

GENERAL EDUCATION DEPARTMENT
SAMAGNACIMA, INC., LA

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## PART - I Unit II - Chapter 2

# The world population - Distribution Density and Growth Introduction

People are the real wealth of a country. A country is known by its people. People make use of the country's resources and decide its policies. The patterns of population distribution world, density of population, factors influencing distribution of population, population growth and its trends, basic concepts of population geography, components of population change and demographic transition theory are the important that you will study in this chapter.

#### Patterns of population distribution

- Population distribution refers to "the way the people are spaced over the earth's surface".
- 90% of the people are living in 10% of its land.
- 10 most populous countries of the world contribute 60% of world's population.
- 1.
   6.

   2.
   7.

   3.
   8.

Identify the 10 most populous countries of the world.

- *5*
- 5. ...... 10......
- Density of population

4. .....

?

Density of population is the ratio between land and people. It is measured in persons per sq. km.

9.....

Density of population = 
$$\frac{\text{population}}{\text{Area}}$$

? Calculate population density.

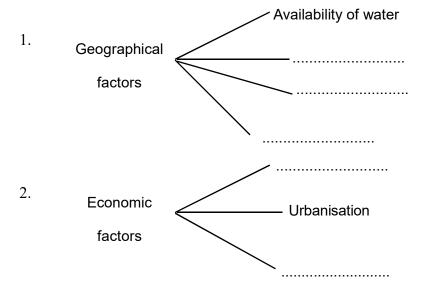
Area of Region B is = 100 sq. km

Population of that area = 1,50,000 person

Density = ? .....

• Factors influencing the distribution of population.

#### Complete the chart



#### **Population Growth**

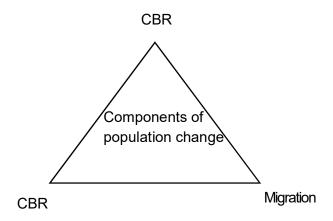
- Change in the number of inhabitants of a territory during a specific period of time.
- It may be positive or negative.
- It may be represented in absolute number or percentage.
- Change in population is an indicator of economic development, social upliftment and historical and cultural background of the region.
- Growth rate of population is expressed in percentage.
- Natural and Actual Growth of population.

Natural Growth	Actual Growth
Birth – Death	Birth – Death + In migration
	– out migration

#### Positive and Negative Growth of population

Positive Growth	Negative Growth
When the birth rate is more than death rate between	
two points of time.	

#### Components of population change



#### 1. Crude Birth Rate (CBR)

• Expressed as number of live births in a year per thousand of population.

• CBR = 
$$\frac{?}{2}$$
x 1000

• Here bi = .....

#### 2. Crude Death Rate (CDR)

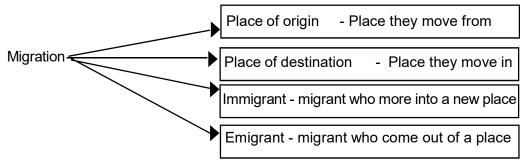
• Expressed as number of death in a particular year per thousand of population in a particular region.

• 
$$CDR = \frac{D}{P} \times ?$$

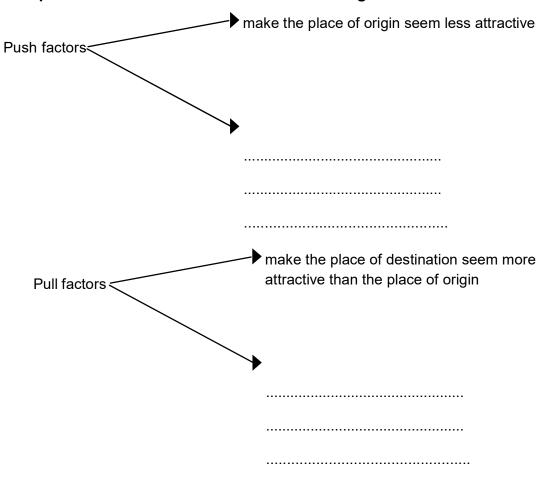
- Here D .....
- P .....

#### 3. Migration

It is the movement of people from one place to another.



#### Complete the chart on factors that influence migration.



#### How science and Technology helped population growth?

Steam engine replaced human and animal energy and also provided mechanized energy from other sources and helped in increasing agricultural and industrial production.

Improvement in medical facilities, inoculation against epidemics and sanitation helped in the decline of death rate.

The annual growth rate in India's population is 1.64 percent.

#### **Demographic Transition**

Theory used to describe and predict the future population of any area.

Population of any region changes from high births and high deaths to low birth and low deaths as society progresses from rural, agrarian and illiterate to urban, industrial and literate society.

