

Geography-XII

For 12th class



Punjab School Education Board

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chapter-1

Geography & its Branches

Human Geography : Nature and Scope

We have already studied Geography as a discipline in 'Geography XI' (Punjab School Educations Board). Let us recall contents as the chapter broadly covers and introduces the nature of Geography. We are also acquainted with important branches of geography that sprout from its body. As we know geography as a field of study is integrative, empirical and practical, thus its reach is extensive and each and every event or phenomenon which vary over space and time may be covered and studied geographically.

How do you see the Earth's surface? Do you realise that the Earth Comprises two major components: Nature (Physical environment) and Life forms (including human beings)? Physical geography studies "the relationship between the physical/ natural and human worlds, the spatial distribution of human phenomena and how they come about the social and economic differences between different parts of the world", according to Agnew J. Living stone, Daridn and Rogers (1996).

1. Spatial distribution is a distribution or set of geographic observations representing the values or behaviour of a particular phenomenon or characteristic across many locations on the surface of the Earth. Penguin dictionary of Human Geography.

We are already aware of the fact that the core concern of Geography as a discipline is to understand the Earth as home of human beings. Geography got subjected to dualism and wide ranging debates started whether geography as a discipline should be a law making/ theorising (homothetic ਨੇਮ ਬੱਧ ਵਿਗਿਆਨ) or descriptive (idiographic ਪ੍ਰਚਲਤ ਭਾਸ਼ਾਈ ਵਿਸ਼ੇਸ਼ਤਾ ਵਾਲਾ). Whether its subject matter should be organised and approach of the study should be regional or systematic? These have been the issues for intellectual exercise but finally it is appreciated that the dichotomy between human and physical is not very valid one. Nature and humans are inseparable elements and should be seen holistically. It is interesting to note that both physical and human phenomena are described in metaphors using symbols from human anatomy.

We often talk of the 'face' of the Earth, 'eye' of the storm, 'mouth' of the river, 'snout (nose) of glaciers, 'neck' of the the isthmus and profile of the soil. Similarly regions, villages, towns have been described as ' organism'. German geographers described the 'state/country' as a living organism. Network of roads, railways and water ways have been described as ' arteries of circulation'. Can you collect such terms and expressions from your native languages? Darwin has a greater role in animating and personifying nature into an entity while the basic question remains, can we separate nature and humans when they are so intricately intertwined?

Spatial analysis is an approach to the study of geography which emphasises the locational patterns of a variables or series of variables.

Nature of Human Geography

Human Geography to its present all-encompassing coverage of all those aspects of geography not directly concerned with the physical environment. Human geography covers three related themes :- (i) Spatial analysis-the recording and description of human phenomena around the Earth surface, with special attention to the significance of space as a variable, (ii) The study of the inter-relationships between human beings and their environment, both natural and socio economic and (iii) A regional synthesis which combines the first two themes: in specified localities. All may be pursued on a variety of spatial scales.

Definition of Human Geography: "Human Geography is the synthetic study of relationship between human societies and Earth's surface". Friedrich Ratzel (1844-1904) (Synthesis has been emphasised in the above definition).

Scope: Each of the physical, biological and social science has its own philosophy, methodology and scope. For example, Economics deals primarily with the production, movement and consumption of goods and services, Geology is concerned with the composition and interior of the Earth's crust, Demography pertains to the characteristics of human population; and Zoology and Botany examine the animals and plant kingdoms respectively. Similarly, Geography examines numerous tangible and intangible natural and man-made phenomena. In human geography, the major thrust is on the study of human societies, in their relation to the habitat or dealing with the spatial distribution of societies Human Geography covers a very wide field or its scope is enormous. It embraces the study of human races; the growth, distribution and density of populations of various parts of the

world, their demographic attributes and migration patterns, physical and cultural differences between human groups and economic activities. It also covers the relationship between man and his natural environment along with the way in which his activities are distributed. Human Geography also takes into account the mosaic of culture, languages, religion, customs and traditions, types and patterns of rural settlements, the site, size, growth and functions of urban settlements and the functional classification of towns. The study of spatial distribution of economic activities, industries, trade and modes of transformations and communications as influenced by the physical environment are also the important topics of Human Geography. In brief, in this subject or discipline, we study the influence of physical environment on the economic activity, society, culture and religion of the people of a region. The impact of man on environment is also a topic of growing importance in Human Geography.

Human Geography deals with the world as it is and with the world as it might be made to be. Its emphasis is on people: where they are, what they are like, how they interact over space and time, and what kinds of land scapes of human use they erect upon the natural landscapes they occupy.

Fields and sub-fields of Human Geography: Human Geography as you have seen, attempts to explain the relationship between all elements of human life and the space they occur over. Thus, this discipline assumes a highly interface with other sister disciplines in social sciences in order to understand and explain human elements on the surface over the Earth.

Table 1.1 : Broad stages and thrust of Human Geography.

(A) Ancient period	Making maps & astronomical measurements	The earliest records illustrate the interest of scholars in understanding the physical domain of the Earth by making maps and astronomical measurements. The Greeks are given the credit of being the earliest geographers, prominent among them being Howeri Herodotus, Thales, Aristotle and Eratosthenes.
(B) Early Colonial Period	Explorations and descriptions	Imperial and trade interests prompted the discovery exploration of new areas.

(C) Later Colonial Period	Regional Analysis	Elaborate description of all aspects of regions were undertaken. The idea was that all the regions were part of whole Earth so, understanding the parts in totality would reach to an understanding of the whole.
(D) 1930 through the inter war period	A real Differentiation	The focus was on identifying the uniqueness of any region and understanding how and why it was different from others.
(E) Late 1950 to the late 1960	Spatial Organisation	Marked by use of computers and sophisticated statistical tools. Laws of Physics were often applied to map and analyse human phenomena. The phase of Quantitative revolution.
(F) 1970 _s	Emergence of humanistic radical and behavioural schools.	Discontentment with Quantitative revolution and its dehumanised manner of doing geography led to emergence of three new schools of human geography in the 1970s.
(G) 1980 _s		Human Geography was made more relevant to the socio political reality.
(H) 1990 _s	Post modernism	A good generalisation and the applicability of universal theories to explain the human conditions were questioned. The importance of understanding each local context in its own right was emphasised.

