CLASS 11

FUNDAMENTALS OF PHYSICAL GEOGRAPHY

CHAPTER 1

GEOGRAPHY AS A DISCIPLINE

INTRODUCTION TO GEOGRAPHY

Till now we have studied geography as a part of social sciences.

Now we will study geography as a separate discipline of earth sciences . Geography is the one of the necessary earth science subject to understand the earth surface . It study about the earth's natural and human environment and interaction between them.

Geography study about the entire earth surface as a system of human and natural environment. Every phenomena occur over space and changes have taken place over time in this way geography is the study of space and time .

In modern era geography is the subdiscipline of earth science . Many of us think geography as only making and drawing maps .Cartography is only a subdiscipline of geography it is not the whole geography.

DEFINITION OF GEOGRAPHY

The term geography was first coined by Eratosthenese a Greek scholar . GEOGRAPHY is the combination of two words GEO (earth) + GRAPHY(description) .It means geography is the description of earth surface .

Geography is the study of the diverse environments, places, and spaces of Earth's surface and their interactions. It seeks to answer questions about why things are as they are and where they are.

SCOPE OF GEOGRAPHY

Geography is not the study of whole earth . It is a common misconception that geography is the study of whole earth. Geography is only concerned about the earth surface and the Other internal study lie in the domain off GEOLOGY.

At vertical study above the earth surface it is only concerned about up to two layers of atmosphere (a) Troposphere (b) stratosphere. Above these two layers the studies lie in the domain of Atmospheric sciences and space science.

BUT geography also studies about the other celestial bodies that influence the earth surface in any way like gravity of the moon and the sun. Magnetic effect of sun's atmosphere on the earth atmosphere.

THREE QUESTIONS OF GEOGRAPHY

- Some questions are concerned with the identification of the patterns of natural and cultural features as found over the surface of the earth. (what)
- Second type of questions are related to the distribution of the natural and human/ cultural features over the surface of the earth. (where)
- The third question is related to the explanation or the causal relationships between features and the processes and phenomena.(why)

GEOGRAPHY AS AN INTEGRATED DISCIPLINE

Geography as an integrating discipline has interface with numerous natural and social sciences . Every discipline ,concerned with scientific knowledge is linked with geography as many of their elements vary over space . Geography helps in understanding the reality in totality in its spatial perspective . Geography ,thus, not only takes note of the differences in the phenomena from place to place but integrates them holistically which may be different at other places . A Geographer is required to have a broad understanding of all the related fields , to be able to logically integrate them.

Geography influences historical events . Spatial distance itself has been a very potent factor to alter the course of history of the world . Spatial depth provided defence to many countries , particularly in the last century . In traditional warfare , countries with large size in area , gain time at the cost of space. Most recent example is Russia Ukraine war.

The defence provided by oceanic expanse around the countries of the new world has protected them from wars being imposed on their soil.