Rural, Agrarian Demographic Transition Urban, Industrial

Drav	w three – staged model of Demographic Transition Theory in the given box.
Sta	ge 1
•	High Fluctuating
•	High Fertility and High Mortality
	People reproduce more to compensate for the deaths due to epidemics and variable food
·	supply.
•	
_	
•	
Sta	ge 2
•	Expanding
•	Fertility remains high in the beginning but it declines with time.
•	Improvement in sanitation and health conditions lead to decline in mortality.
•	
_	
•	
Sta	ge 3

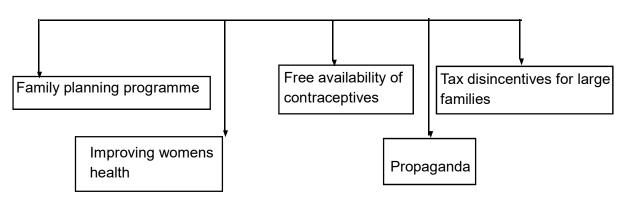
- Low fluctuating
- Fertility and mortality declines considerably.

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- The population is either stable or grows slowly.
- ......
- •

#### • Population Control Measures



## Part I

#### **Chapter 4**

#### **Human Development**

1. Complete the table

Growth	Development
Quantitative	•
Value neutral	•
Positive or negative	

- 2. Two South Asian economists who proposed the concept of human development?
  - Dr. Mahbub UI Haq

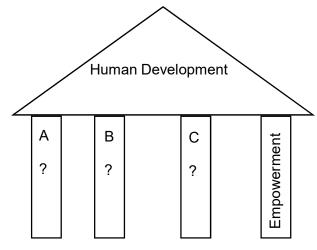
• .....

3. Key areas of human development

a) .....?

b) .....?

- c) Access to education (knowledge)
- 4. Fill the pillars based on the given information and prepare notes on each.



>HDI

5. Access to knowledge

 $\frac{1}{3}$ 

Access to health

 $\frac{1}{3}$ 

Access to knowledge

 $\frac{1}{3}$ 

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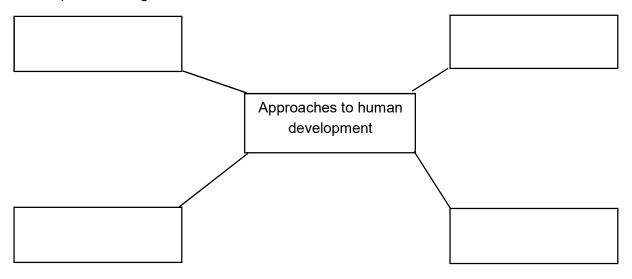
6. Access to health is measured by life expectancy at birth.

Complete.

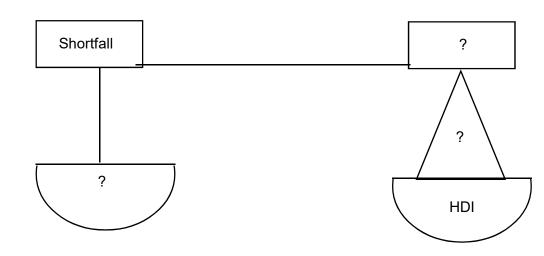
Access to knowledge ......?

Access to resources ......?

7. Complete the diagram



8.



9. Complete the following table.

Very High	?
?	0.700 - 0.807
?	?
Low	?

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#### 10. Write the indicators for Human Poverty Index

- Probability of not surviving till the age of 40.
- •
- •
- •

## Part I

# **Chapter - 5**

#### **PRIMARY ACTIVITIES**

Human beings engage in various economic activities for their own survival. All these economic activities are broadly grouped into primary, secondary, tertiary, quaternary and quinary activities. This chapter discusses the different primary economic activities of human beings such as hunting and gathering, pastoralism, agriculture and mining in detail.

		es. This chapter discusses the different primary economic activities of hum s hunting and gathering, pastoralism, agriculture and mining in detail.		
<u>A</u>	ctiv	<u>ity 1</u>		
* *		Human activities which generate income are known as Human economic activities are classified into:		
	•	Primary		
	•	Secondary		
	•			
	•			
	•			
*		Primary activities are directly dependent on environment.		
*		Primary economic activities of human beings are		
	•	Hunting and gathering		
	•	Pastoral activities		
	•			
	•			
	•			
	•			
		People engaged in primary activities are called <b>Red collar</b> workers due to the outdoor nature of their work		

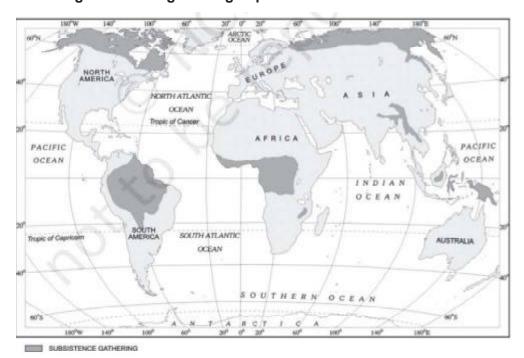
#### \* Hunting and gathering

The earliest human beings subsisted on

- a) Animals which they gathered,
- b) .....