(ii) Geographical Thought (भूगोलिक चिन्तन):

We all have studied the Physical Geography in class XI. Now you will understand that subject matter of Geography is related directly to the Earth as 'adobe of humans'. As students of Class XII geography, you must have been curious to know that 'what is geographical thought'? And what is its relevance in studying it at Senior Secondary

level? Every subject has a philosophy and a history that is inherited from the forefathers of the subject. Now let us try to understand the Geographical thought.

Geographical thought is the study of theory and philosophy within or that have shaped the geographical discipline, essentially defining what we know and how we know it.

Geography has been crafted over time to incorporate different purposes and ideas. In general, a course on geographic thought in your syllabus will begin with ideas on space and place, then move into a history of the discipline that includes the age of cataloging (fact based geography for the sake of facts), then go through a history of thinking that loosely follows other disciplines in academia including Humanism, Empiricism, Structuralism, Modernism, Feminism, Marxism, Radicalism, etc.

'Geographical thought' as commonly understood in the discipline of geography, encompasses the development of geographic knowledge in particular places, times, and contexts. Accordingly, it has traditionally been, and continues to be primarily approached from a historical perspective. Geographical compendia (ਸੂਚੀ ਵਰਗਿਸਤ), gazetteers, atlases, and other empirical (ਅਨੁਭਵੀ) media found popular acceptance and readerships in the world in the mid nineteenth century. In the mid to late 19th century the government sponsored Great Western US surveys helped establish Physical Geography's relevance, and environmental-determinist doctrine helped put Human Geography in the popular mind as well as in school curricula. With the turn of the 20th century, geographic thought came to be formally established in college and university curricula, new societies and associations were founded, and professionals were produced. During the 1920s, US geographic thought underwent its first "Paradigmatic shift" -from simplistic environmentalist and deductive physiographic programs to "possibility" Human and inductivity Physical-Geographic approaches. The 1930s and 1940s saw a celebration of chorology or regionalism. The post-World War II period of the 1950s and 1960s witnessed a sharp turn toward spatial analytical and "scientific" methods both in Human and Physical Geography. In turn, the 1970s and 1980s spawned critiques of the "quantitative resolution," initially in the form of politically radical new directions and a retooling of humanistic impulses. By the 1990s the twin critical currents of radicalism and humanism had ramified in multiple new theoretical and methodological directions. This pluralism pertains today, with the former orthodoxies and approaches being retrofitted; for example, spatial science as GIS (geographic information science), or the "new"

cultural geography. At the same time, US geographic thought continues both to borrow from and to serve as a source of theoretical and methodological direction for other disciplines.

Determinism (ਨਿਯਤੀਵਾਦ)

There is a point of view that the environment controls the course of human action. In other words, the belief that variation in human behaviour around the world, can be explained by differences in human behaviour around the world which results in to differences in the natural environment. The philosophies, approaches and practices which inform and flow from a concern with the environment are known as environment determinism. For example Aristotle was of belief that, inhabitants of cold countries are courageous but "lacking in political organisations and capacity to rule their neighbours" and also the people of Asia lack courage and so slavery is their natural state. The supporters of such thoughts were Aristotle, Strabo, Carl Ritter, W.M. Davis, and Ellen Churchill Sample.

Possibilism (ਸੰਭਵਤਾਵਾਦ)

This is a philosophy which attempts to explain man and environment relationship in different way, taking man as an active agent in environment. This is a belief which asserts that natural environment provides options, the number of which increase as knowledge and technology of a cultural group develop. This view was named 'possibilism' by L.Febvre, who wrote: "The true and only geographical problem is that of utilisation of possibilities. "There are no necessities, but everywhere possibilities". The spatial patterns of human activity are therefore the result of people's choices with in an inert or permissive environmental frame. This viewpoint was stressed by the French school of Geography, Vidal de la Blache, J. Brunhes.

Neo-Determinism (ਨਵ-ਨਿਯਤੀਵਾਦ):

The concept of Neo-Determinism was put forward by Taylor in the 1920s which reflects a middle path between the two ideas of environmental determinism and possibilism. He also termed it as 'Stop and Go Determinism'. He puts it as those of you who live in cities and those who have visited the cities, might have seen that traffic is regulated by lights on the cross roads. Red light means 'STOP', amber light provides a gap between red and green lights 'to get set' and green light means 'Go'. The concept shows that neither is there a situation of absolute necessity

(environmental determinism) nor is there a condition of absolute freedom (possibilism). It means that human beings can conquer nature by obeying it. They have to respond to the red signals and can proceed in their pursuits of development where nature permits the modifications. It means that possibilities can be created within the limits which do not damage the environment and there is no free run without accidents. The free run which the developed economies attempted to take has already resulted in Green house effect, Ozone depletion, Global warming, Receding Glaciers and Degrading lands. The neo- determinism conceptually attempts to bring a balance notifying due 'either', 'or' dichotomy.

Radical Geography:

The radical approach in Geography developed in 1970s as a reaction to 'Quantitative revolution' and positivism which tried to make geography as a spatial science, with great emphasis on locational analysis. According to radicalises, in equality is inherent in the capitalist mode of production. The followers of radical approach in geography mainly concentrated on the issues of great social relevance like, inequality, racism, crime, discrimination against blacks, females and exploitation of natural resources.

A brief contribution of / about geographers:

Alexander Von Humboldt 1769-1859	<ul style="list-style-type: none"> • Born on 14th September 1769, he was front-rank contributor to several branches of knowledge including Botony, Geology, Climatology, Ecology, Physiology. • His book 'Geognosia' had provided an important model for Modern geography. • He wrote a book 'kosmos', which became the most prestigious scientific work ever produced upto that time. • Humboldt gave scientific explanation of crops and the influence of attitude, temperature and vegetation on crops. It was Humboldt who explained the tiding of dizziness as resulting from low air pressure. He was the first person who observed and recorded the Peru Current for the first time.
Carl Ritter 1779-1859	<ul style="list-style-type: none"> • Carl Ritter is known as one of the founders of modern geographical thought. He was a dedicated fieldworker and believed in empirical research. • He was chiefly concerned with studies of Human Geography. • Ritter declared geography to be 'Erdkunde' or an Earth science.

