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INTRODUCTION TO GEOGRAPHY OF TOURISM

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Preface

Tourism has become one of the most important factors in change in the world today. It is considered by many as the world's largest industry, tourism promotes regular migration, resource exploitation, development processes and inevitable outcomes in areas, economic, social and geographical. It is amazing that increasingly seeking attention. Tourism Geography shows how local ideas can inform as well enlighten the tourism subject. The book explores the features they have promote the development of domestic and international species tourism, highlighting the ways in which tourism patterns have been developed once and for all to continue to emerge. The various economic, environmental and social impacts that tourism may have on its destinations are explored, and an exploration of ways in which tourism planning can be done to help control the development and production of sustainable forms of tourism. Based on lessons from around the world, Tourism Geography offers a brief review of designated tourist destinations and shows how new patterns in the production and use of tourist destinations exist to make fashion for new tourist destinations of the twenty-first century. This book is intended as a test book for under graduate students in Tourism. It will be a valuable reference to professional faculty members, Scientists, and students. The author acknowledges their indebted to the authors of various books, bulletins, monographs, periodicals and published papers from which most of the material in this book is drawn. The authors are indebted to several individuals and organizations for the supply of useful material the book spread over 10 chapters providing in depth description of key contents issues and topics. The first chapter Introduction of Geography Tourism Second chapter Basic Concepts in Tourism, Third Chapter Terminology used in Geography, Chapter fifth Map Reading, Chapter sixth International Date Line, Time Zones, Chapter seventh Geography-Physical and Human Aspects: Relief, Climate, Flora & Fauna, Economy, Population, Transportation & Communication, Eighth Chapter Flora and Fauna, Ninth Chapter Hill Stations & Plains in India, Chapter Tenth Deserts and Coastal areas of India, Eleventh Chapter Islands of India, Twelfth Mountain Ranges in India (Himalaya, Aravali, Vindya, Satpura, Karakoram, Eastern and Western Ghats, Purvanchal), Major Passes, Mountain Peaks, Thirteenth Chapter River system of India: Indus, Ganges and Peninsular rivers. Fourteenth Chapters Major Wetlands and Water Bodies of India. Ramsar sites in India.

Contents

S. No.	Chapters	Page No.
1.	Introduction of Geography for Tourism Concept of Geography	01-11
2.	Basic Concepts in Tourism	12-27
3.	Terminology used in Geography	28-39
4.	Basic Concept of Geography: Locational Aspects	40-48
5.	Geography-Physical and Human Aspects: Relief, Climate, Economy, Population, Transportation & Communication	49-56
6.	Flora and Fauna	57-82
7.	Hill Stations and plains of India	83-103
8.	Deserts and Coastal areas of India.	104-117
9.	Islands of India	118-136
10.	Mountain Ranges in India Major Passes, Mountain Peaks.	137-153
11.	River system of India: Indus, Ganges and Peninsular rivers.	154-160
12.	Major Wetlands and Water Bodies and Ramsar Sites in India	161-166
13.	Question Bank	167-169

Chapter - 1

Introduction of Geography for Tourism Concept of Geography

Geography is a field of science dedicated to the study of lands, the features, the inhabitants, and the phenomena of earth. A literal translation would be “to describe or write about the earth”. The first person, to use the word ‘Geography’ was Eratosthenes (276-194 BC).

Geography is largely the study of the interaction of all physical and human phenomena and landscapes created by such interactions.” It is about how, why and where human and natural activities occur and how these activities are interconnected.

Definitions

Richard Hartshorne, 1959

“Geography provides accurate, orderly, and rational description and interpretation of the variable character of the earth surface. It is that discipline that seeks to describe and interpret the variable character from place to place of the earth as the world of man.”

S.W. Woolridge and J. Gordon East

“Geography seeks to discover the spatial relationships of the manifold features, physical and human.”

Preston E. James

“Geography is that field of learning in which the characteristics of particular places on the earth’s surface are examined. It is concerned with the arrangement of things and with the association of things that distinguish one from another. Geography seeks to interpret the significance of likenesses and differences among places in terms of causes and consequences.”

Branches of geography

Geography is divided into three main branches

1. Human geography

2. Physical geography
3. Integrated geography
4. Geometrics
5. Regional geography

1. **Human geography:** It is a branch of geography that focuses on the study of pattern and processes that shape the human society. It encompasses the human, political, cultural, social & economic aspects.
2. **Physical geography:** It is a branch of geography which aims to understand the physical problems and issues of lithosphere, hydrosphere, atmosphere, pedosphere (land), and global flora and fauna patterns (biosphere).
3. **Integrated geography:** It is the branch of geography that describes the spatial aspects of interactions between humans and the natural world. It requires an understanding of the traditional aspects of the physical and the human geography, as well as the ways that human societies conceptualize the environment.

Integrated geography has emerged as a bridge between the human and the physical geography, as a result of the increasing specialisation of the two subfields. Furthermore, as human relationship with the environment has changed as a result of globalization and technological changes, a new approach was needed to understand the changing and dynamic relationship. Examples of areas of research in the environmental geography include: emergency management, environmental management, sustainability, and political ecology.

4. **Regional geography:** It is that branch of geography which studies the regions of all sizes across the earth. The main aim is to understand, or define the uniqueness, or characteristics of a particular region that consists of natural as well as human elements.
5. **Geometrics:** Geometrics is a branch of geography that has emerged since the quantitative revolution in geography in the mid-1950s. Geometrics involves the use of traditional spatial techniques used in cartography and topography and their application to computers. Geometrics has become a widespread field with many other disciplines, using techniques such as GIS and remote sensing.

Tourism and geography

Tourism: “The activities of a person travelling outside his or her usual environment for less than a specified period of time and whose main purpose of travel is other than exercise of an activity remunerated from the place visited.” WTO (World Tourism Organization)

Tourism geography: is the study of travel and tourism, as an industry and as a social and cultural activity. It is that branch of science which deals with the study of travel and its impact on places. The geography of tourism is dominated by number of key themes, which relate location, place, space, human and cultural characteristics, and the movement of people. The geography of tourism is also concern with the flows of tourism from generating countries to the destinations. These can be heavily influenced by the economic and political factors, with the flows of tourism from traditionally from developed countries to the less developed countries.

Scope of geography

Geography has acquired the status of science that explains the arrangements of various natural and cultural features on the earth surface. In general, the natural phenomena like mountains, rivers, lakes etc. change slowly while the cultural elements like buildings, roads, crops, change fast. Travelling from one place to another you notice that the trees number and types of trees change from area to area. This is all because of continuous interaction between the environment in which we live in and the way we use it. The study of geography is about observing such patterns.

Another aspect of geography is to understand the factors, how do social, cultural, economic and demographic factors change our physical landscape and create new or altered landscapes by human interventions. For example, human settlements are transformation of forests or barren lands for living purpose by human being.

As earlier, even today geographical information about an area is available through reports, travel diaries and gazetteers. At present maps can be drawn by using satellite images using Geographic Information Systems (GIS) tools.

Thus, the scope of geography is in various disciplines, like armed forces, environment management, water resources, disaster management, meteorology and planning and various social sciences. Apart from that, a geographer can help in day to day life like tourism, housing and health related activities and more.