Gathering is practiced in regions with harsh climatic conditions.

Find out the regions where gathering is practiced.



- \* High latitude zones which include
  - •
  - •
  - •
- \* Low latitude zones
  - •
  - •
  - •
  - •

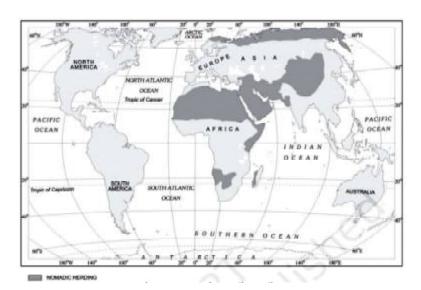
#### \* Pastoralism

With the realisation that hunting is an unsustainable activity, human being might have thought of domestication of animals.

- On the basis of geographical factors and technological development, animal rearing is practiced in two levels
- a) Subsistence
- b) .....

#### \* Nomadic herding

- Nomadic herding or pastoral nomadism is primitive subsistence activity
- They move from......
- •
- •
- \* Find out the three regions where the pastoral nomadism is practiced.



- .....
- •
- •

#### \* Transhumance

- The process of migration from plain areas to pastures in mountain during summers and again from mountain pastures to plain areas during winter is known as transhumance.
- Examples of Himalayan tribes who practice transhumance are.

•

•

- \* Commercial livestock rearing: Write its features
  - It is a more organised

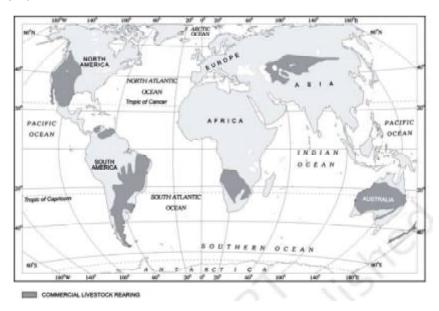
•

• .....

• ......

• .....

\* Find out the regions where the commercial livestock rearing is practiced in the world.



New Zealand

• .....

• ......

• .......

•

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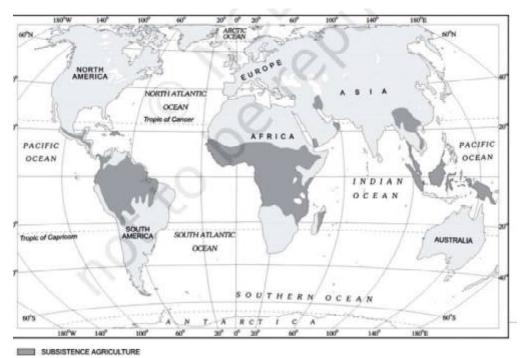
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*	Aq	ric	ult	ure

	Based on method of farming different types of crops are grown and livestock are raised.
	a) Subsistence agriculture
	b)
*	Primitive subsistence agriculture
	It is also known as shifting agriculture
	•
	•
*	Different names of primitive substance are
	Jhuming- North Eastern states of India
	•
	•
*	Intensive subsistence agriculture
	Intensive subsistence agriculture dominated by wet paddy
	Dominance of rice crop
	Land holding are very small
	•

Intensive subsistence agriculture dominated by crops other than paddy.

Find out the regions where primitive subsistence farming is practiced in the world.



•	
---	--

- •
- .....

#### \* Find out the regions where intensive subsistence farming is practiced in the world.

- Northern China
- .....
- •
- •
- .....

#### \* Plantation agriculture

- Plantation agriculture was introduced by......
- Plantation crops are......

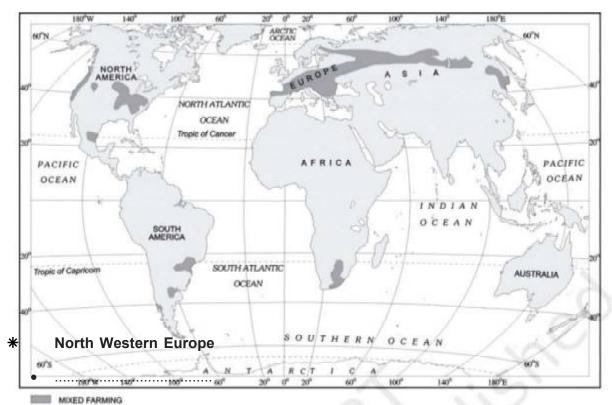
#### \* Characteristics of plantation agriculture

- Large estates
- .....
- •
- •
- ......