	<ul style="list-style-type: none"> • The fundamental principle evolved by Ritter was "Unity in diversity". • He believed that the earth was an organism made, even in its smallest details, with divine intent, to fit the needs of man to perfection. He was teleological (ਉਦੇਸ਼ਵਾਦੀ) in his approach.
Paul Vidal de la Blache 1848-1918	<ul style="list-style-type: none"> • He is known as the founder of Human Geography. • From 1896 to 1918 (to the time to his death) he was professor of Geography at university of Sorbonne. • Vidal advocated the concept of Possibilism. His approach was that nature sets the limits and offer possibilities for human settlements, but the way man reacts or adjusts to these conditions depends on his own traditional way of living. • He opined that 'Nature is never more than an advisor'. "There are not necessities but everywhere possibilities." • He wrote a book 'Tableau de la Geographie de la France'. • His monumental work 'Human Geography' was posthumously published in 1921.
Ellen Churchill Semple 1863-1932	<ul style="list-style-type: none"> • E.C. Semple was an American geographer. She was the leading exponent of Environment determinism. • Both her books, 'Influence of Geographic environment and American History conditions' (1903), were the result of her admiration for the work of Friedrich Ratzel. • She was a determinist which can be appreciated from the opening para of her book. "Man is a product of the earth's surface. This means not merely that he is a child of the earth, dust of her dust, but that the earth has mothered him, fed him, set him tasks, directed his thoughts, confronted him with difficulties that have strengthened his body and sharpened his wits, given him his problems of navigation or irrigation, and at the same time whispered hints for their solution".

Human Geography and other disciplines

Fields of Human Geography	Sub-fields	Interface with sister discipline of social science
Political Geography	--	Political Science
	Electoral Geography	Psychology
	Military Geography	Military Science
Population Geography	-	Demography

Settlement Geography	-	Urban planning / Rural planning
Economic Geography	Geography of Resources	Economics Resource
	Geography of Agriculture	Agriculture Science
	Geography of Industries	Industrial Economics
	Geography of Marketing	Business Studies, Economics, Commerce
	Geography of Tourism	Tourism and Travel management
	Geography of International Relations	International Trade

Excercise

1. Answer the following questions upto the length of a sentence:-

- (a) What is elaborated meaning of the term 'Geography'?
- (b) What are major components of which Earth comprises of?
- (c) Name the themes which cover Human Geography.
- (d) What are three philosophies which explain purpose of Geography?
- (e) Name any two world renowned geographers.
- (f) Match the following:-

- | | |
|----------------------------|-------------------------|
| (i) Political Geography | (w) Demography |
| (ii) Economic Geography | (x) Psephology |
| (iii) Population Geography | (y) Rural planning |
| (iv) Settlement Geography | (z) International Trade |

(g) Match the following Geographical eras:-

- | | |
|-------------------------|---------------------------------|
| (i) Colonial Period | (w) Post Modernism |
| (ii) 1930 _s | (x) Humanistic, Radical Schools |
| (iii) 1970 _s | (y) Regional Analysis |
| (iv) 1990 _s | (z) Real Differentiation |

2. Answer the following questions in four sentences at the most:-

- (a) Define Human Geography as per Penguin Dictionary.
- (b) Cite any four names of Human organs given to Geographical processes.
- (c) Which subject or discipline Explain following studies; Interior of Earth, Human population, Animal kingdom & Plant kingdom.
- (d) What do you understand by Geographical thought?

3. Explain the following in 10 to 20 sentence:-

- (a) Write a short note on contribution of A.V. Humboldt to Geography.
- (b) What are the sub fields and sister disciplines of Economic Geography?
- (c) How Geographical activities are named after human organs or other activities by various thinkers?
- (d) What was the thrust of Human Geography, taken in ancient period?

4. Narrate the following in not more than 20 sentences:-

- (a) What is scope of Human Geography?
- (b) What is Determinism and Neo-Determinism?

Chapter-2

Human Resources: Population & its change

Human being is the most valuable resource of this world, without the development of the human resource, the development and use of any other resources is not possible. No other resources were developed prior to origin of human beings on this planet, the Earth. Human is the pivot of all the economic activities on the Earth. The growth or development of any region or the country has direct relation with the development of human resource of that particular region or the country. The people of any country serve as an asset for that country. The quality of human resource of a country is the real parameter of development and prosperity of that country. Hence it is very significant to acquire the information regarding various aspects of population.

In population India stands at second place after China in the whole world. As per census of 2011 the total population of India was 1,21,01,92,422 which is 17.5 percent of the world population. In area, India constitutes only 2.4 percent of total world area whereas the countries like Russia, Canada, USA, Brazil and Australia are many times larger than our country but their population size is much smaller than ours. Due to this imbalance there is more population pressure on the resources of the country which further gives rise to numerous social and economic problems, In this lesson we shall study the different aspects of the population.

Population Distribution

The total population of the world has crossed the mark of 700 crore by the end of year 2011. Only 17.6 percent of the total world population inhabits the more developed countries like the U.S.A, Canada, European countries, Japan, Australia, Newzealand etc. Whereas the remaining proportion of the population is settled in the less developed countries of Asia and Africa. More than 50 percent of the total world population (426 crores) resides only in Asia continent. Even if we look at the population scenario in India, it is revealed that some states are very densely populated whereas the others have only sparse population. About 76 percent of the total population of India is concentrated in states of Uttar Pradesh, Maharashtra, Bihar, West Bengal, Andhra Pradesh, Tamilnadu, Madhya Pradesh, Rajasthan, Karnataka and Gujarat, Uttar Pradesh alone accommodates 16.49 percent of the population of India, whereas the less populated states like Jammu and Kashmir, Arunachal Pradesh, Uttarakhand possess only 1 percent or less population. There is no uniform distribution of population in any region or the country of the world.