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Importance of geography in tourism

Geography is fundamental to the study of tourism, because tourism is geographical in nature. Tourism occurs in places, it involves movement and activities between places and it is an activity in which both place characteristics and personal self-identities are formed, through relationships that are created among places, landscapes and people.

Physical geography provides the essential background, against which tourism places are created and environmental impacts and concerns are major issues that must be considered in managing the development of tourism places. Following points are helpful to identify importance of geography in tourism industry as:

1. Geography is very important from tourism point of view as mountains are the major attraction for tourism similarly, desert, island, sea, glacier are also physical features and these all are major attraction of tourism.

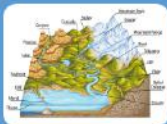
2. In tourism weather, season and climate plays very important part because in winter season people travel for activities like skiing, snowboarding etc and they wanted to visit warm places running away from cold winter from their hometown. The places with pleasant climate are always popular and major contribution in tourism field as people travel to this destination throughout the year.
3. Vegetation, flora and fauna also play a very important role in tourism as it attracts number of tourists.
4. Geography is important in designing tour and tour packages.
5. Geography is helpful in travel agency business.
6. With the help of geography, we gain knowledge of maps and directions.
7. Geography is helpful in airlines as we can get knowledge about important cities of worlds and important airports etc.

How characteristics of the tourism system relate to geography?

- Rural tourism: Focused on countryside
- Urban tourism: Focused on town & cities
- Spa tourism: Travel for health & wellness
- Sport tourism: Focused on spectators travelling to sports events.
- Eco tourism: Based on nature
- Heritage tourism: Focused on heritage cities and Heritage buildings.

Contents of geography

Geography content can be divided under the following categories as shown below



A. Physical Geography

(This includes the study of Geomorphology, Hydrology, Glaciology, Bio-geography, Climatology, Meteorology, Pedology, Palaeogeography, Coastal Geography, Oceanography, Environmental Geography.)



B. Human Geography

(This includes the study of Cultural Geography, Development Geography, Economic Geography, Health Geography, Political Geography, Demography, Religion Geography, Transportation, Tourism Geography, Urban Geography.)



C. Regional Geography

(This includes regional study of Macro, Micro and Meso (medium) geographic factors.)

A. Physical geography

Physical geography (also known as geosystems or physiography) is one of the two major sub-fields of geography. Physical geography is that branch of natural science which deals with the study of processes and patterns in the natural environment like the atmosphere, hydrosphere, biosphere, and geosphere, as opposed to the cultural or built environment, the domain of human geography.

It has a number of sub-branches which treat different kind of physical phenomena.

1. **Geomorphology:** Geomorphology: is the field concerned with understanding the surface of the Earth and the processes by which it is shaped, both at the present as well as in the past. Geomorphology as a field has several sub-fields that deal with the specific landforms of various environments e.g. desert geomorphology etc. Geomorphologists seek to understand why landscapes look the way they do, to understand landform history and dynamics and to predict changes through a combination of field observations, physical experiments and numerical modeling.
2. **Hydrology:** Hydrology is the scientific study of the movement, distribution, and quality of water on Earth and other planets, including the hydrologic cycle, water resources and environmental watershed sustainability. Thus the field encompasses water in rivers, lakes, aquifers and to an extent glacier, in which the field examines the process and dynamics involved in these bodies of

water. Similar to most fields of physical geography it has sub-fields that examine the specific bodies of water or their interaction with other spheres e.g. limnology and ecohydrology.

3. **Glaciology:** Glaciology is the scientific study of glaciers, or more generally ice and natural phenomena that involve ice. Glaciology also has a vast array of sub-fields examining the factors and processes involved in ice sheets and glaciers e.g. snow hydrology and glacial geology.
4. **Bio-geography:** It is concerned with the biological phenomena in space, especially in terms of the distribution of various kinds of floral and faunal species. Biogeography may be subdivided into plant or floral geography, animals or faunal geography, and human ecology.
5. **Climatology:** It is the study of the climate, scientifically defined as weather conditions averaged over a long period of time. Climatology examines both the nature of micro (local) and macro (global) climates and the natural and anthropogenic influences on them. The field is also sub-divided largely into the climates of various regions and the study of specific phenomena or time periods e.g. tropical cyclone rainfall climatology and paleoclimatology.
6. **Meteorology:** It is the interdisciplinary scientific study of the atmosphere that focuses on weather processes and short term forecasting (in contrast with climatology). Meteorological phenomena are observable weather events which illuminate and are explained by the science of meteorology. Meteorology phenomena are observable weather events that illuminate, and are explained by the science of meteorology. Those events are bound by the variables of Earth's atmosphere: temperature, air pressure, water vapour, and the gradients and interactions of each variable, and how they change over time.
7. **Pedology:** It is the study of soils in their natural environment. It is one of two main branches of soil science, the other being edaphology. Pedology mainly deals with paedogenesis, soil morphology, soil classification.

In physical geography pedology is largely studied due to the numerous interactions between climate (water, air, temperature), soil life (micro-organisms, plants, animals), the mineral materials within soils (biogeochemical cycles) and its position and effects on

the landscape such as laterization.

8. **Palaeogeography:** It is the study of historical geography. The term generally refers to the study of physical landscapes, but it can also refer to the study of human or cultural environments. When the focus is specifically on the study of landforms, the term paleogeomorphology is sometimes used instead.
9. **Coastal geography:** It is the study of the dynamic interface between the ocean and the land, incorporating both the physical geography (i.e. coastal geomorphology, geology and oceanography) and the human geography of the coast. It involves an understanding of coastal weathering processes, particularly wave action, sediment movement and weathering, and also the ways in which humans interact with the coast.

Coastal geography, although predominantly geomorphological in its research, is not just concerned with coastal landforms, but also the causes and influences of sea level change.

10. **Oceanography:** It is the branch of physical geography that studies the Earth's oceans and seas. It covers a wide range of topics, including marine organisms and ecosystem dynamics (biological oceanography); ocean currents, waves, and geophysical fluid dynamics (physical oceanography); plate tectonics and the geology of the sea floor (geological oceanography); and fluxes of various chemical substances and physical properties within the ocean and across its boundaries (chemical oceanography).
11. **Environmental Geography:** It is a branch of geography that analyzes the spatial aspects of interactions between humans and the natural world.

The branch bridges the divide between human and physical geography and thus requires an understanding of the dynamics of geology, meteorology, hydrology, biogeography, and geomorphology, as well as the ways in which human societies conceptualize the environment.

B. Human geography

Human geography is a branch of geography that focuses on the study of patterns and processes that shape the human society. It encompasses the human, political, cultural, social, and economic aspects. It is further divided into various sub-branches.

1. **Cultural geography:** Cultural geography is the study of cultural

products and norms and their variations across and relations to spaces and places. It focuses on describing and analyzing the ways language, religion, economy, government and other cultural phenomena vary or remain constant, from one place to another.

2. **Development geography:** Development geography is a branch of geography which refers to the standard of living and quality of life of its human inhabitants. In this context, development is a process of change that affects people's lives. It may involve an improvement in the quality of life as perceived by the people undergoing change.