	•	
*		Extensive commercial grain cultivation
	•	Commercial grain cultivation is practised in interior part of semi arid lands of the mid latitudes.
	•	Major crops are
*		Characteristics of extensive commercial grain cultivation
	•	Size of the farm is very large
	•	
	•	
*		Extensive commercial grain cultivation mainly practised in Eurasian steppes
	•	
	•	
	•	
	•	
	•	

#### **Mixed farming**

Find out the regions where mixed farming is practised in the world.



- MIXED FARMING
- .....

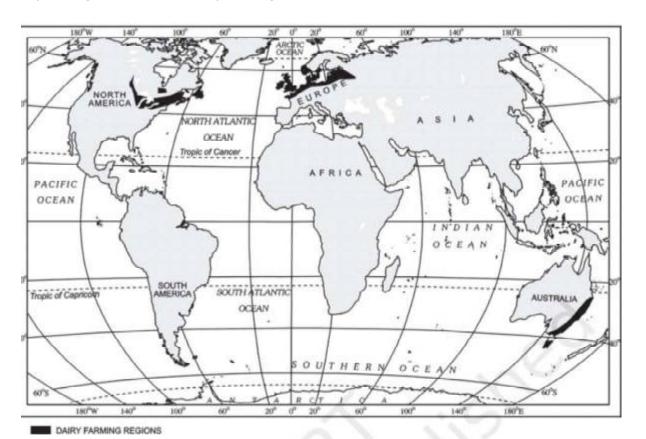
#### \* Characteristics of mixed farming.

- Mixed farms are moderate in size
- •
- •
- •
- •
- .....

#### **\*** Dairy farming

- It is highly capital intensive.
- ......
- .....
- •
- •

Identify the regions where the dairy farming is practised in the world.



- North Western Europe
- •
- •
- •
- •

#### \* Mediterranean agriculture

Mediterranean agriculture is highly specialised commercial agriculture

it is practised in:

- •
- •
- .....
- .....
- •

#### Geography Class

Viticulture or grape cultivation is a speciality of the Mediterranean region.

* Market gardening and horticult	<b>Iture</b>
----------------------------------	--------------

Market gardening	ı and horticulture s	pecialise in the cultivation	of high-value cro	ps such as
	,			

Mar	ket gardening and horticulture specialise in the cultivation of high-value crops such a
	• Vegetables
(	•
•	
* T	his type of agriculture well developed in :
•	North West Europe
•	•
•	
*	Characteristics:
•	Farms are small
•	
•	
•	
•	
*	Truck farming
The farm	regions where farmers specialise in vegetables only, the farming is known astruck ning
Cha	aracteristics of market gardening and horticulture are:
•	
•	
•	
•	•
*	Characteristics of factory farming are:
•	•
	•

#### \* Co-operative farming

#### Characteristics of Co-operative farming are:

<ul> <li>A group of farmers form a cooperative society by pooling in their resources voluntarily for more efficient and profitable farming.</li> </ul>
•
•
•
Collective farming
Based on social ownership of the means of production and collective labour
Another name of collective farming is
It was introduced in
Characteristics:
Improve upon the inefficiency of the previous method of agriculture
•
•
•
Mining
Factors affecting mining activity
Physical factors
•
•
•
Economic factors
•
•

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#### **Methods of mining**

•	surface mining /open cast mining
•	
•	

#### Underground mining/ shaft method

•	 	 	 
•	 	 	 
•	 	 	 
_			

# <u>Part - I</u> <u>Chapter 8</u>

## **Transport and Communication**

**N**atural resources, economic activities and markets are found at different places. Transport, communication and trade establish links between **producing centres** and **consuming centres**. The exchange of commodities relies on transportation and communication. The high living standards and quality of life depend on efficient transportation, communications and trade. In this chapter discuss as different modes of transportation and communication.

#### **TRANSPORT**

Transport is a service or facility for the carriage of persons and goods from one place to the other.

#### **MODES OF TRANSPORTATION**

- Land
- Water
- Air
- Pipeline



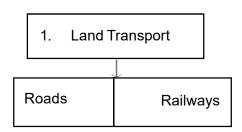


Complete the table showing the characteristic features of different modes of transportation.

Land		Water	Air	Pipeline
Road  It is cheaper  It is faster over short distances  It is used for door-to	Railways  Railways are most suited for large volumes of bulky materials over long distances within	It does not require route	High-value, light and	Pipelines     are used     extensively     to     transport     liquids
door services·	a country.	because the friction of water is far less than that of land.	<ul> <li>it is a well- managed transport system·</li> </ul>	and gases



#### Let's examine each mode of transportation in detail.





Roads			
Highways	Border roads		
<ul> <li>Highways are metalled roads connecting distant places.</li> <li>They are constructed for unobstructed vehicular movement.</li> <li>Highways are 80 m wide, with separate traffic lanes, bridges, flyovers and dual carriageways.</li> <li>In developed countries, every city and port town is linked through highways.</li> </ul>	<ul> <li>Roads laid along international boundaries are called border roads.</li> <li>They play an important role in integrating people in remote areas with major cities.</li> <li>Border roads are also used for military purposes</li> </ul>		





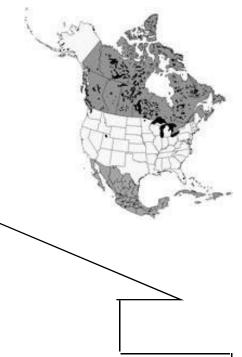
#### Try to answer the following questions

· •	Which continent has the highest road
	density?