Density of Population:

Land resource plays a very significant role in the growth of population. Density of population is the parameter of the population pressure on the land resource of any country. It is the ratio of population and area of a specific region or country, normally which is expressed as persons per square kilometer

Ten Highly Population countries of the World			
Sr. No.	Country	Population in Croers	% of total world Population
1.	China	134.10	19.4
2.	India	121.01	17.6
3.	U.S.A	30.87	4.5
4.	Indonesia	23.76	3.4
5.	Brazil	19.07	2.8
6.	Pakistan	18.48	2.7
7.	Bangladesh	16.44	2.4
8.	Nigeria	15.83	2.3
9.	Russian Federation	14.04	2.0
10.	Japan	12.81	1.9
Other Countries of the world		284.47	41.2
Source: Data Computed from Census of India 2011			

$$\text{Population Density} = \frac{\text{Population of the Region}}{\text{Area of that Region}}$$

For instance if the area of a region is 50,000 square kilometre and the population of that region is 3,00,00,000 persons then the population density will be 600 persons per sq km.

$$\text{Population Density} = \frac{3,00,00,000 \text{ person}}{50,000 \text{ sq. km}} = 600 \text{ persons per sq. km}$$

Population density is the average of the population of an area which may change from time to time. As per census 2011, the population density of India is 382 persons per sq. km where as it was only 77 persons per sq. km the year 1901. Population density of the different countries of the world or even the different states of India is not uniform in nature rather it varies in different countries of the world as well in different states of our country. Continuous increasing population density is putting more pressure on the land as well as the other resources. Variations at a very large scale are found with regard to the population density of different states of India. The population density of Arunachal Pradesh is only 17 persons per sq. km. whereas the population density of Bihar state is 1106 persons per sq. km. After Bihar, West Bengal, Kerala, Uttar Pradesh and Haryana occupy the second, third, fourth and fifth position in population density, respectively.

The State of Punjab ranks at seventh position in population density in India. It has population density of 550 persons per square kilometre. The states like Arunachal Pradesh, Mizoram, Sikkim, Jammu and Kashmir, Meghalaya, Manipur, Himachal Pradesh and Nagaland possess low population density. For analysing the population density, India may be divided into three categories:

Density of Population in India	
Year	Population Density
1901	77
1911	82
1921	81
1931	90
1941	103
1951	117
1961	142
1971	177
1981	216
1991	267
2001	325
2011	382

I. Regions with High population density.

II. Regions with Moderate population density.

III. Regions with low population density.

- i. **Regions with High population density:** The states with more than 400 persons per sq. km population densities are included in this category. This category includes eight states and six union territories. The states like Bihar, West Bengal, Uttar Pradesh, Kerala, Tamilnadu, Haryana, Punjab, Jharkhand and Union Territories of Delhi, Chandigarh, Puducherry, Daman and Diu, Lakshadweep are included in the high population density group.
- ii. **Regions of Moderate population density:** The state and the Union Territories having population density between 200 to 400 person per square kilometre fall in this category. The states like Assam, Goa, Tripura, Karnataka etc fall in this category.
- iii. **Regions of low population density:** The regions or the states where the population density is less than 200 persons per square kilometre are included in this category. The states like Arunachal Pradesh, J & K, Himachal Pradesh, Sikkim etc. Fall in this category.

Causes or Factors affecting population distribution and density of population: Some of the major causes or factors which influence the population distribution or the density of population are listed as under:

1. Climate: It is one of the most significant factors which influences the population distribution and population density to a greater extent. People do not want to settle in the regions of very hot or very cold climatic conditions therefore the population density in such areas remains very sparse or negligible only. On the other hand people love to live or reside in the regions having of comfortable climatic conditions.

2. Relief and types of soil: People prefer to inhabit the regions with fertile soils and plains or gentle sloped terrain steep sloped and low land regions or the regions with poor soils are not preferred or least preferred by the human beings for their settlement.

3. Availability of Water: Humans require water for their various needs. Potable water is necessary for drinking purposes. The regions with salty or unsafe water are also not considered fit for settlement purpose.

4. Minerals or Natural Resources: The minerals or the natural resources play a very decisive role in the economic development of the region, where they are available. The human development is directly linked with the economic development of a region, there for the areas rich in minerals and other natural resources become the choice areas for human settlement.

5. Means of transport and Communication: The development of means of transport and communication is one of the necessary factors for the movement and other economic activities of the people of an area. Therefore the people prefer to settle in the region or area with well developed network of transport and communication.

6. Supply of Electricity: Today with the increase in human comforts, the electricity has become one of the most necessary requirements. The areas with cheaper and continuous supply of electricity become attraction for the human settlement, hence will have more population as compared to other electricity deficient areas.

7. Social causes or factors:- Social factors also influence the population distribution or the population density to some extent. People want to leave the regions with useless old customs and traditions and get attracted towards the areas where educated people with positive thinking reside. Types of professions available and feasibility of theirs also matters.

8. Political factors:- Political factors do play a big role in the population distribution over an area. If the government is not able to meet the expectations of the people or the government policies are against a particular community or religion, then the people will not prefer to settle over that region. They will find some other suitable and favourable place to settle down. That is why the inhabitant friendly regions are densely populated.

9. Historical factors:- Sometimes people do not prefer to settle at a new place rather they want the place or region where their ancestors used to live. People may prefer to live or concentrate over a place of their religious faith or a place of historical importance. The places like Sri Amritsar Sahib (Punjab), McLeod ganj (Himachal Pradesh), Agra (Uttar Pradesh), Jaipur (Rajasthan), Shirdi (Maharashtra) and Mecca the holiest city for Muslims (Saudi Arabia) are worth mentioning having good concentration of population.

10. Economic Factor: One has to adopt some economic activity to carry on his life as well as the family. Therefore the economically developed areas where there are good employment opportunities and possibilities of trade, business etc attract a large number of people. The cities liked Ludhiana, Delhi, Gurgaon, Bengaluru etc are density populated become these are providing employment opportunities at a larger scale.

Population Growth:

Population Growth means the increase in the number of population of an area in a specific period of time and and over a certain period of period. Population growth and

population change both represent the increase or decrease in the population of an area. Hence the population growth may be positive or negative. Population growth is shown in absolute numbers or percentage when the growth in population is expressed in percentage then it is known as growth rate.