In development geography, geographers study spatial patterns in development. They try to find by what characteristics they can measure development by looking at economic, political and social factors.

3. **Economic geography:** Economic geography is the study of the location, distribution and spatial organization of economic activities across the world. Economic geography has taken a variety of approaches to many different subject matters, including but not limited to the location of industries, economies of agglomeration (also known as "linkages"), transportation, international trade, development, real estate, gentrification, and the relationship between the environment and the economy and globalization.
4. **Health geography:** Health geography is the application of geographical information, perspectives and methods to the study of health, disease, and health care.
5. **Political geography:** Political geography is a specific field of study within the more general field of human geography that examines how people in specific locations around the world have organized themselves into distinctive political groups, and how they influence and interact with each other.

It is the study of how space is made into territory - that is to say, how political communities divide the world between themselves. It can be summarised as the inter- relationships between people, state, and territory.

6. **Demography:** Demography is the statistical study of populations, including of human beings. Demography encompasses the study of the size, structure, and distribution of these populations, and spatial and/or temporal changes in them in response to time, birth,

migration, ageing, and death. Based on the demographic research of the earth, earth's population up to the year 2050 and 2100 can be estimated by the demographers.

7. **Religion geography:** Religion geography is the study of the impact of geography, i.e. place and space, on religious belief.

Another aspect of the relationship between religion and geography is religious geography, in which geographical ideas are influenced by religion, such as early map-making, and the biblical geography that developed in the 16th century to identify places from the Bible.

Thus, geographers are less concerned about religion, but are more sensitive to how religion as a cultural feature affects social, cultural, political and environmental systems. The point of focus is not the specifics of religious beliefs and practices, but how these religious beliefs and practices are internalised by adherents, and how these processes of internalization influence, and is influenced by, social systems.

8. **Transportation geography:** Transportation geography, also transport geography, is a branch of Economic geography that particularly investigates the movement of and connections between things of interest to people: people themselves, vehicles, commodities, information.

At the most basic level, humans move and thus interact with each other by walking, but transportation geography typically studies more complex and regional or global systems of transportation that include multiple interconnected modes like public transit, personal cars, bicycles, freight railroads, airplanes and more. Transportation geography measures the result of human activity between and within locations. It focuses on things such as travel time, routes chosen, and modes of transport, cost and resource use.

9. **Tourism geography:** Tourism geography is the study of travel and tourism, as an industry and as a social and cultural activity. Tourism geography covers a wide range of interests including the environmental impact of tourism, the geographies of tourism and leisure economies, answering tourism industry and management concerns and the sociology of tourism and locations of tourism.

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characteristics and personal self-identities are formed, through the relationships that are created among places, landscapes and people.

Physical geography provides the essential background, against which tourism places are created and environmental impacts and concerns are major issues that must be considered in managing the development of tourism places.

- 10. Urban geography:** Urban geography is the sub-discipline of Geography which concentrates on those parts of the Earth's surface that have a high concentration of buildings and infrastructure. Predominantly towns and cities, these are settlements with a high population density and with the majority of economic activities in the secondary sector and tertiary sectors.

C. Regional geography

Regional geography is a branch of geography that studies the world's regions. A region itself is defined as a part of the Earth's surface with one or many similar characteristics that make it unique from other areas.

Regional geography studies the specific unique characteristics of places related to their culture, economy, topography, climate, politics and environmental factors such as their different species of flora and fauna.

- 1. Macro-region:** A macro-region is a geopolitical subdivision that encompasses several traditionally or politically defined regions. The meaning may vary, with the common denominator being cultural, economical, historical or social similarity within a macro- region.
- 2. Micro-region:** A micro-region can be defined as a territorial area that is smaller than a state to which it belongs, but larger than a municipality. Typical examples of such micro- regions are provinces, districts, departments or even mega-cities.
- 3. Meso-region:** A meso-region is a medium-sized region between the size of a city or district and that of a nation.

Chapter - 2

Basic Concepts in Tourism

Tourism

Tourism is the temporary movement of people to destination outside the place where they normally live and work and include the activities they indulge in at the destination as well as all facilities and service especially created to meet their needs. And the people who move away from their usual place of work and stay for more than 24hours and less than a year are known as tourist.

Tourism market is divided into two categories

1. **Leisure tourist:** recreation activities or enjoyment
2. **Business tourist:** main motive for travel is to make profit or expanding their business Tourism is of two types:
 - 1) **Domestic tourism:** residents of a country travelling within the borders of that country
 - 2) **International tourism:** travelling from one country to another
 - **Inbound tourism:** this refers to incoming tourist or tourist entering a country
 - **Outbound tourism:** this refers to outgoing tourist or tourist leaving their country of origin to travel to another country.

Few terms

Visitor: any person visiting a country other than his usual place of residence for any other reason than following an occupation from within the country visited.

Excursionist: a day visitor who stays for less than 24 hours at a place. Excursionists do not stay overnight.

Tourist: a temporary visitor to a place. People who leave their usual place of residence and work to have a change from their usual routine for a short time, they stay at the place overnight i.e. for at least 24 hours.

Traveler: a person who travels from one place to another, irrespective of the purpose of travel or duration of stay.

Transit visitor: a traveler who passes through a country without breaking journey other than taking connecting transport.

Destination: the place where the tourist travel for leisure or business related activities. There can be no tourism without a destination. For a destination to develop and sustain itself, the following five

A's are (classic five 'A's of tourism) are

1. Accessibility – refers to transport and transport infrastructure.
2. Accommodation –refers to place to stay
3. Amenities- facilities available at the destination which help in meeting the needs of the tourist.
4. Attraction- reason for travel (natural, human made, cultural, social)
5. Activities- thing to do.
6. Affordability- cost of tour

Tourism is made up of five elements

- Traveler generating region
- Transit region
- Tourist destination region
- Tourist
- Tourism industry

All the above are influenced by the external environment.

Positive impact of tourism

- **Economic impact**
 - Employment generator
 - Increase tax revenue
 - Foreign exchange earner
 - Rural development promoter
 - Improved infrastructure
 - Increase in gross domestic products
 - Multiplier effect

- **Environmental impact**
 - Some tourist destinations like parks, wildlife and bird sanctuaries helps in maintaining the ecological balance
 - Historical sites are preserved and restored
 - Endangered species protected
 - Forest are protected
 - Create awareness about environment
- **Socio-cultural impact**
 - Develops entrepreneurship
 - Provides jobs
 - Increase income
 - Improve quality of life
 - Preserves heritage
 - Revive art and craft
 - Helps national and international integration develops facilities and infrastructure
 - Revives vernacular languages
- **Demonstration effect**
 - Welcoming Attitude
 - Dressing and fashion
- **Cultural impact**
 - Helps in preservation of culture
 - Rejuvenation of art forms folk dance and music retain authenticity
- **Political impact**
 - Political stability and protection to the tourists from the government machinery is a tonic for the promotion of tourism.

Negative impact of tourism

- **Economic impact**
 - Leakage- it refers to the process through which tourism receipts are withdrawn or leave the destination's country. This happens when money is spent on buying goods and services from another economy.