• •	What are the advantages of road transport?
-----	--







#### In North America:

- Highway density is high
- Every place is within 20km distance from highway
- Cities on Pacific coast are well connected with cities on Atlantic Coast
- Major Highways are :
  - The Trans Canadian Highways
  - The Alaskan high ways
  - > The Pan American Highways



Identify the terminals of the Major Highways in North America and complete the table

The Trans Canadian Highway	Vancouver	•
The Alaskan high way	•	•
The Pan American Highway	•	•



Write the reasons for the following

•	In Russia Highways are not as important as railways
•	In Europe Highways face a lot of competition



The longest highway in India is **NH44** 

Identify the major highways shown in the map of India

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# Mumbai

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The Golden Quadrilateral

\_\_\_\_\_



# Railways What are the advantages of railways?





➤ Railways are most suited for large volumes of bulky materials over long distances.

The railway gauges are roughly classified as

- > Broad (more than 1.5 m)
- > Standard (1.44 m)
- ➤ Meter gauge (1 m) and
- > Smaller gauges



#### In Europe:

Europe has one of the most dense rail networks in the world.

Belgium has the highest density of 1 km of railway for every 6.5 sq kms area.

The important rail heads are London, Paris, Brussels, Milan, Berlin and Warsaw.

Passenger transport is more important than freight.

Underground railways are important in London and Paris



#### **Answer the following Questions:**

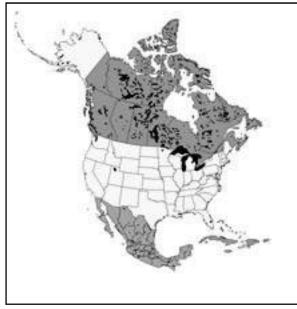
- Which country has the highest density of railway network?
- Which one pair of the following places is linked by Channel Tunnel?
  - (a) London Berlin
- (c) Berlin-.Paris
- (b) Barcelona Berlin
- (d) Paris London

#### In Russia:

Railways account for about 90 per cent of the country's total transport.

Moscow is the most important rail head with major lines radiating to different parts of the country's vast geographical area.

Complete the given table with the help of your text book.



- North America has one of the most extensive rail networks.
- It accounts for nearly 40 per cent of the world's total.

- •

#### What is a trans-continental railway?

Trans continental railways connect two ends of a continent.

They are instrumental in economic life of a country.

They were constructed for economic and political reasons to facilitate long runs in different directions.

They are essential for transportation of not only passengers but mainly of freight.

#### Major trans-continental railway in the world

- The Trans–Siberian Railway
- The Trans–Canadian Railways
- The Union and Pacific Railway
- The Australian Trans-Continental Railway
- The Orient Express



Identify the trans-continental railway depicted on the map given below and complete table.



Name of the trans-continental railway	Characteristic Features
	It runs from St. Petersburg in the west to Vladivostok
	It is the most important route in Asia
	The longest the longest (9,332 km) double-tracked and electrified trans— continental railway in the world.
	•

Identify and Draw the trans-continental railway which runs t across CANADA. Prepare a note on it.



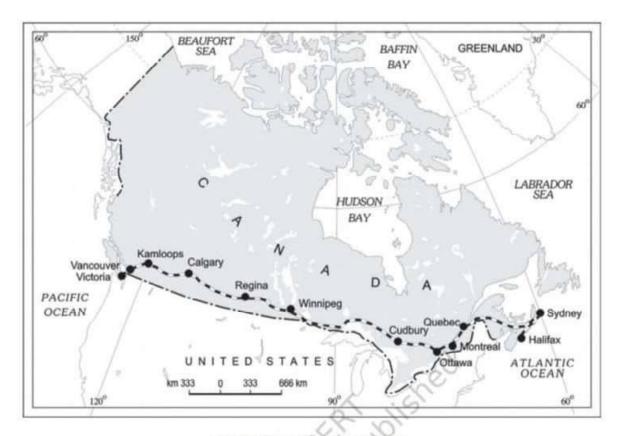


Fig. 8.6: Trans-Canadian Railway

The Trans Canadian Railway.