The difference between the birth and deaths over a fixed period of time in an area is known as Natural Growth of population. If the birth rate in an area is more than the death rate or people immigrate to that area, then there will be positive population growth. On the other hand if the death rate is more than the birth rate or the people out-immigrate to other places, then the population growth in that specific area will be negative.

In India census is conducted after every ten years. The difference in total population in ten years is known as population Growth or change in population. For example the population of India as per census 2011 is 1,21,01,93,422 per whereas as per census 2001 it was 1,02,87,37,436 person. If we subtract the total population of 2001 from total population of 2011, the difference of 18,14,55,986 person in ten years (2001-2011) will be the growth in population in ten years. The growth of population in percentage for the said ten years can be calculated as under:

World Population Day

July 11 every year is observed as world Population Day which seeks to raise awareness about global population issues. It was inspired by the public interest on July 11, 1987-approximately the date on which the world population reached five billion mark. The event was established by the Governing council of the United Nations Development Programme in 1989.

Population Growth in ten years

$$= \frac{\text{Population of the Present Year} - \text{Population of the base year}}{\text{Population of the present year}} \times 100$$

Therefore the population growth for the period 2001 to 2011 as per the above formula will be as under

$$\text{Population Growth} = \frac{1210193422 - 1028737436}{1028737436} \times 100 = 17.64\%$$

Decadal Growth Rates in India		
Year of Census	Total Population (in crores)	Decadal Growth Rate (in Percent)
1901	23.83	--
1911	25.20	+ 5.75
1921	25.13	- 0.31
1931	27.89	+ 11.00
1941	31.86	+ 14.22
1951	36.10	+ 13.31
1961	43.92	+ 21.64
1971	54.81	+ 24.80
1981	68.33	+ 24.66
1991	84.64	+ 23.87
2001	102.87	+ 21.54
2011	121.01	+ 17.64

Source: Census of India 2011

Age Composition:

The population of a country is constituted of persons of all ages or the persons of 0 to 100 years or more are part of the society. They can be divided into different age groups. From the age composition we come to know about the % age of dependants as well as the workers in the total population. The knowledge of different age groups is significant from the point of creation of employment opportunities as well as providing them with the amenities and facilities.

If we talk of age composition in India, the scenario is not encouraging one because the percentage of dependant population is quite high. As per data derived from Census-2011, 29.7% population fall in the 0-14 y age group while 5.5% of population fall in the age group of 60 years and above. It means 0-14 y and 60 y and above age groups population depends on the workers for their all requirements. More the percentage of dependant population, lower will be economic level of the country and vice versa.

Change (%) in Various Age Groups in India			
Year of Census	0-14 years	15-59 years	60 years is above
1901	38.1	56.8	5.1
1911	37.8	56.9	5.2
1921	38.6	56.0	5.4
1931	38.5	56.4	5.1
1941	39.1	55.2	5.7
1951	37.5	56.9	5.6
1961	41.0	53.3	5.6
1971	42.0	52.0	6.0
1981	39.7	54.1	6.2
1991	36.5	57.1	6.4
2001	35.6	58.1	6.3
2011	29.7	64.8	5.5

Sex Ratio:

The knowledge of sex ratio is highly relevant in the study of population of any country. The change in sex ratio affects the social, economic and cultural framework of a country to a great extent. Sex composition is expressed as a ratio which is known as sex ratio. Sex ratio is the important parameter of status of women in any society. In India the sex ratio means the number of women per thousand of men and it is calculated as under:

$$\text{Sex Ratio} = \frac{\text{Number of females}}{\text{Number of Males}} \times 100$$

If the sex ratio is 1000 it indicates the perfect balance between the number of males and females. If this ratio is more than 1000 then the number of females is more than the males and vice versa. In India the sex ratio is not as it is required. Since 1901 till 2011 the sex ratio in India have always remained less than 1000. As per data derived from census 2011, total number of males and females in India is 62.37 crore and 58.64 crore respectively out of total 121.01 crore population of the country. The sex ratio of Kerala is 1084 whereas situation in Punjab is alarming

India / Punjab Sex Ratio		
	No. of Females per thousand of Male	
Year	India	Punjab
1901	972	832
1911	964	780
1921	955	799
1931	950	815
1941	945	836
1951	946	844
1961	941	854
1971	930	865
1981	934	879
1991	926	882
2001	933	876
2011	940	893

where the sex ratio is 893 females per thousand of males. The sex ratio in Punjab in the year 2001 was 87 and it has shown some signs of improvement in 2011 (893 females per thousand of males) which further needs sincere efforts on the part of all segments of society as well as the State Government.

Urbanisation:

Majority of the population of India resides in the villages but due to better conditions many want to settle in the cities or the urban centres. People from the villages all get attracted towards the cities for better amenities & facilities as well as the employment opportunities available to them. About 200 years back only 2.5 percent of the world population lived in cities but presently more than 40 percent of the world population is inhabiting the cities. In the year 1911 only 10.29 percent people of India used to live in the cities but as per census 2011 this percent has reached 31.16 percent from the historical point it comes to light that the trend of urbanisation in India started with the Indus valley Civilisation.

At local level the villages are managed by the panchayats where as the town and the cities are managed and administered by the municipalities and the municipal corporation respectively. There are immense educational as well as employment opportunities in the cities and health, living and transport facilities are also better than those in the villages. More of the population of the urban centres is engaged in the industries, trade and services where as the majority population of the villages is engaged in the primary activities like agriculture.

As per the guide lines of United Nations, the Census department of India has categorised the cities (urban centres) into the following classes:

(i) First Class Cities:- The urban centres or cities which have population of one lakh or more are included in this category.

(ii) Second Class Cities:- These are the urban centres or cities which have population of 50,000 to 99,999 persons.

(iii) Third Class Cities:- The urban centres or cities having population between 20,000 to 49,999 persons fall in this category.

(iv) Fourth Class Cities:- The urban centres or cities which have population between 10,000 to 19,999 persons are included in this category.

(v) Fifth Class Cities:- The urban centres where the population ranges between 5,000 to 9,999 persons are recognised as fifth class cities.

(vi) Sixth Class Cities:- The urban centres which have population less than 5,000 persons are included in this category.