- **Environmental impact**
 - Environmental pollution
 - Depletion of natural resources
 - Land erosion
 - Loss of natural resources
 - Traffic congestion
 - Garbage trails
- **Socio-cultural impact**
 - Rural urban migration
 - Disruption of lifestyle
 - Narcotics and drug abuse
 - Decreased use of local language
 - Health issues like HIV, AIDS, flu and virus
 - Prostitution
 - Alcoholism
 - Crime- pick- pocketing, mugging, rape, murder
 - Money laundering
 - Disrespect to local customs
- **Demonstration effect**
 - Local or host irritation
 - Hostility from locals
- **Cultural impact**
 - Social norms and customs are effected
 - Cultural arrogance
 - Dilution of culture
- **Political impact**
 - Leads to Terrorism

Constituents of the tourism industry

1. Main constituents

- Transport-means the means of travel. It includes
 - Airways
 - Roadways
 - Railways
 - Waterways
 - Parking areas in ports
 - Runways
 - Bus stands
- Hotel-tourist needs a place to stay.
- Food and beverage-tourist require the catering services which include
 - Non-commercial outlets or welfare outlets- like institutes etc.
 - Commercial outlets-
 - Residential- include hotels, guest houses, resorts etc.
 - Non-residential- include specialty or fine dining restaurants, fast food restaurant, coffee shop, bars and pub, lounge, vending machines, dhabas etc.
- Entertainment or attractions:
 - Natural attraction- hills, beaches
 - Built attraction- resorts, amusement or theme parks
 - Business attraction- MICE
 - Relatives and friends-
 - Historic attraction- heritage building, monuments, palaces
 - Cultural and ethnic attraction- custom, traditions, fairs, festivals
 - Special events- commonwealth games, Olympic games
 - Medical attraction-spa, sanatorium
 - Religious attraction- pilgrim
 - Government attraction- white house, parliament
- Retail and shopping- shopping malls, markets, hawkers etc.

- Travel agents and tour operators-travel agents act as intermediaries serving between the various services providers and travel consumers. Travel agency perform a number of function such as provide travel information, planning itineraries, liaising with vendors, costing, ticketing, reservation, documentation, settlement of account, MICE, foreign exchange.

Tour operators are different from travel agent. Tour operator assembles all the different components of travel and sells it as a package tour, to and from a destination, with complete ground arrangements.

- Guides and escort-guides is a travel industry representative; a public relations representative for his city, region and country- as well as an educator, an entertainer, and a public speaker. There are many types of guide location guide, monument guide, museum guide etc.

Escort has to accompany the tourist right from the commencement till the end of the tour. An escort facilitate check-in facilities, customs clearance; accompany the tour during sight-seeing, shopping etc.

- Tourism organisation- organization are formed when group of people come together for a common purpose. Tourism organisations play an important role in marketing destination and managing tourism industry. There are many levels of organization international, national, state and local levels. World Tourism Organisation is the international organization founded in the year 1975. Few tourism organizations are:

- Airlines: IATA
- Travel agencies: UFTAA, TAAI, ASTA
- Tour operators: IATO
- Hotels and restaurants: FHRAI
- Transport: IRU, IUR

2. Secondary constituents

- Shops and state emporium
- Art and craft
- Local transport
- Banks

- Insurance companies
- Communication services- include public phones, mobiles, internet café, videoconferencing, television, radio, telex , fax
- Performing artist
- Publisher
- Advertisers
- Hawkers and coolies
- Agents and brokers
- Essential services- electricity, waste disposal, sewage, health facilities, security

Travel motivators: factors that create a desire in people to travel. Motivators are the internal psychological influences affecting individual choices.

- Physical motivators-these are related to
 - Physical rest
 - Relaxation
 - Sports
 - health
- Cultural motivators-these are related to
 - Culture
 - Lifestyle
 - folk art
 - music and dance
 - spiritual
- Interpersonal-these are related to meeting
 - friends
 - Family
 - New people
- Status and prestige motivators-
 - Personal esteem
 - Status symbol

- Education
- Pursuit of hobbies
- Business and work

Different forms and types of tourism

- Leisure or holiday- change in climate and place, enjoy scenery, de stress, rest and relax. Destination includes hill, beach, and island. Facilities include body massage, steam and sauna bath, yoga, facial etc.
- Adventure-
 - Adventure on land-includes jungle safari, desert safari, motor racing, wall climbing, trekking, camping, rock climbing, mountain biking, skiing, heli- skiing,
 - Water adventure-includes diving, scuba diving, snorkelling, parasailing, water scooters, water skiing, wind surfing, white water rafting.
 - Aerial adventure-ballooning, parachuting, skydiving, para gliding, parasailing, gliding, hang gliding, bungee jumping
- Sports-oldest form hunting and skiing. Cricket, white water rafting, football, wind surfing, yachting, river rafting, hover crafting, racing, tennis, soccer, golf
- Religious - is also known as pilgrimage or spiritual tourism.
- Health - people travelling to improve and rebuild their health and stamina. Include visit to spa (sanus per aquam) means good health through water, yoga, massage, body scrub, facial, reiki, pain relief

Health tourism include following aspects

- Change in climate
- Alternative therapy: like hot sulphur spring, ayurvedic treatment, mud therapy, naturopathy, art of living etc.
- Medical tourism: tourist visiting for medical treatment i.e. Hospitals, technology, doctors, nursing, paramedical staff
- **Cultural:** lifestyle, dress, jewellery, dance, music, architecture and painting, customs, beliefs, fair, festivals, religion practised
- **VFR:** interpersonal relationship.

- **Business and mice:** motive for travel is work such as attending meeting, conference, convention, trade fair, selling product, meeting clients. 85% air travel is business related, 50% hotel occupancy is business travel segment. Business traveller looks for the best facilities as expenses are paid by the company. Duration of stay is short, destination business based, frequent and experienced traveller, more demanding.

Mice-meeting, incentives, and conventions and exhibition: not the main stream business travel but it is the subset of the business travel. It includes small meeting, training courses, seminars, workshops. MICE traveller expects a high level of comfort, hassle free movement and value for money.

Infrastructure required for mice

- i. Accommodation
- ii. Convention centre
- iii. Transportation
- iv. Convention and meeting planners
- v. Exhibition grounds and halls
- vi. Food and beverage service
- vii. Trained human resource
- viii. Communication aids
- ix. Internet accessibility
- x. Security services
- xi. Sightseeing
- xii. entertainment

Areas that require special planning for MICE are

- venues-enough space for international delegations to hold meeting, conventions and exhibition
- transportation-both air and ground
- accommodation-near meeting, conference, exhibition venues and should be equipped with fax, laptop, internet connection, telex, video conference facilities
- other support services-catering, shopping, entertainment

Alternative forms of tourism

Alternative tourists are different from the regular tourist. Alternative tourism establishes a cordial rapport between visitors and the local hosts. These tourists normally avoid the services that are used by the tourists such as accommodation, transport and other services. They prefer to use and share the services used of the local people. Their main motive is to experience and get an insight into their way of living. It is regarded as a key to sustainable development. While mass tourism can have a negative impact on a destination, alternative tourism promotes a balanced growth form, more in line with local environmental and sociocultural concerns.