#### Prepare a note on The Union and Pacific Railway

- This rail-line connects New York on the Atlantic Coast to San Francisco.
- The most valuable exports on this route are ores, grain, paper, chemicals and machinery.
- •

Identify and Draw the trans-continental railway which runs across Australia. Prepare a note on it



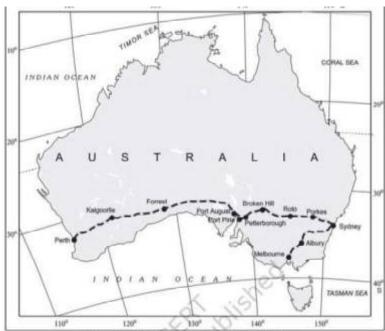


Fig. 8.7: Australian Trans-Continental Railway

The Australian Trans–Continental Railway.				



Prepare a note on the Orient Express.

#### WATER TRANSPORT

# Geography Class : XII







Write a note on the advantages of water transport

Water Transpor	  	 	

.....

Inland water ways

#### **Sea Routes**

- Sea routes offer a smooth highway traversable in all directions with no maintenance costs.
- Modern passenger liners (ships) and cargo ships are equipped with radar, wireless and other navigation aids.
- The development of refrigerated chambers for perishable goods, tankers and specialized ships has also improved cargo transport.
- The use of containers has made cargo handling at the world's major ports easier.

•

#### **Important Sea Routes**

Identify the important sea routes in the world with the help of the maps given in the text book

•	The Northern Atlantic Sea Route					
•						
•						
•						
•						
Prepare	Prepare a note on Coastal shipping					

#### Complete the following table accordingly.

Major Sea Routes	Features
The Northern Atlantic Sea Route	This links North-eastern U.S.A. and Northwestern Europe.
	The foreign trade over this route is greater
	One fourth of the world's foreign trade moves on this route.
	• It is, therefore, the <b>busiest sea</b> route in the world
	It is, therefore, this sea route is called the <b>Big Trunk</b>
The Mediterranean Indiana ocean sea routes	
The Cape of Good Hope Sea Route	
The North Pacific Sea Route	
The South Pacific Sea Route	

#### **Shipping Canals**

Suez Canal and Panama Canal are two vital man-made **navigation canals** or waterways which serve as **gateways of commerce** for both the eastern and western worlds.



Shade the Suez Canal with a blue sketch pen

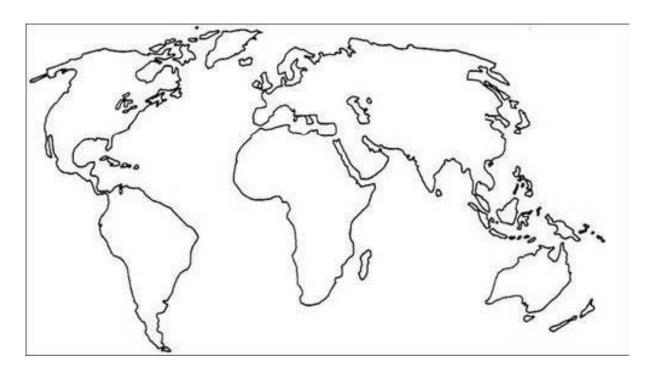


Shade the Panama Canal with a blue sketch pen





Mark the both canals on the world map and write the names of oceans and seas they connect



#### **Inland waterways**

Rivers, canals, lakes and coastal areas at as important waterways. The development of inland waterways is depend on the

•	navigabiity
•	

#### Complete the following table accordingly

Important waterways	Features
The Rhine waterways	<ul> <li>Flows through Germany an Netherlands</li> <li>Navigable for 700 km</li> <li>Most heavily used waterway in the world</li> </ul>
The Danube waterway	
The Volga waterway	
The Great lakes - St. Lawrence waterway	
The Mississippi waterway	

#### **Air Transport**

- Fastest Means of transportation

## **Pipelines**

These are used extensively to transport liquids and gases suych as water, petrolium and natural gase for an uninterrupted flow.

#### Communication

The new face of communication technology is the development of satellite communication.

#### Cyber space

It is the electronic digital world for communicating or accessing information over computer networks without physical movement of the sender and receiver.

#### Part II

#### Chapter 2

#### Migration: Types, Causes and Consequences

Migration is the permanent, temporary or seasonal change of residence.

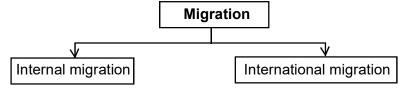
#### Indian Diaspora - Movement of Indians from their homeland

- First wave During colonial period, millions of Indian labourers were sent to different countries by British, Dutch, French and Portuguese rulers
  - Girmit Act (Indian Emigration Act) was formed to cover all these migrations.

•	Second wave	e			
		•			-
•	Third wave	-			

The census of India enumerated migration on two bases. Place of Birth and Place of Residence.