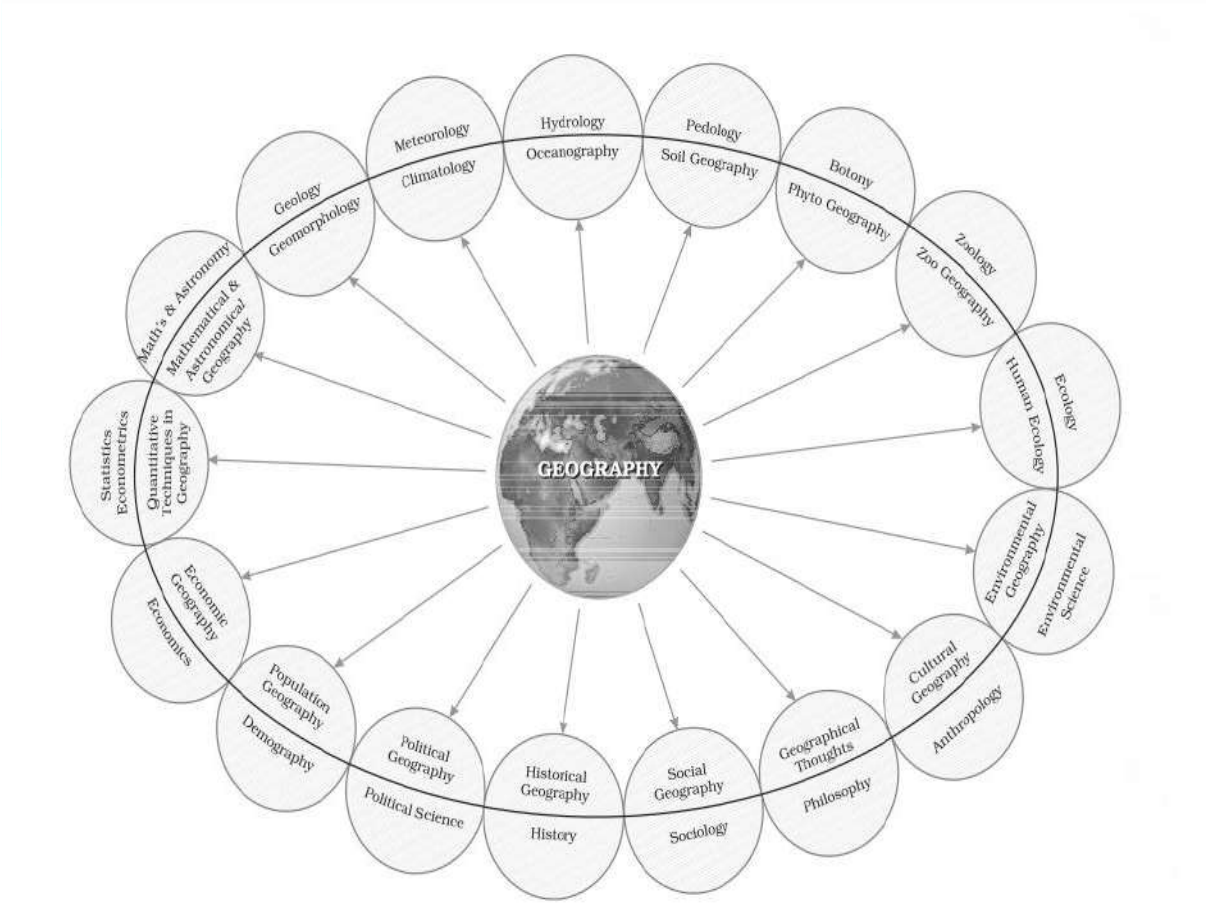
If we look at the historical events world over , each one of them can be interpreted geographically.

Every geographical phenomenon undergoes change through time and can be explained temporally .

It is possible to convert time in terms of space and space in terms of time .

For example it can be said that place A is 1500 km from place B or alternately , it can also be said that place A is two hours away .

It is for this reason , time is an integral part of geographical studies as the fourth dimension.



Geography and its relation with other subjects

Physical geography and natural sciences

All branches of geography have relation with natural sciences . The traditional physical geography is linked with geology , meteorology , hydrology, and pedology, and thus , geomorphology , climatology, oceanography and soil geography respectively have very close link with the natural sciences .

Biogeography is closely related to botany , zoology, as well as ecology.

A geographer should have some proficiency in mathematics and art , particularly in drawing maps.

The cartographic and quantitative techniques require sufficient proficiency in mathematics , statistics and econometrics.

Geography and social sciences

There is strong relationships with geography and social sciences . Every discipline has a philosophy which provides roots to a discipline and in the process of its evolution. The history of geographical thought as mother branch of geography is included in its curricula. All the social science disciplines ,viz. sociology, political science , economics and demography study different aspects of social reality.

The branches of geography , viz. social, political, economic , and population and settlements are closely linked with these disciplines as each one of them has spatial attributes.

Maps are very effective tools of geographers in which the tabular data is converted into visual form to bring out the spatial pattern.

Branches of Geography

In the regional approach , the world is divided into regions at

different hierarchical levels and then and then all geographical phenomena in a particular region are studied . These regions may be natural , political, or designated region.

Earlier scholars laid emphasis on physical geography . But human beings are an integral part of the earth's surface . They are the part and parcel of nature . They also have contributed through their As it is earlier mentioned that geography is a highly interdisciplinary subject.

There are two approaches adopted in geography to study (1) Systematic and (2) Regional.

The systematic approach was introduced by Alexander von Humboldt , a German geographer while regional approach was developed by another German geographer Karl Ritter.