- Special Interest Tourism:
- Ecotourism
- Rural Tourism
- Ethnic Tourism
- Senior Citizen Tourism
- Wildlife Tourism
- Space Tourism
- **Special Interest Tourism:** special interest tourism can be defined as people travelling to a particular destination with the purpose of fulfilling a particular interest, which can be pursued only at that destination. Product ranges from historical, culinary, archaeological, and other interest such as golf, fishing, and underwater adventure e.g. Tal Mahal, Red Fort, Special interest tourism in India can include visiting Mughal architecture, gardens of India, textile centres of India, gourmet tours, tribal areas, safari, car racing, common wealth games, world cup etc.
- **Ecotourism:** it is often defined as sustainable nature based tourism. Ecotourism is usually used to describe tourism activities which are conducted in harmony with nature. This tourism fosters environmental principals with an emphasis on visiting and observing natural areas, it controls the impact of tourism on the environment.

“Ecotourism can be defined as purposeful travel to natural areas to understand the culture and natural history of the environment, taking care not to alter the integrity of the ecosystem, while producing economic

opportunities that make the conservation of natural resources financially beneficial to the local citizens.”

Large movement of people (carrying capacity) and unplanned tourism destroy forests, consume firewood, create pollution and destroy flora and fauna diversity. It upset wildlife, ecosystem and the local people life style. Ecotourism reduces all these ill effects of tourism.

- **Rural tourism:** tourists nowadays are shifting their interest of travel to new destinations to explore and experience the destination and have first-hand knowledge of the local people, cuisine and actual way of living. Of late rural tourism has gained importance in India through its ‘Incredible India’ promotional campaign. In India states like Rajasthan, Gujarat, M.P., U.P., etc. have heritage hotels, forts, havelis and palaces which are converted into hotels, and are giving the true taste of that state to the tourist.
- **Ethnic Tourism:** ethnic tourism involves travel for the purpose of observing the cultural expression of lifestyle and customs of the indigenous and exotic people. This type of tourism focus directly on the local people. The tourist visits the local homes, observe and participate in their traditional rituals, ceremonies, dances, festivals, etc.
- **Senior Citizen Tourism:** This is a new emerging trend in tourism meant for the senior citizens or old people. Tours packages are specially designed for the elderly people. This type of tourism is common in the west.
- **Wildlife Tourism:** wildlife is a term used to refer to both the floral and faunal components of a natural environment. Enthusiast’s young and natural lovers, adventure seekers are exploring this new area of tourism. This is comparative new form of tourism, becoming popular in last one decade. Wildlife tourism is also considering important elements in wildlife protection. Luxury safaris, wildlife backpacking, zoos, aquaria, and safari parks all form part of wildlife tourism industry.
- **Ace Tourism:** space tourism is the term broadly applied to the concept of paying customer travelling beyond the earth’s atmosphere. New and not so popular type of tourism.

History of travel and tourism

Throughout history, people have needed to travel for survival, trade, conquests or curiosity. Very little is known about the prehistoric period between 40000 BC to 10000 BC as no written records exist. But after that period we have records in form of archaeological records, cave paintings, stories, epics etc.

Growth of tourism can be studied under different period

1. **Ancient period or early civilization-** Civilization developed around 10000 BC to 8000 BC in the Neolithic period when people began living together and developed settlement. Agriculture developed and trade began amongst various settlements. Travel on animals began and the military movement to acquire land and conquer tribes started. Journey was difficult and dangerous, by land and sea, journey was slow and time Consuming. Development during this period – creation of path, and mode of transportation, growth of cities near main roads.
2. **Imperial or early empire period-** tourism was established during the early empires of Egypt, Persia, Rome, China and India .transport was made available, and Development of road network, highways, roads and paths started in this period. Development of accommodation (sarais and inns), check post and chowkis started in this period. People used to travel with servants, kitchen utensils, tents and animals.

Silk route: silk route was a major route for caravans carrying silk and other luxury items from china to India and the Middle East which began as early as 2000BC. The Kushan emperors opened and protected the silk roads. Movement of people from east to west to exchange silk, muslin, porcelain, tea, rice, and spices started. Indian ships left Indian ports bound for the Roman Empire. Navigation was done by stars. Rome sent back gold coins & wines. New ideas and customs were exchanged.

3. **Pilgrimage:** or tirth yatra. For religion, belief, release from war and sickness, earn god's grace, Fair and rituals. Advantages- knowledge of geography, adventure, spiritual and social approval, cultural enhance group and family tour.
4. **European renaissance:** it was a great cultural movement that began in Italy in early 1300 AD and spread to England, France, Germany, Spain, and other countries in the late 1400s and ended

about 1600 AD. During the middle age, the church was a patron of arts. The renaissance or the rebirth was a period of change and the revival of Greek and Roman culture. Painters and sculptors during this period tried to give their works a spiritual quality and unrealistic human figures which represented religious ideas.

Grand tour: in Western Europe, tours were conducted by wealthy social elite class for culture, Education and pleasure, literacy, health, science and business. Impact of grand tour- increase in the knowledge of art, intellectual, craft and skills, social and economic status.

5. **Transition period or industrial era:** the industrial revolution, which occurred in the late eighteenth and early nineteenth century, was a period when major changes occurred in agriculture, manufacturing and transportation. It started in Britain and then spread throughout the world. The first product of industrial revolution to affect tourism was the development of steam engine. Later change in technology, increase in income, rapid industrialization, and professionalism market helped the tourism to grow fast. British era brought much development like railways, education, adventure and leisure travel, dak bungalows and circuit houses.
6. **Modern period:** development in railways, airlines, formation of ministry of tourism in year 1990, Government policies like LTC etc., development of central bodies like ITDC, SITA, TAAI, and IATO.

Evolution and growth of hotels in India

- In 1964 Government of India set up three corporations
 - India Tourism and Hotel Corporation
 - India Tourism Corporation Ltd.
 - India Tourism and Transport corporation
- In 1966 Government of India merged these corporations and formed a new corporation India Tourism Development Corporation (ITDC)
- Many hotels opened in India like Oberoi (1934), Welcome group (1975), Taj(1903), Sinclairs, Leela, Park Hotel, J.P. Hotels, and many more.

Hospitality

The generous and cordial provision of service to a guest is known as hospitality. Dictionary defines hospitality as reception and entertainment of guest with liberality and goodwill. Hospitality organization provides accommodation, food and beverage, transportation, entertainment and health care. Hospitality industry mainly consist of all those businesses and institutions that provide food and lodging – such as hotels, motels, lodges, inns, cruise ships, restaurants, and the institutions of public services. In a broad sense, any group engaged in tourism, entertainment, transportation and lodging are covered under hospitality. Hospitality industry is part of travel and tourism industry. Hospitality industry is now both profit-making as well as non-profit making. For example, commercial hotels are profit making while canteens, cafeterias and religious catering outlets are non-profit making. Hospitality industry provides services which are need oriented and the services vary with the needs. For example, the need of a business executive shall be a business hotel while the needs of a student are generally a youth hostel.