Though the urban / city life is very attractive because of the availability of amenities and many other benefits yet it is quite taxing for the city itself. Fast increasing urbanisation also creating a lot of problems. Some of the major problems being

Urbanisation In India		
Year	Urbanisation rate (In percent)	No. of Cities and Towns
1901	10.84	1915
1911	10.29	1864
1921	11.18	2018
1931	11.99	2188
1941	13.86	2392
1951	17.29	3035
1961	17.97	2657
1971	19.91	3081
1981	23.34	3981
1991	25.70	4615
2001	27.82	5161
2011	31.16	7935

Source: Census of India 2011

Faced by the cities due to over urbanisation are listed as under:

- (i) Problem of space
- (ii) Shortage of houses
- (iii) Emerging of slums
- (iv) Shortage in means of transportation
- (v) Problem of drinkable water
- (vi) Problems of pollution in the cities
- (vii) Rise in number of crimes in the cities
- (viii) Overcrowding and traffic problems

Urban Planning

To overcome the sharply rising urban problem, there is strong need for sincere efforts at the government level. Urban planning is the most appreciable step in this direction for developing any new city or for providing amenities and facilities in the already existing cities. Appropriate planning at the right time saves money as well as time in providing the required amenities and facilities to the citizen of the cities or other urban centres. The urban planning should be done by keeping the future needs and problems of the citizens.

Determinants of Population Change

Population of any region is not static and lots of changes take place with the passage of time. It may increase or decrease time to time. Population Change is influenced by some factors which are known as determinants of Population Change in an area over a period of time. The following three determinants of population are given as under:-

- (1) Fertility or Birth Rate (BR)
- (2) Mortality or Death Rate (DR)
- (3) Migration

(1) Fertility or Birth Rate:- If the fertility rate or the birth rate in a society or region is high, it increases the population at a faster speed and vice versa. Fertility or the birth rate is expressed as Crude Birth Rate (CBR) which is calculated as under.

$$\text{CBR} = \frac{BL}{P} \times 1000$$

Where BL stands for live births in a year and P is midyear population in the specific region.

Fertility or birth rate of an area gets influenced by race, fecundity (ability to produce children), physical mental health, age- sex composition, degree of urbanisation age of marriage, status as well as customs and traditions prevalent in the society of the area.

(2) Mortality or Death Rate:- Mortality death rate also plays a big role in the population change. The change in the mortality rate increases or decreases the population in any region. Mortality or death rate is expressed as CDR which can be calculated as under:

$$CDR = \frac{D}{P} \times 1000$$

Where CDR is crude death rate and P is estimated midyear population of any region. Resultantly the crude death rate gives the statistics regarding the number of death occurred is a year per thousand of population of a particulate region. mortality or death may be caused by any disease or naturally with the age. Mortality or death rate gets affected by socio-economic and technological level, medical, facilities, literacy level, nutrition and general conditions of hygiene and sanitation. Excessive rise in mortality or death rate causes the population fall in an area and vice versa.

(3) Migration:- It is one of the very important determinants of Population Change and refers to the movement of population from one place to another migration may be temporary or permanent in nature. Temporary migration may be seasonal, yearly or of any short duration on the basis of the spatial movement of population it can be defined as under:

- (i) Rural to Rural migration
- (ii) Rural to Urban migration
- (iii) Urban to Urban migration
- (iv) Urban to Rural migration

Sometimes the migration is from village to small urban centre and later on from small urban centre to the big urban centre or the city. Such migration is called step wise migration.

Causes of Migration:- It is not an easy task to explain the reasons behind migration in a simple way. Migration in itself is very complex phenomenon and to analyse the motives behind migration is very difficult part to study the process of migration. Among the determinants of migration, push and pull factors play a significant role. The push factors operate in the areas of out migration and compel the people of that area to move to the other places. On the other hand, the pull factors are those which operate in the areas of in-migration and attract the people towards that area. Push and Pull factors are also known as negative and positive factors respectively. These factors may operate simultaneously in the same area. Push factors for some people may work as pull factors for the others. The factors underlying the causes of migration can mainly be grouped into the following three categories:-

1. Economic Factors
2. Social Factors
3. Demographic Factors

(1) Economic Factors are considered to be the most vital motives behind the migration. A list of the important economic determinants is given as under:

- (a) General economic conditions of the area
- (b) The scene of industrialisation in the region
- (c) The availability of good agricultural land
- (d) Size of the land holdings
- (e) Availability and future prospects of employment opportunities.
- (f) Development of means of transport and communication in the region.

2. Social Factors are equally decisive in the movement of people from one place to another. For instance marriage is a social event whereby the woman have to leave their parents' place and move to their in-laws' place. Some other important social determinants of migration are given below:

- (a) Religious freedom and taste for settling down at a place of their (religious) choice
- (b) Element of Caste or race
- (c) Desire for social upliftment
- (d) Fear of war or Social instability
- (e) Availability of better educational and medical facilities
- (f) Personal freedom
- (g) Government policies

3. Demographic Factors also play an important role in modifying the migratory habits of the people. Some significant demographic determinants regarding the migration of the people are given as under:

- (a) Age factors (age of the potential migrant)
- (b) The regional disparities with regard to the increase in population.
- (c) General population pressure in an area.

(d) Population Resource Ratio in the area.

On the basis of the regional boundaries the migration can be of the following types:

- (i) Intra-State migration
- (ii) Inter-state migration
- (iii) International migration

When the migration takes place within the state itself, it is known as Intra-state migration but when there is migration from one state to another state in the country it is called as Inter-state migration. If the migrant (person) moves out of one country and settles down in another country it is known as International migration.

For example if a person from Jalandhar settles at Patiala it will be Intra-state migration but if the same fellow moves from Jalandhar to Mumbai for his settlement it will be Inter-state migration (i.e. from Punjab to Maharashtra state) when a person migrates from Jalandhar to Toronto (Canada) and settles over there, this is known as International migration.

Consequences of migration

The consequences of migration are diverse in nature. The migration affects both the regions i.e. the regions of out-migrations as well as the regions of in-migration. The consequences of migration can be broadly grouped into the demographic, social, economic and the environmental.

