

PART I (30 Marks)

Compulsory: To be attempted by all Candidates

Question 1

Answer each question in the space provided.

- i) Settlements are developed where many roads meet, either passing parallel or almost cutting perpendicular to each other. What pattern of settlement is described above and mention its alternative name. [2]

- ii) Human resource is one of the most important resources for an organization. Mention any **TWO** components of human resource. [1]

- iii) Telecommunication in Bhutan was started only in 1965. Today the country has almost 100% digital network interconnecting all towns and district headquarters. State any **FOUR** positive impacts of above mentioned infrastructural facility. [2]

- iv) To improve the genetic quality of cattle in the country and the production of milk the department of livestock have introduced some exotic breeds of cattle. Name **TWO** of these breeds. [1]

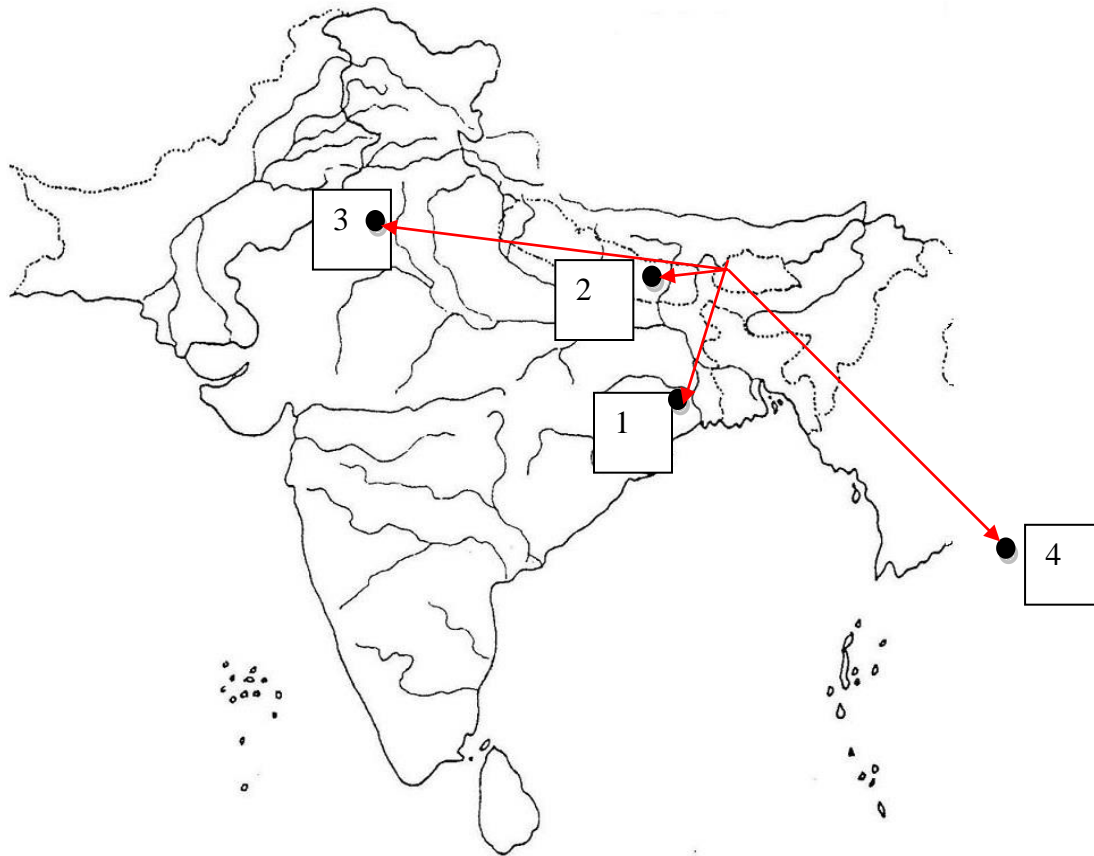
- v) Name **TWO** factors that determine the types of rural settlement. [2]

- vi) As a move towards addressing environmental issues and concerns, many countries in the world today place increasing importance on the use of non-motorised mode of transport. Provide any **TWO** examples of this mode of transport in Bhutan.