In systematic approach a phenomena is studied world as a whole, and then the identification of typologies or spatial pattern is done . For example , if any one is interested in studying agriculture , the study will done at world level as a first step . The typologies such as commercial, mixed farming etc . will be identified.

cultural development .

Branches of Geography (Based on systematic approach)

1. physical Geography

(a) **Geomorphology** is devoted to the study of landforms , their evolution and related processes.

(b) **Climatology** is the study of structure of atmosphere and elements of weather and climates and climatic types and regions .

(c) **Hydrology** studies the realm of water over the surface of the earth including oceans, lakes, rivers , and other water bodies and its effect on different life forms including human life and their activities .

(d) **soil Geography** is devoted to study the processes of soil formation ,soil types, their fertility status , distribution and use.

2. Human geography

(a) Social/Cultural Geography studies the society and its spatial dynamics as well as cultural elements contributed by the society .

(b)Population and Settlement Geography .It studies population growth, distribution, density, sex ratio, migration and occupational structure etc. Settlement geography studies the characteristics of rural and urban settlements.

(c) Economic Geography studies economic activities of people including agriculture ,industry ,tourism, trade, and transport, infrastructure and services, etc .

(d) Historical Geography studies the historical processes through which the space gets organised.

(e) Political Geography looks at the space from the angle of political events and studies boundaries , space , relations between neighbouring political units .

3. Biogeography

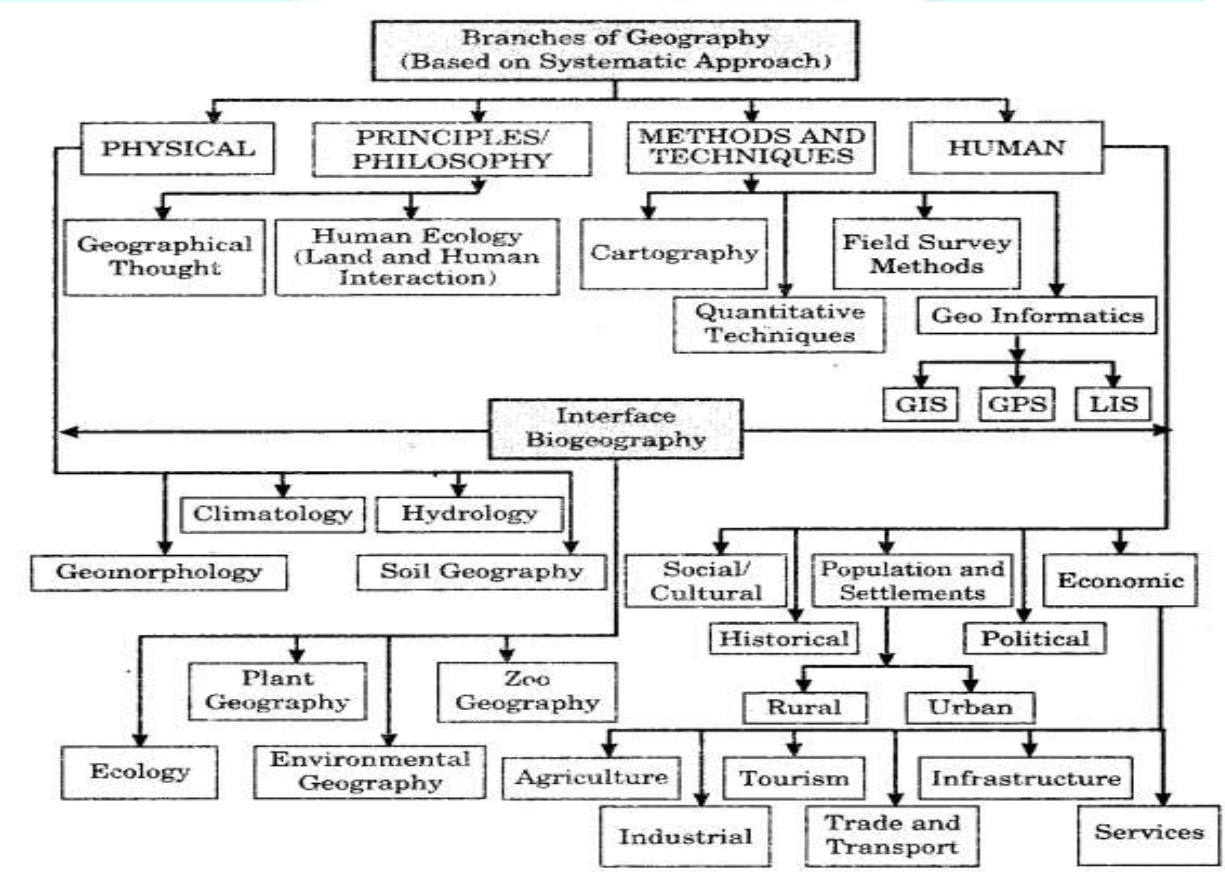
The interface between physical and human geography has lead to the development of biogeography.