1. Demographic Consequences of Migration

- i. It brings about changes in the characteristics of the population of the area of out-migration as well as in-migration.
- ii. Migration causes the change in age and sex composition of the area.
- iii. It also affects the rate of growth of the population
- iv. Time out-migration areas are generally depleted of the youthful population which results in lowering of birth rate and it is the reverse in the in-migration area.

2. Social Consequences of Migration

- i. The Migration are very good agents of social change as they bring new ideas related to technology family planning, girl education etc.
- ii. Migration results in intermixing of cultures.
- iii. It widens the mental horizon of the people.
- iv. It may create the negative effect like physical and mental anonymity among the residents of an area.
- v. It may create social vacuum in the society to affect upon social integrity.

vi The bad migrants may give rise to social evils like crime drug abuse etc.

vii Generally the male members of the family migrate to other areas for economic betterment which causes tremendous mental and physical pressure to the women.

3. Economic Consequences of Migration

(i) Migration affects the occupational structure of the people of both the regions i.e. the region of out-migration as well as the region of in-migration.

(ii) The unemployed persons get jobs when they migrate to areas with better economic opportunities.

(iii) There is one serious or negative aspect of migration that is brain drain from one country to another. For instance the highly skilled/educated professionals from India have migrated and still migrating to the developed countries like the USA, Canada, UK, Australia, Newzealand etc. This 'brain drain' lowers the quality of the source region (region of out-migration).

(iv) Most of the people migrate for economic gains and they also add to the prosperity of their families at the source region.

4. Environmental Consequences of Migration:

(i) Large scale rural to urban migration leads to overcrowding in the cities.

(ii) It creates more pressure on the infrastructure of the region of in migration.

(iii) Large scale migration to the urban centres results in unplanned and haphazard Growth.

(iv) More migration to the cities also causes establishment of slums.

(v) Large scale migration to the cities causes water scarcity as well as other problems like sewage disposal and solid waste management.

Push and Pull Factors of Migration		
Sr. no.	Push Factors	Pull Factors
1.	Unemployment	Potential for employment
2.	Lack of service or amenities	Better service and amenities
3.	Poor Safety and Security	Safer Atmosphere
4.	High Crime rate	No crime or lower crime rate
5.	Crop Failures	Fertile Land
6.	Drought and Floods	No risk of drought and floods/Better Conditions
7.	Natural Hazards	No risk of Natural Hazards
8.	Poverty	Greater earning or job security
9.	War/Fear of War	Political and Social Stability

India Diaspora

The term 'Diaspora' is derived from a Greek word meaning 'dispersion'. It was used by Jewish people denoting their worldwide dispersion outside their homeland, the land of Israel. This model of Jewish people was followed by others like Armenian, Chinese, African and Indian communities. The difference is that the Indian communities have been dispersed/ migrated to their chosen countries of migration.

The history of Indian Diaspora refers to the ages immemorial. The earliest emigration of Indian may be traced back to the trade and religion contacts with other civilisations like Greek and the Mesopotamian.

During the 'Colonial Period' (British Rule in India) the indentured (bonded) labour from India and other parts of Asia was employed by the British. Much of the recruitment of this type of labour was done from western Bihar, U.P., Bengal and Orissa to work on the sugar, cotton, tea plantations and rail construction projects in British Colonies in West Indies, Africa, S-E Asia or other countries.

The dispersion / Migration in the post colonial period (Independent India) is entirely different as compared to the Ancient, Medieval and Colonial period. The people mostly from middle class have migrated to other countries. They constitute skilled as well as non- skilled persons. From the year 1960 onwards the doctors, engineer or other professionals have migrated to various nations of the world for better prospects. Even a large number of people from Doaba belt of Punjab have migrated to the countries like UK, Canada, USA, Australia etc.

Presently, the Indian Diaspora may be found in almost all the countries of the world. People from India are still migrating in very high numbers for better education, job opportunities as well as permanent residency. It is pertinent to express that the Indian Diaspora have made a good place in the society of the developed nations. According to mid 2013 estimates by United Nations Population Division there are 14.2 million Indians who have migrated worldwide. Indian Diaspora in some of the countries is shown as under:

U. A. E.	-	28,52,000
U. S.A	-	20,61,000
Saudi Arabia	-	17,62,000
Pakistan	-	13,96,000
Nepal	-	8,10,000
U. K.	-	75,6000
Europe	-	12,00,000

Kuwait	-	10,00,000
Oman	-	7,77,632

Though the Indian Diaspora enjoying good status in various countries of the world yet they have some crucial issues relating to blood money, shooting incidents, racial problems, unnecessary harassments at the level of the foreign rulers and other legal matters. These issues need to be resolved amicably with the intervention of the Indian government.

All the Indian Diaspora should be woven into an integrated network so that they can do betterment for their own homeland too. Indian public needs, to acquaint with the achievements as well as the burning issues of the Indian Diaspora. New policy framework and initiatives are required to be taken at the government level for creating a more conducive environment in India to leverage these invaluable human resources. It will build stronger ties between the two i.e the Republic of India and the Indian Diaspora.

Demographic Transition Theory

Demographic transition theory is the best documented and significant event of recent demographic history. With the knowledge of this theory man is able to foresee demographic catastrophe before it arrives. The demographic transition theory in its original form was given by W.S. Thompson and Frank Notestein who based their statements on the fertility and the morality trends prevalent in Europe, America and Australia. In general, the theory describes the pattern of demographic change from a high fertility and high mortality rates to low fertility and low mortality rates of growth of population as the society moves from rural, agrarian and illiterate society to urban, industrial and literate society.