[2]

- vii) Air transport in Bhutan began in 1983 with Drukair as the first national airline. Today, besides Drukair, the country also has a private airline, Bhutan Airlines. Following is a map of South East Asia showing the four international routes for Bhutan Airlines. Write the name of the cities against the number provided in the map given below.

[2]



- viii) The fixed tariff on tourism until now had confined the business in the hands of a few. If the country is to spread tourism benefits to other parts of the country and accomplish quality tourism with maximum revenue, liberalising is the way forward. Identify any **FOUR** negative implications as a result of liberalising tourist tariff. [2]

ix) The table below shows the population trend of a country A.

Year	1990	2000
Population	150,000	300,000

What would be the average annual rate of change of population for the country? [2]

- x) The physiological density of a place is always higher than its arithmetic density. For example, the physiological density of Bhutan is around 206.7 persons per sq.km against 16.5 persons per sq.km of arithmetic density. Give **ONE** reason to support the above statement. [1]

- xi) Compressed natural gas (CNG) is a fuel which can be used in place of petrol, diesel and LPG. It is gaining popularity in many South Asian countries as a source of eco friendly fuel. Why is it considered as a source of eco-friendly fuel? Give **TWO** reasons. [2]

- xii) Developing an efficient, reliable and wider coverage of communication in a country is indispensable for a country to transit into industrial economy. Write **TWO** significances of communication in the development process of such an economy. [2]

- xiii) Despite having rich water resources, water scarcity is a growing concern in some parts of the country. If this continues, what would be the consequences of it to the Bhutanese economy in future? Explain any **THREE** such consequences. [3]

- xiv) If Bhutan is to achieve vegetable self-sufficiency, the country must produce at least 65,162 metric tonnes (MT) of vegetable by the end of the 12th Five Year Plan. Do you think Bhutan would achieve self-sufficiency in terms of vegetables? Support your stand with any **FOUR** justifications. [2]

- xv) “In the past most of the industries were developed near the source of raw materials and proximity to the market. However, today there are other factors such as the government policies which are playing a more important role than the above factors”. Which one of these factors mentioned above would you consider if you were to start a factory? Justify your answer with any **TWO** reasons. [2]

- xvi) One way to reduce the traffic congestion problem in Bhutan is to improve the services of public transport. How would this help to solve traffic congestion in the country?
Suggest any **TWO**.

[2]

PART II (70 Marks)

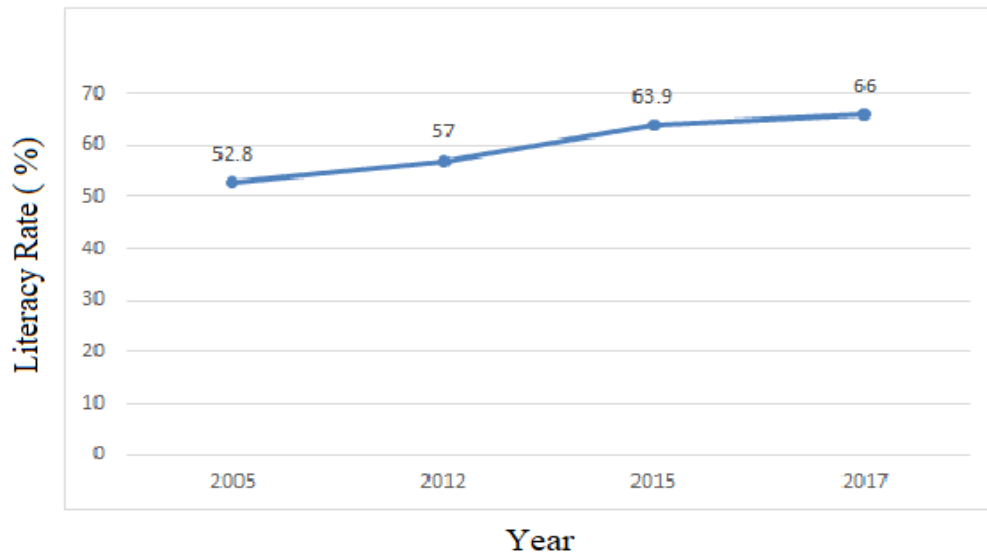
Answer any **SEVEN** questions.