- Life time migrant: A person whose place of birth is different from place of enumeration.
- **Migrant by place of last residence**: A person whose place of last residence is different from the place of enumeration.



#### Streams of internal migration

- Rural to Rural
- -
- \_
- \_

#### **Causes of migration**

Push factors	Pull factors
• Poverty	Better employement
Drought	Favourable climate
•	•
•	•

## Consequences of migration : Complete the table

Economic consequences	Remittances sent from migrants help in the growth of economy of the source area.
	•
2. Demographic consequences	<ul> <li>Migration leads to redistribution of population within the country.</li> <li>•</li> </ul>
3. Social consequences	<ul><li>Migration leads to social change</li><li></li></ul>
4. Environmental cosequences	<ul> <li>Migration leads to unplanned growth of urban settlement</li> <li>•</li> </ul>
5. Others	Migration affects the status of women, directly or indirectly.

#### Part II

#### Unit 2

#### Chapter 4

#### **Human Settlement**

#### Introduction

Human settlement means cluster of dwellings of any type or size where human beings live. Settlements vary in size and type. They range from a hamlet to metropolitan cities. The study of human settlement is basic to human geography because the form of settlement in any particular region reflects human relationship with the environment.

#### **Classification of settlements**

Settlement can be differentiate in terms of rural and urban.

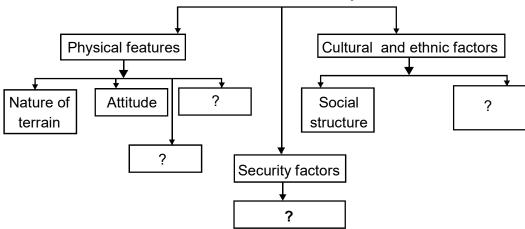
#### Difference between rural and urban settlements

## Rural Urban

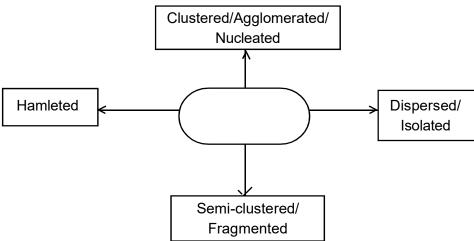
- Basic economic needs from land based primary economic activities.
- Provide raw materials and produce food
- People are less mobile
- Social relations are intimate
- Depend on processing of raw materials, manufacturing of finished goods and services.
- Act as nodes of economic growth and provide goods and services.
- Way of life is complex and fast.
- Social relations are formal.

Types of rural settlement are determined by the extent of the built-up area and inter house distance.

## Factors and conditions responsible for different rural settlements: Complete the table.



## Rural settlements in India



#### 1. Clustered settlement

- Compact or closely built up area of houses
- General living area is distinct and separated from the surrounding farms, barns and pastures.
- Different shapes such as rectangular, radial, linear etc.
- -
- •

#### 2. Semi-clustered settlements

- Formed due to result from tendency of clustered in restricted area of dispersed settlement.
- Segregation of large settlement may also cause.
- Dominance group live in the center of the village.
- •
- Most common in Gujarat and Rajasthan.

#### 3. Hamleted settlements

- Settlement is fragmented into several units physically separated from each other.
- These settlements are locally called panna, para, palli, nagla, dhani etc.
- \_\_\_\_\_
- •

#### 4. Dispersed settlements

- They are isolated huts or hamlets
- Located on hills or agricultural lands.
- It is due to nature of terrain and land resource.

?

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#### **Urban settlements**

		Orban Settlements	
	- On the bas	is of their evolution in different periods, Indian towns may be classified	
	as		
		Ancient town	
		•	
		•	
	1	──> Historical background spanning over 2000 years.	
1.	Ancient town	──→ Most of the towns developed as religious and cultural centres.	
١.	Ancient town		
		<del>-</del>	
	L	<b>→</b>	
		Most of them developed as headquarters of	
		principalities and kingdom.	
2.	Medieval Towns	──>There are more than 100 towns.	
۷.	Medievai Towns	—— There are more than 100 towns.	
		<b>→</b>	
		·	
		—> They are developed by British and other Europeans.	
		—— They are developed by Bhilish and other Europeans.	
3.	Modern towns	→ Generally located on the coast.	
		<del>&gt;</del>	
	L	$\rightarrow$	
		Urbanisation in India	
		evel of urbanisation in India in 2011 was 31.16 percent.	
	• Urbar	nisation developed 11 fold during 20 <sup>th</sup> century.	
	• It is d	ue to development of planned cities.	
?	Urban centre with	n population of more than one lakh	
?	Cities with population size between 1-5 million		

Cities with population size between more than 5 million .....

#### **Urban Agglomeration**

An urban agglomeration may consist of any one of the following three combinations.