Origin: Early travellers were either warriors or traders or people in search of knowledge and there were no hotels for them to stay when they were away from their homes. They had to pitch tents for their accommodation and carry their food for entire duration of their journey. It was not always possible for everyone and so traders and people in search of knowledge had to place a high value on hospitality and sometimes traded their merchandise for lodging. Inn keeping can be said to be the first commercial enterprise and hospitality one of the first service for which money was exchanged. Inns of the Biblical times offered only a cot or a bench in the corner. Guests stayed in large communal rooms with no sanitation and privacy. The rates were, of course, reasonable. The company was rough. Travellers shared the same quarters with their horses and animals. These accommodations slowly and gradually improved.

Hotel

A hotel is a public place that provides boarding and lodging to customer on payment. Common law states that “A hotel is a place where all who conduct themselves properly, and who being able to pay for their entertainment, are received, if there be accommodation for them,” and who without any stipulated engagement as to the duration of their stay or as to the rate of compensation, are while there, supplied at a reasonable cost with their meals, lodging and other services and attention as are necessarily incident to the use as a temporary home.

A hotel may be called as an establishment where primary business is to provide to the general public lodging facilities and which may also furnish one or more of the various services such as food, beverage, laundry, uniformed services etc. As per dictionary, the term 'Hotel' refers to 'a house of entertainment of travellers'.

Inn: Public houses in early times in England were called inns. Normally the term inn was meant for the finer establishments catering to the nobilities and clergy. In France these were called Hotelleries. **Tavern:** The house frequented by common man was known as taverns. The important establishments in France were called Cabarets.

Hostel: Derived from the word host and was used very late. The head of the hostel was called Hostler in French, while in England he was called Inn-keeper.

Hotel services

The present day modern concept of the hotel is not just a place to provide accommodation, food and beverage, but is like a city within a city and offering to its guests every possible facility, accommodation, service and convenience., such as rooms, restaurants, bars, cocktail lounges, banqueting facilities, convention and conference facilities, telephone, radio and television, laundry, valets, cigars and cigarettes, book shops, banking, parking, florists, chemist, gymnasium, beauty parlour, travel agents business centre, etc. Apart from these a vast shopping arcade providing various items like jewellery, men's wear, ladies' wear, toys, books news stand and magazine, etc. are also provided. In addition to these, personal services like babysitting, private detectives, planning of tour itineraries, railway / air booking and accommodation, booking in other hotels may also be provided along with Clubs and night club, health club, foreign exchange, swimming pool, library, car rental and chauffeurs, cinema and theatre ticketing, etc. All these facilities may occasionally be without additional charges to the guest but generally specifically charged.

Guest

A person who purchases the services of the hotel and pays for them. Hotel guest may be defined as "people who have, who are, or who will be availing the services of hotel, for a particular period in order to satisfy their demand for accommodation, food and beverage or entertainment, for which they are willing to pay".

Initially a guest comes to a hotel for its good name and reputation about service and food, second time he comes to confirm his experiences and further keeps on coming for its comfortable and emphatic atmosphere and becomes a regular customer, because by now he is pretty confident about the hotel.

Chapter - 3

Terminology Used in Geography

What are the basic concepts of Geography?

Geography may be studied by way of several interrelated approaches, i.e., systematically, regionally, descriptively, and analytically. As we have already discussed in the first chapter of this book.

What do you mean by Geography?

As per National Geographic, Geography is the study of places and the relationships between people and their environments. Geographers explore both the physical properties of Earth's surface and the human societies spread across it.



An Island

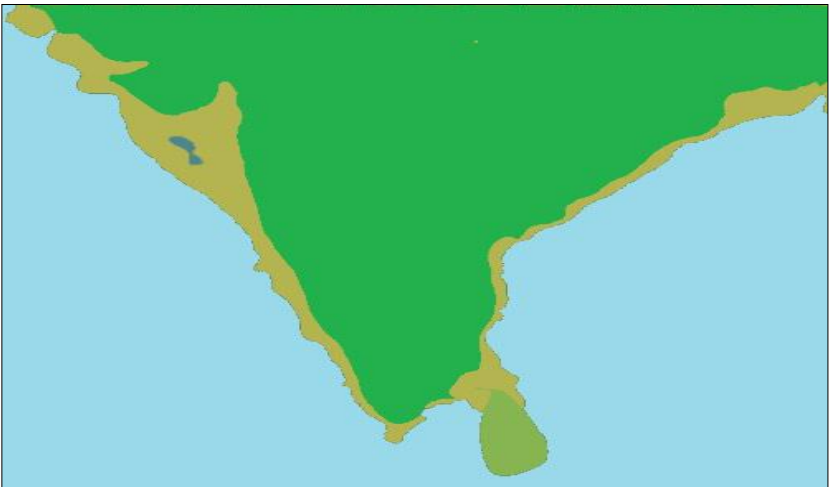
It is any piece of sub-continental land that is surrounded by water. Very small islands such as emergent land features on atolls can be called islets, skerries, cays or keys. An island in a river or a lake island may be called an eyot or ait, or a holm.



A grouping of geographically or geologically related islands is called an archipelago, e.g. the Philippines. A group of island is called Archipelago. Indonesia is the largest Archipelago in the world.

Peninsula

A body of land surrounded by water on three sides is called a peninsula. The word comes from the Latin *paene insula*, meaning “almost an island. The world’s largest peninsula is Arabia, covering about 1 million square miles (2.6 million square kilometres).

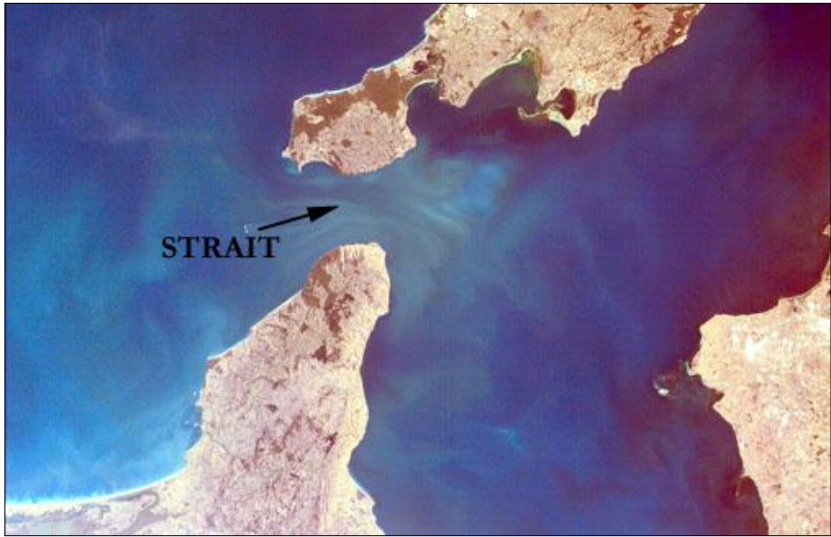


It is bounded on the west by the Red Sea, on the south by the Gulf of Aden and the Arabian Sea, and on the east by the Persian Gulf and the Gulf of Oman.”