The intended marks for question are given in brackets [].

Question 2

- a) The graph below shows the literacy trend in Bhutan in time series from 2005 – 2017. Give **FOUR** reasons why the literacy curve is taking a positive slope.

[4]



- b) With the economic development of the country, it is also important to preserve the country's traditional cultural heritage. As a student, how would you help in preserving our cultural heritage? Mention **THREE** ways.

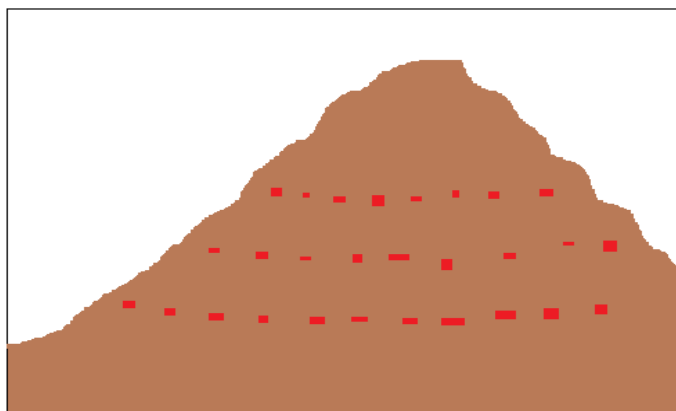
[3]

- c) The telephone connections in Bhutan increased rapidly from about 18,748 to approximately 33,000 in 2005. However, the number of subscribers decreased thereafter due to the introduction of cellular services in the country. Currently there are more than 500,000 mobile cellular service subscribers in the country. What would be the mobi-density of our country as per PHCB,2015?

[3]

Question 3

a)



i) What pattern of settlement is portrayed in the above figure? [1]

ii) Mention any **TWO** salient features of the above settlement pattern. [1]

- iii) What would be the likely economic activities of the people living in such a pattern of settlement? [1]

- b) In the process of connecting villages with roads, the environment is increasingly getting degraded. How would you safeguard the environment without hindering the developmental process? Suggest **THREE** measures. [3]

- c) Majority of the rural people are facing drought, disappearing springs and streams which are their main source of drinking and farming. Suggest **FOUR** measures to protect these springs and streams from degradation.

[4]

Question 4

- a) Ap Sangay lives in a place at an altitude of 1500-2700m above sea level where the temperature ranges between 21°C - 2 °C. The place enjoys abundant sunshine coupled with enough rainfall of about 100 - 125cm. It also has a loamy soil with rich organic matter. Name **TWO** types of commercial crop Ap Sangay might cultivate under the above mentioned geographical conditions.

[2]

- b) Dagachu Hydro Power Corporation has been registered as the first project activity under the Clean Mechanism Development (CDM) of the United Nations Framework Convention on Climate Change (UNFCCC). How would this benefit the country and the world at large? Mention **FOUR** significances.

[4]

- c) The rapidly growing numbers of regional tourists have become a concern to the government. Suggest **FOUR** measures to provide high value of tourism experience to regional tourists.