(a) **Plant Geography** is the studies of spatial pattern of natural vegetation in their habitats.

(b) **Zoo Geography** studies the spatial patterns and geographic characteristics of animals and their habitats.

(c) **Ecology /Ecosystem** deals with the scientific study of the habitats .

(d) **Environmental Geography** studies land degradation ,pollution and concerns for conservation .



Branches of Geography Based on Regional Approach

1.Regional studies/Area studies

Comprising Macro , Meso and Micro regional studies

2. Regional planning

Comprising country/rural and town/ urban studies

3.Regional Development

4. Regional Analysis

There are two aspects which are common to every discipline ,these are :

(1) Philosophy

(a) Geographical thought

(b) Land and Human Interaction /Human Ecology

(2) Methods and techniques

(a) Cartography including computer cartography

(b)Quantitative Techniques/Statistical Techniques

(c)Field survey methods

(d) Geoinformatics comprising techniques such as Remote sensing , GIS , GPS, etc.

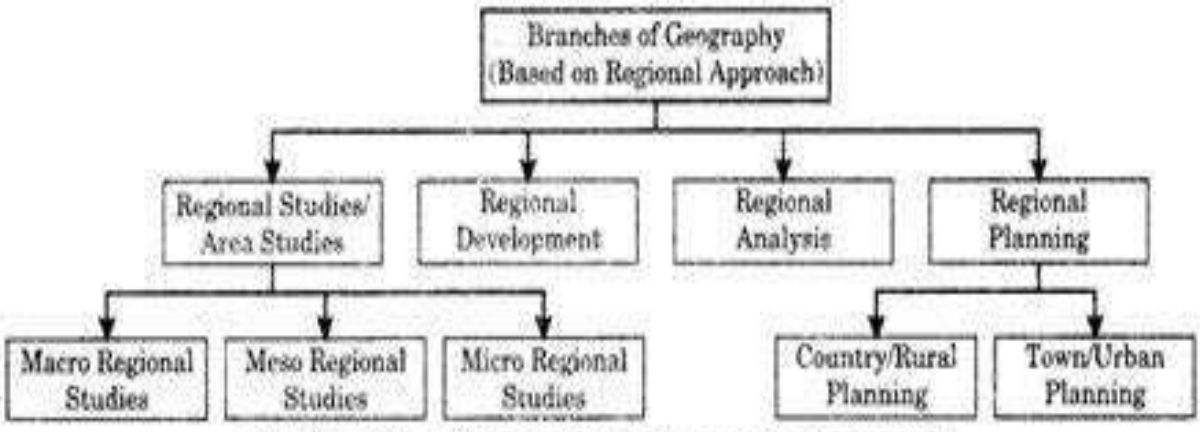


Fig: Branches of geography based on regional approach

Physical Geography And Its Importance

Physical geography is the study of lithosphere(landforms, drainage , relief, and physiography), atmosphere (its composition ,structure, elements, and controls of weather and climate),hydrosphere(oceans, seas, lakes,) and biosphere (life forms including human being and microorganism) .

The study of physical geography is emerging as a discipline of evaluating and managing natural resources. In order to achieve this objective, it is essential to understand the intricate relationship between physical environment and human beings.

Physical environment provides resources , and human beings utilise these resources and ensure their economic and cultural development .

Accelerated pace of resource utilisation with the help of modern technology has created ecological imbalance in the world .

Hence , a better understanding of physical environment is absolutely essential for sustainable development.