renewable energy resources such as wind and solar. Discuss **TWO** advantages of solar and wind energy. [2]

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b) Study the graph given below.

[4]



(Source: PHCB, 2017)

State **FOUR** significant comparisons based on the age group surveyed in 2005 and 2017.

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c) Industrialization is the main cause of growth of urban areas in Bhutan. Do you agree? [4]
Justify with **FOUR** reasons.

Question 5

a) What do you understand by sequential migration? Explain with an appropriate example. [2]

b) Karma and his family live in a slum neighbourhood in Phuentsholing and would like to shift to a better place. Give **FOUR** possible reasons for this.

[4]

c) ‘The popular notion that the COVID-19 pandemic has been “good for the environment” that nature is recovering while humanity stays at home’. In this context, what outcomes would you predict after the pandemic? Discuss **FOUR** points. [4]

Question 6

a) Domestic Money Order is one of the financial services provided by Bhutan Post. [1]
Name the other **TWO** financial services it provides.

b) Based on the amount of rainfall received, agriculture is categorized into wet and dry agriculture. State **ONE** difference between them. [1]

Wet agriculture	Dry agriculture	

c) Bhutan, with its many snow and glacier fed rivers with steep slopes and abundant flow has a large hydropower potential estimated at around 30,000 MW with about 24,000 MW of this being technically feasible. On the other hand, there is concern expressed about overdependence of economy on one source. What is your opinion? Give **FOUR** justifications. [4]

d) ‘Agriculture is considered as lifeblood of Bhutanese society’. Do you agree? Justify with **FOUR** points. [4]

Question 7

a) The National Environment Commission (NEC) is a high-level autonomous agency of the Royal Government of Bhutan mandated to look after all issues related to environment. Describe **TWO** mandates of the agency. [2]

b) Study the information given in the table.

[4]

Total number of births	Total number of deaths	Total Population
11,239	4872	727,145

(Source: PHCB, 2017)

Calculate the Crude Birth Rate (CBR) and Crude Death Rate (CDR) of Bhutan and draw a conclusion on the population growth.

c) Mr. Chencho runs a poultry farm and employs 20 workers. In a month, the farm makes a profit of 80,000-90,000 Ngultrums and he pays his entire employees on time. Explain any **FOUR** points how the farm benefits the country.

[4]

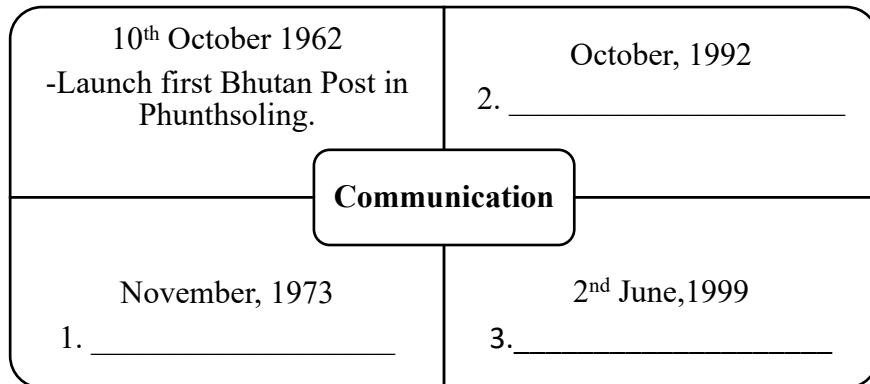
Question 8

a) Semi-nomadic settlement is found in the higher altitudes of Bhutan where people survive on raising yak and sheep. Mention **TWO** characteristics of such type of settlement.

b) Road classification is the orderly grouping of roads according to the type and degree of service they provide to the public. Give **TWO** differences between National Highways and District Roads based on the purpose they serve. [2]

	National Highways	District Roads	

c) The following shows the history of communication in Bhutan. [3]



Write the events according to the timeline given in the spaces provided below:

1.	
2.	
3.	

d) ‘Students should be allowed to own and use smart phones in schools.’ Do you agree? [3]
Support your stance with **THREE** reasons.

Question 9

a) Many factors influence the site, size, shape and pattern of rural settlements. State any **TWO** physical factors that determine the type of rural settlements. [1]

b) The use of modern technologies has led to increased agriculture produce in Bhutan. [1]
List down any **TWO** such technologies.

c) Write **ONE** difference between primary sector and secondary sector of industries [2]
based on the nature of activities. Give an example each.

	Primary sector	Secondary sector	

d) The Royal Government has a plan to introduce electric train service between Paro [3]
and Thimphu. What positive outcomes do you envisage? Explain any **THREE**.

e) During summer, frequent roadblocks at Reutala, about 35 Kms away from Zhemgang town towards Trongsa, causes inconvenience to commuters plying the Trongsa-Zhemgang-Gelephu highway. [3]

Using this reference, do you think the road transport benefits the people? Support your opinion with **THREE** justifications.

Question 10

a) List any **TWO** factors that affect the development of air transport in Bhutan. [1]

b) Toorsa is the only Strict Nature Reserve in Bhutan. The reserve has an area of 609.5 sq km. The Ministry of Agriculture and Forest has renamed this protected area in 2014. [2]

What is the new name of this reserve? Name **TWO** dzongkhags under which the reserve is located.

c) For centuries, Bhutanese have treasured the natural environment and have looked upon it as the source of all life. This traditional reverence for nature has delivered Bhutan into the 21st century with an environment richly intact. Mention **TWO** importance of nature conservation. [1]

d) Bhutan Post is the universal postal service provider, supporting customers, businesses and communities worldwide. The Express Mail Service (EMS) is one of the many services provided by it. List any **TWO** characteristics of EMS. [2]

e) “Winter is the season of wildfires which has been posing an ever-growing threat to the environment. Until the spring arrives we can expect some more. One of the causes of wildfires is due to human carelessness”. Identify and explain any **FOUR** examples of human negligence that cause wildfires. [4]

Question 11

In the outline map of Bhutan, **mark** and **name** the following as per the instructions.

[10]

- a) Shade and write 'FSR' over the Dzongkhag with favourable sex ratio as per PHCB, 2017.
- b) Shade and write 'HDP' over the Dzongkhag with the highest density of population as per PHCB, 2017.
- c) Write 'IT' over a place in eastern part of Bhutan which has recently developed into an Industrial Town.
- d) Write 'CDM' over a place where a hydropower project is constructed as Clean Development Mechanism Project.
- e) Write 'BFPPL' over a place where Bhutan Fruit Products Pvt. Ltd is located.
- f) Write 'ARDC' over a place in eastern Bhutan where Agriculture Research and Development Centre is located.
- g) Draw a thick line over a place and name the only Asian Highway in Bhutan.
- h) Write 'GPO' over a place in the South where General Post Office is located.
- i) Shade and write 'TNP' over a place where Thrumshingla National Park is located.
- j) Shade and write 'RBP' over a place where Royal Botanical Park is located.