[4]

Question 5

- a) Distance education program initiated by the Ministry of Education and the Royal University of Bhutan is the only means to improve and strengthen the existing human resource capacity in various sectors of Bhutanese economy. Do you agree? Justify your answer with **THREE** reasons. [3]

- b) Royal Monetary Authority has launched the scheme of priority sector lending. Under this scheme, commercial banks will provide loans to cottage and small industries without a security. How will this address the rising youth unemployment and in achieving food self-sufficiency? Write **FIVE** impacts.

[5]

- c) Ministry of Information and Communication plans to use electric cars as taxis and install more charging stations to cut down the import of fossil fuel. Write **FOUR** advantages of using electric cars. [2]

Question 6

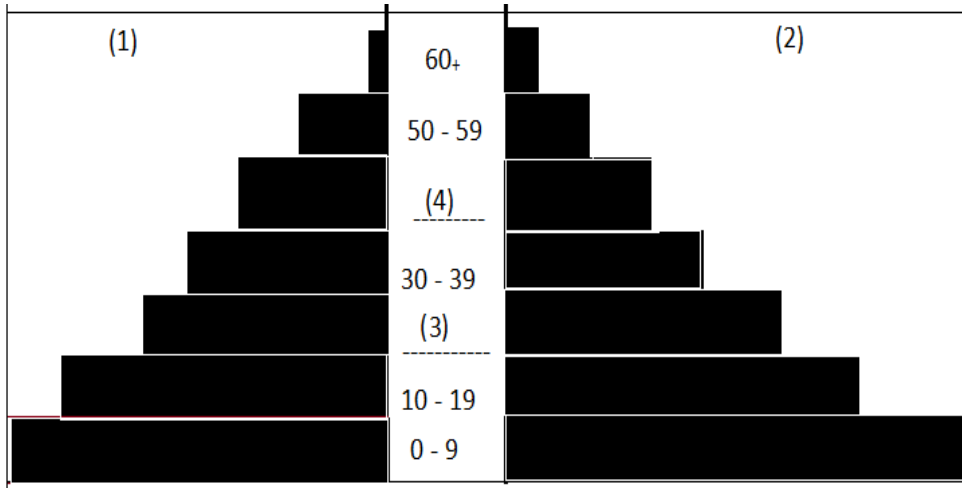
- a) The intensity of cropping is greatly influenced by the factors given below. In fact there is a strong correlation between the factors and intensity of cropping in a place. Establish a relationship in each case to show how these factors affect the intensity of cropping.

1. Irrigation
2. Early maturing seeds
3. Farm mechanisation
4. Fertiliser

[4]

Question 7

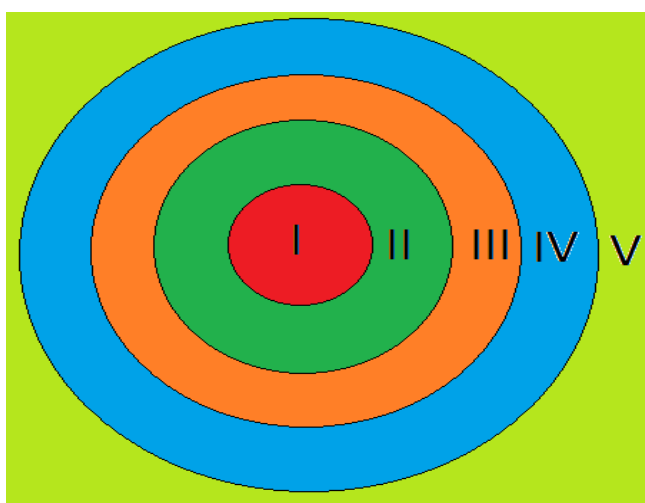
a) Study the population pyramid given below and answer the following questions:



i) Write the correct terms and age group for 1, 2, 3 and 4 in the above figure. [2]

- ii) Give any **FOUR** examples of south Asian countries which have a similar type of population pyramid besides Bhutan and India. [2]

- b) There are five different zones which are all in the concentric circles according to E.W. Burgess. Following is a model prepared by Burgess. If you want to open a retail shop, which zone would you choose? Give **TWO** reasons. [3]



- c) After the introduction of internet in the country in 1999, the number of computer users have increased drastically. As a result, the country has become vulnerable to cyber crime. Briefly explain **THREE** reasons why increased computer users could cause more cyber crime.