Strait

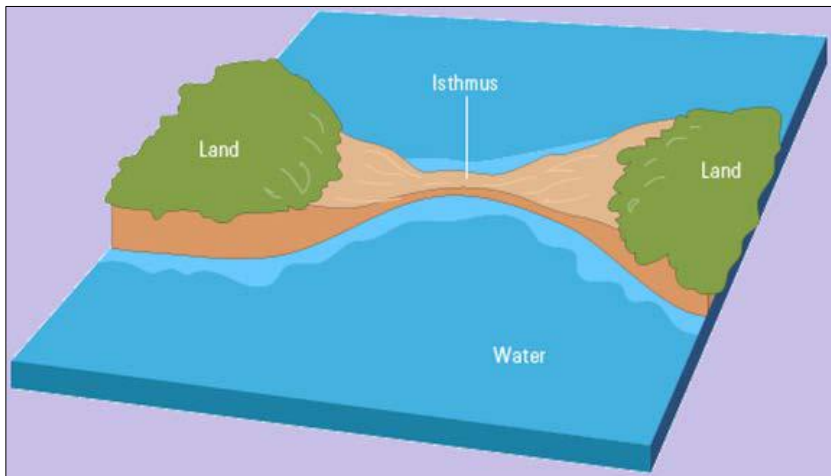
It is a naturally formed, narrow, typically navigable waterway that connects two larger bodies of water.

It most commonly refers to a channel of water that lies between two landmasses, but it may also refer to a navigable channel through a body of water that is otherwise not navigable, for example, because it is too shallow, or because it contains an un-navigable reef or archipelago.



Isthmus

It is a narrow strip of land connecting two large land areas otherwise separated by the sea. Unquestionably the two most famous are the Isthmus of Panama, connecting North and South America, and the Isthmus of Suez, connecting Africa and Asia.



Gulf

It is a portion of the ocean that penetrates land. Gulfs vary greatly in size, shape, and depth. They are generally larger and more deeply indented than bays. Like bays, they often make excellent harbours.



Many important trading centres are located on gulfs. Creek<Gulf<Bay<Bight (all are same in nature but differ in size)

Cape

It is a high point of land that extends into a river, lake, or ocean. Some capes, such as the Cape of Good Hope in South Africa, are parts of large landmasses.

Others, such as Cape Hatteras in the U.S. state of North Carolina, are

parts of islands. Peninsulas are similar to capes. Most geographers consider capes to be smaller than peninsulas. Capes are narrow features that jut into a body of water. Peninsulas can be large, and many are barely connected to the mainland at all.



Topography

It is a field of geosciences and planetary science comprising the study of surface shape and features of the Earth and other observable astronomical objects including planets, moons, and asteroids. It is also the description of such surface shapes and features (especially their depiction in maps).

Relief

In geography, “relief” refers to the highest and lowest elevation points in an area. Mountains and ridges are typically the highest elevation points, while valleys and other low-lying areas are the lowest.

Absolute location

A point on the earth's surface expressed by a coordinate system such as latitude and longitude.

Aquifer

An underground reservoir of water which can be extracted for surface use.

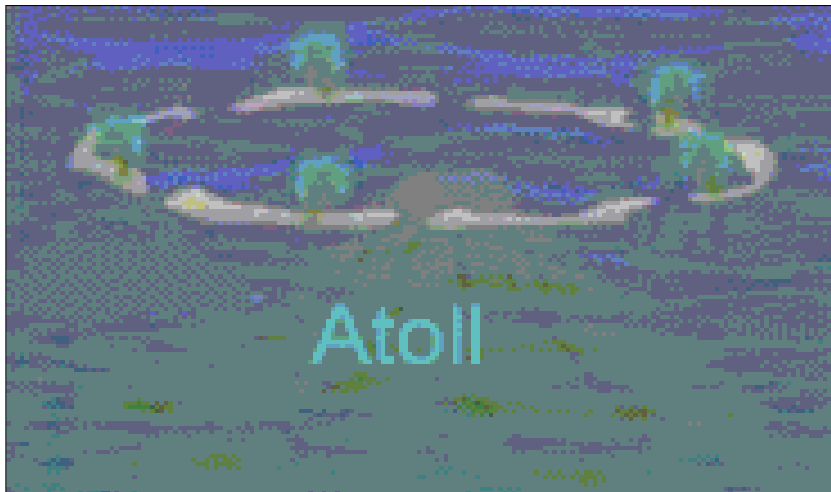
Archipelago

A chain or set of islands grouped together.



Atoll

A circular coral reef that encloses a shallow lagoon.



Biosphere

The plant and animal life on the earth.

Caldera

A bowl-shaped circular depression caused by the destruction of the peak of a volcano. Crater Lake, Oregon is a caldera and not a crater.

Cartogram

A "map" that is a diagram used to present statistical information. A

common cartogram shows the countries of the world with the size of the country representing its population.

Cartography

The art and science of making maps.

Census

An investigation or count of a population.

Climate

The long term trends in weather conditions for an area.

Continental drift

The current theory that the continents of the earth move across the earth on giant tectonic plates

Continental shelf

The extension of the continents into the ocean; continental shelf land would be exposed if sea level dropped.

Demography

The study of population statistics and trends, such as births, deaths, and disease

Density

The number of items per unit area, such as persons per square kilometre.

Desert

An area with little precipitation or where evaporation exceeds precipitation, and thus includes sparse vegetation.

Ecology

The study of the interrelationships between life forms and their environment.

El Niño Southern Oscillation (ENSO)

Periodic warming of the ocean waters in the eastern Pacific Ocean which affects global weather patterns.

Epicentre

The point on the earth's surface directly above the hypocenter, where the energy of an earthquake is first released.

Equator

Zero degrees latitude divides the earth into the Northern and Southern hemispheres.

Equinox

The beginning of autumn and spring, the two days each year when the sun is directly overhead at the equator.

Erosion

Forces that shape the earth's surface. Includes water, wind, and ice.

Estuary

The wide end of a river when it meets the sea; salty tidal water mixes with the freshwater of the river here

Fault

A fracture in the rock where there has been movement and displacement.

Geologic time

The calendar of the earth's history since its birth 4.6 billion years ago; geologic time is divided into eras, epochs, and periods.

Geology

Science of the earth's crust, strata, the origin of rocks, etc.

Glacier

A large mass of ice that moves over the land, carving and eroding surfaces as it moves

Global Positioning System (GPS)

A system of satellites and ground units which enable a user to determine their absolute location.

Global warming

The theory that the temperature of the atmosphere an increase due to the increase in gasses such as carbon dioxide.

Globe

A spherical model of the earth's surface that includes a map of the earth; also known as a terrestrial globe

Greenhouse effect

The analogy used to describe the ability of gasses in the atmosphere to absorb heat from the earth's surface

Hemisphere

Half of the earth's surface. There are four hemispheres, Northern and Southern (divided by the equator) and the Eastern and Western (divided by the Prime Meridian and 180°).

Humidity

The amount of water vapour in the air.

Hurricane

A tropical storm that contains winds of at least 74 miles per hour (119km/h). Also known as a cyclone in the northern Indian Ocean and a typhoon in the western Pacific Ocean.

Hydrologic cycle

The circulation of water between the atmosphere, streams and land, the ocean, and back to the atmosphere.

Hydrosphere

The water of the earth.

International Date Line

An imaginary line near 180° longitude that exists to separate the two simultaneous days that exist on the planet at the same time.