- A town and its adjoining urban outgrowths.
- Two or more contiguous towns with or without their outgrowths.

•

•

- Greater Mumbai is the largest agglomeration with 18.4 million people
- Other ex :

# Classification of town on the basis of Population size (2011)

Class	Population size
1	1,00,000 and above
2	50,000-99,999
3	20,000-49,999
4	10,000-19,999
5	5000-9,999
6	Less than 5,000

#### **Functional classification of towns**

#### **Administrative Towns**

- Towns supporting administrative headquarters of higher order.
- Ex: \_\_\_\_\_\_

#### **Industrial Town**

- Industries constitute prime motive force of these cities.
- Fx ·

#### **Transport cities**

- They may be ports primarily engaged in export and import activities

Commercial towns
Specialising in trade and commerce.
• Ex:
Mining Towns
Developed in mineral rich areas
• Ex:
Garisson cantonment towns
Emerged as Garrison towns
• Ex:
Educational towns
Starting as centres of education, some of them grown into major campus towns
• Ex:
Religious and cultural towns
Towns have religious and cultural significance.
• Ex:
Tourist Towns
Towns acts as tourist destination.
• Ex:

## **SMART CITY MISSION**

## **Objectives**

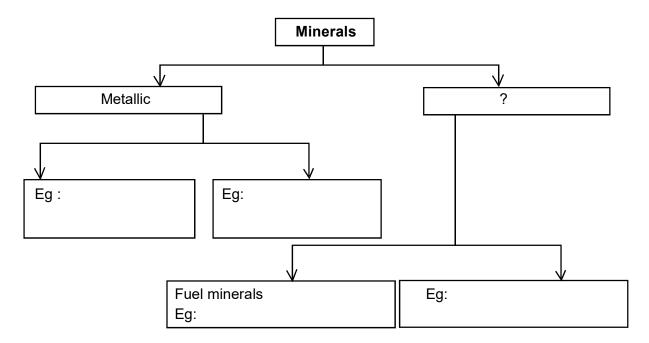
- To promote cities that provides core infrastructure, a clean and sustainable environment.
- To give a descent quality of life to its citizens.
- To apply smart solutions to infrastructure and services in order to make them better.
- Sustainable and inclusive development.

# Part II Chapter 7

## **Mineral and Energy Resources**

A mineral is a natural substance of organic or inorganic origin with definite chemical and physical properties.

#### Complete the flow chart showing classification of minerals



Minerals have certain characteristics.

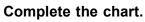
- Unevenly distributed on the earth's surface.
- •
- •

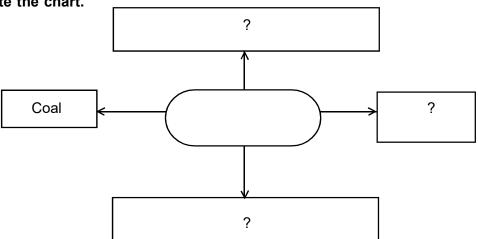
#### Mineral belts of India

- 1. The North Eastern Platean region.
  - Extends over Chotanagpur, Orissa platean, West Bengal and parts of Chhattisgarh.
  - Rich in minerals such as Iron ore, coal manganese, bauxite and mica.
- 2. The South Western Platean region.
  - •
  - •
  - •
- 3. The North Western region.
  - •
  - •
  - •

#### Complete the table.

Mineral	Leading producing state
Iron ore	Odisha
Manganese	
Bauxite	
Copper	
Mica	





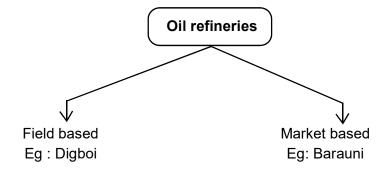
#### Coal

- 80% of the coal deposits in India is bituminous type.
- Jharia is the largest coal field followed by Raniganj.
- Brown coal or lignite is mainly found in Neyveli of TamilNadu.

#### **Petroleum**

- Referred to as liquid gold.
- Oil and Natural Gas Corporation (ONGC) manages oil exploration and production in India.

States	Oil producing areas
Assam	Digboi,,
Gujarat	Ankaleshwar,,
Maharashtra	



## Non conventional sources of energy

Renewable

Inexhaustible

•

•

1. Solar energy	<ul> <li>Photo voltaic cells and solar thermal technology are used.</li> <li>Cost competitive, environment friendly and easy to construct.</li> </ul>
2. wind energy	Kinetic energy of wind is converted into electrical energy
3. Tidal and wave energy	<ul> <li>Energy generated from tidal waves and ocean currents</li> <li>•</li> </ul>
4. Geothermal energy	The heat energy from the interior of the earth is converted into electrical energy
5. Bio energy	Energy derived from biological products is converted into electrical energy, heat energy or gas for cooking.