[3]

Question 8

- a) The development of several hydropower projects such as Chhukha, Kurichu and Tala in the past has not only facilitated the country to earn revenue but also immensely helped in the conservation and preservation of our vast natural environment reserves. Do you agree with the statement? Briefly explain your answer with **THREE** justifications. [3]

[illegible]

- b) Use the table below to answer the following questions:

Sl. No	Type of Road	Length (Km)
1	National Highway	1628.10
2	District Road	481.20
3	Feeder Road	812.70
4	Farm Road	716.90

(Statistical Yearbook, 2015)

- i) Calculate the density of National Highway and Feeder roads using the data in the above table and the area of Bhutan. [3]

- ii) Give **TWO** examples of dzongkhags which have the highest road density in the country according to PHCB, 2005. [1]

- c) As per the Bhutan Multidimensional Poverty Index 2017, out of the total population of Bhutan, 64.8 % of people live in households with up to five members and 1.7 % live in households with more than 10 members. Write **THREE** features of the living standard of the Bhutanese people based on the context. [3]

Question 9

- a) Dairy Cooperatives, a project implemented by the Department of Agricultural Marketing and Cooperatives of the MoAF and the UNDP are increasing among the rural communities of Bhutan. Mention any **FOUR** benefits of such Cooperatives. [2]

b) Based on the concentric urban land use model, Burgess strongly believed that the social status of the people increased with distance from the centre. Do you agree? Support and explain your answer with **TWO** justifications. [4]

- c) To cater to the diverse areas in the country where the provision of telecommunication is not feasible through landline, Bhutan Telecom utilizes different technologies. Name any **FOUR** such technologies introduced by the Ministry of Information and Communication in Bhutan.

[4]

Question 10

- a) “Infrastructure development, colonization by invasive species, overgrazing, pollution, and lack of proper boundary demarcation are among the challenges faced in the process of conserving wetlands in Bhutan”. Why is the conservation of wet land important? Give **TWO** justifications.

[2]

- b) Poaching and illegal trade pose a threat against wildlife conservation in Bhutan. As a consultant of World Wildlife Fund (WWF), recommend **FOUR** strategies to curb the poaching and illegal wildlife trading in Bhutan.

[2]

[illegible]

- c) Mass communication can be broadly classified into print media and electronic media. Give **TWO** differences and **ONE** similarity between them.

[3]

- d) The air quality monitoring station in Thimphu measures ozone, sulphur dioxide produced due to burning of fossil fuels, carbon monoxide from combustion of fuel and nitrogen oxide produced from combustion in vehicle engines. Suggest **THREE** measures to control air pollution in Thimphu.

[3]

Question 11**[10 x 1 = 10]**

In the outline map of Bhutan provided, **mark** and **name** the following as instructed:

- a) 'WM' over a place where two wind mills are installed by the Department of Renewable Energy with technical assistance from JICA.
- b) 'T' over the dzongkhag which receives the lowest tourist arrivals in the country.
- c) 'AT' over the place that has recently developed into an Administrative town.
- d) Mark 'CO' and name a place where Coal is found.
- e) 'MP' over the place where Mangde chhu Hydroelectric Power Project is situated.
- f) Mark with a dot and name the domestic airport in the eastern part of Bhutan.
- g) 'LCP' over the place where Lhaki Cement Private Limited is located.
- h) 'UNE' over the dzongkhag which has recorded the highest unemployment rate in the country as per the PHCB, 2005.
- i) 'FR' over the dzongkhag that has the longest length of farm roads.
- j) Mark and name a place where the largest irrigation system in the country is constructed.

Map of Bhutan
This map is to be used for Question no. 11