Three stages with regard to fertility and mortality rates have been explained in the demographic transition theory:

a) Stage 1

At this stage the fertility rate is over 35 per thousand which is almost stable. The mortality rate (Death Rate) is also more than 35 but its behaviour is unstable due to epidemic and variable food supply. The population growth is very low or negative. This stage occurs in agrarian societies where the population densities are low or moderate. The size of the families is large but the life expectancy is low, masses are illiterate, technical know-how is lacking and there is limited urban development. About 200 years ago, most of the countries of the world were at this stage of demographic transition. At present it may be difficult to ascertain whether any country in the world is still at this stage. More over with the coming of medical and other facilities, the scene has now been changed.

b) Stage 2

This stage is characterised by high but gradually declining fertility rate (Birth rate) of over 30 per thousand and a sharply reduced mortality rate (Death Rate) of over 15 per thousand. In this stage medical, sanitation and food facilities result in sharp decline in mortality rate but the fertility rate maintains a high level though with some signs of gradual decline. Here in this stage the population growth rate will be very high. This stage with high fertility rate (High Birth Rate) and low mortality rate (Low Death Rate) is also called the stage of 'population explosion'. Most of the developing countries of the world are passing through this explosive stage of demographic transition. India is also passing through this stage but it is appreciable that the fertility rate (Birth Rate) in the country is showing the gradual decline.

c) Stage 3

The third or the last stage is attained when both the fertility and mortality rates (Birth & Death Rates) decline to a considerable extent. The population is either stable or grows very slowly. The technical know-how of the society is abundant, there is deliberate control over the family size. The education or literacy level is very high. The society is fully industrialised and highly urbanised. The countries or the regions like the USA, Canada, Europe, former USSR, Japan, Australia, Newzealand etc are supposed to have reached this stage of demographic transition. Recently china have succeeded in bringing down its birth and death rates drastically. This stage is the ultimate goal for India to achieve.

Literacy

The dictionary meaning of literacy is the ability to read and write but as per the definition given by the Census of India it is the ability to read and write with understanding in any language. Therefore a person aged seven years or more who can read and write with understanding in any language is called a "Literate".

Literacy is one of the most significant parameters of the Human Development Index (HDI) of a country. Literacy broadens the horizon of understanding level of the individuals. More literacy gives rise to the social as well as the economic upliftment of the people or in other words 'the literacy is the very foundation for the development of the people. A country with ignorant and uneducated people cannot attain the desired development level.

The top ten countries with highest literacy levels are Russia, Canada, Japan, Israel, USA, South Korea, Newzealand, UK, Finland and Australia. The literacy rate for whole of the world is 86.3 percent which shows that out of 100 persons 86.3 persons are literate.

Literacy Rates of some neighbouring countries of India	
Country	Literacy Rate (in percent)
China	96.4%
Sri Lanka	92.6%
Myanmar	93.1%
India	73.0%
Nepal	64.7%
Pakistan	60.0%
Bangladesh	61.5%
world Average	86.3%

Source : Census of India

Literacy Rate

It is the total percentage of the population aged seven years and above, of an area at a particular time who can read and write any language with understanding it is calculated as:

$$\text{Literacy Rate (\%)} = \frac{\text{No. of Literates}}{\text{Total Population aged 7 and above}} \times 100$$

The total literacy rate of India as per Census 2011 is 73 percent with 80.9 percent male literacy and 64.60 percent female literacy respectively

India: Literacy- 1901 to 2011			
Year	Average literacy Rate (in %)	Male Literacy Rate (in %)	Female Literacy Rate (in %)
1901	5.35	9.83	0.60
1911	5.92	10.56	1.05
1921	7.16	12.21	1.81
1931	9.50	15.59	2.93
1941	16.10	24.60	7.30
1951	18.33	27.16	8.86
1961	28.31	40.40	15.35
1971	34.45	45.96	21.97
1981	43.57	56.38	29.76
1991	52.21	64.13	39.29
2001	64.84	75.26	53.67
2011	73.0	80.90	64.60

Source : Censuses of India

The state of Kerala with 94 percent literacy rate ranks first among the Indian states where as the states of Mizoram (91.3 percent) and Goa (88.70 percent) stand at 2nd and 3rd positions. The state of Bihar has the lowest literacy rate (61.80 percent) in the country. The Union Territories like Lakshadweep (91.8 percent) and Daman & Diu (87.10 percent) rank 1st and 2nd amongst the Union Territories of the country Dadra and Nagar Haveli has the lowest literacy rate (76.20 percents) of all the UTs.

The state of Punjab has 75.8 percent literacy as per the Census-2011 with 80.4 percent and 70.7 percent male and female literacy respectively. Hoshiarpur district with 84.6 percent literacy rate ranks first and Mansa district with 61.8 percent literacy rate ranks last in the state.

Exercise

1. Answer the following questions up to the length of a sentence each:

- (a) Who may be called pivot of economic activities on the Earth?
- (b) What was density of population in India according to 2011 Census?
- (c) Arunachal Pradesh falls in what type of population density region?
- (d) When is 'World Population Day' celebrated?
- (e) Maximum population of India belongs to which age group?
- (f) What is sex (gender) ratio of Punjab as per 2011 Census?
- (g) What is lowest population of 'First class cities' in India?
- (h) Name two factors that make effect on migration of population.
- (i) In which Middle East country, maximum NRIs live?
- (j) What was male and female literacy rate in India as per 2011 Census?
- (k) Match the following as per world population data:-

- | | |
|-----------------|-------------------|
| (i) Pakistan | (w) 134.10 crores |
| (ii) Bangladesh | (x) 121.01 crores |
| (iii) China | (y) 18.48 crores |
| (iv) India | (z) 16.44 crores |

(I) Which among the following is highest literate state?

- (i) Mizoram (ii) Meghalaya (iii) Manipur (iv) Maharashtra

2. Answer the following in four sentences at the most:-

- (a) Name various distributions of population density regions.
- (b) Name any four factors affected density of population.
- (c) Give the formula to find decadal growth in population.
- (d) Write any four problems that arise with over urbanisation.
- (e) What are the determinants of change in population?
- (f) What is meaning of literacy?
- (g) What is the formula to find literacy rate?

3. Explain the following in 10 to 20 sentences:-

- (a) What role do political factors play in distribution of population in a certain region?
- (b) Are urban units categorised on the bases of population, how?
- (c) What are environmental consequences of migration?
- (d) Is literacy a parameter of HDI, how?
- (e) Compare 'Push and Pull' factors of migration of population?
- (f) Write a short note on dispersion of Indians.

4. Narrate the following in not more than 20 sentences:

- (a) What are the factors affecting on distribution of population?
- (b) What problems shall dwellers of first class cities have more to face as compared to those of sixth class cities?
- (c) What may be the causes of migration of population?
- (d) Introduce to various stages of 'Demographic Transition Theory'.
- (e) What is literacy rate? How fair our states are on this account?