Jet stream

The high-altitude high-speed air current in the tropopause.

La Niña

A periodic cooling of the ocean waters in the Pacific Ocean which affects global weather patterns.

Lagoon

A small, shallow body of water between a barrier island or a coral reef and the mainland, also a small body of water surrounded by an atoll.

Latitude

Angular degrees based on the equator; the equator is 0° latitude and the North Pole is 90° North while the South Pole is 90° south.

Lava

Magma that reaches the earth's surface through a volcanic vent or fissure.

Lingua franca

The language used by a population as their common language.

Lithosphere

The soil and rock layer of the earth.

Longitude

Angular degrees based on the Prime Meridian (0°) at Greenwich, London; degrees are east or west of Greenwich and meet in the Pacific Ocean at 180°.

Magma

Molten rock that lies beneath the surface of the earth; once exposed, magma becomes lava.

Map

A graphic representation of the earth's surface.

Map projection

A mathematical formula which assists in representing the curved surface of the earth onto the flat surface of a map.

Map scale

The relationship between distance on a map and the distance on the earth's surface.

Megalopolis

Several adjacent metropolitan areas form a huge urban area. Conurbation.

Meridian

A line of longitude.

Mesa

A large flat-topped but steep-sided landform; they shrink to become buttes.

Meteorology

The scientific study of the atmosphere.

Monsoon

A wind system in Southeast Asia which changes direction seasonally, creating wet and dry seasons.

Morphology

The shape of a state or nation.

Pangaea

A huge landmass consisting of almost all the continental land on the earth which then divided and slowly became the continents we know today.

Permafrost

Permanently frozen water in the soil.

Physical geography

The branch of geography dealing with the natural features of the earth.

Plate tectonics

The surface of the earth is composed of many large plates which slowly move around the planet, meeting and diverging, creating a variety of earthquakes, volcanoes, and mountains at their margins.

Precipitation

Any form of water that falls from the atmosphere to the surface of the earth (e.g. rain, snow, sleet, and hail).

Primate city

A city which is greater than two times the next largest city in a nation (or contains over one-third of a nation's population). Usually very expressive of the national culture and often the capital city.

Prime meridian

Zero degrees longitude. Also known as the Greenwich meridian because it was established at the Greenwich observatory near London.

Region

An area which is marked common characteristics.

Relative location

A location of a place in relation to another place (i.e. south or downhill).

Scale

The relationship between distance on a map and on the earth's surface.

Sustainable development

Development that does not exploit resources more rapidly than the renewal of those resources.

Topographic map

A detailed, large scale contour map showing human and physical features.

Weather

The short term atmospheric conditions. See climate.

Chapter - 4

Basic Concept of Geography: Locational Aspects

Basic Concept of Geography: Locational Aspects

The Earth is nearly a sphere. It is because of the fact that the equatorial radius and the polar radius of the earth is not the same. The rotation of the earth over its axis produces bulging at the equator. Hence, the actual shape resembles that of an oblate spheroid. The shape of the earth presents some difficulties in positioning its surface features, as there is no point of reference from which to measure the relative positions of other points. Hence, a network of imaginary lines is drawn on a globe or a map to locate various places. Let us find out what are these lines and how are they drawn. The spinning of the earth on its axis from west to east provides two natural points of reference, i.e. North and South Poles. They form the basis for the geographical grid. A network of intersecting lines is drawn for the purpose of fixing the locations of different features. The grid consists of two sets of horizontal and vertical lines, which are called parallels of latitudes and the meridians of longitudes. Horizontal lines are drawn parallel to each other in east-west direction. The line drawn midway between the North Pole and the South Pole is called the equator. It is the largest circle and divides the globe into two equal halves. It is also called a great circle. All the other parallels get smaller in size, in proportion to their distance from the equator towards the poles and divide the earth into two unequal halves, also referred to as the small circles. These imaginary lines running east-west are commonly known as the parallels of latitude. The vertical lines running north-south join the two poles. They are called the meridians of longitude. They are spaced farthest apart at the equator and converge at a point at each pole.

The latitudes and longitudes are commonly referred to as geographical coordinates as they provide systematic network of lines upon which the position of various surface features of the earth, can be represented. With the help of these coordinates, location, distance and direction of various points can be easily determined. Although an infinite number of parallels and meridians may be drawn on a globe, only a selected number of them are usually drawn on a map. Latitudes and longitudes are measured in degrees

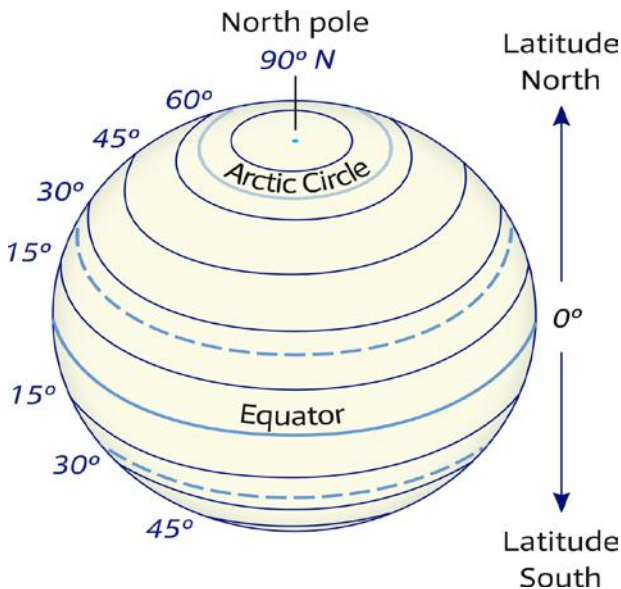
(°) because they represent angular distances. Each degree is further divided into 60 minutes (') and each minute into 60 seconds (").

Prime Meridian: The circle passing through Greenwich in Britain, and perpendicular to the equator, and parallel to the axis, is called the Prime Meridian.

Equator: The circle passing through the center of the earth, and perpendicular to the axis is called the equator.

Parallels of latitudes

The latitude of a place on the earth's surface is its distance north or south of the equator, measured along the meridian of that place as an angle from the centre of the earth. Lines joining places with the same latitudes are called parallels. The value of equator is 0° and the latitude of the poles are 90°N and 90°S (Fig. 4.1 on the next page).



If parallels of latitude are drawn at an interval of one degree, there will be 89 parallels in the northern and the southern hemispheres each. The total number of parallels thus drawn, including the equator, will be 179. Depending upon the location of a feature or a place north or south of the equator, the letter N or S is written along with the value of the latitude. If the earth were a perfect sphere, the length of 10 of latitude (a one-degree arc of a meridian) would be a constant value, i.e. 111 km everywhere on the earth. This length is almost the same as that of a degree of longitude at the equator.

But to be precise, a degree of latitude changes slightly in length from the equator to the poles. While at the equator, it is 110.6 km at the poles, it is 111.7 km. Latitude of a place may be determined with the help of the altitude of the sun or the Pole Star.

Latitude: One of the imaginary circles parallel to the Equator is called latitude. The latitudes have their centers on one common line and they have different radius. All parallel circles from the Equator up to the poles are called parallels of latitude. Latitude is measured in degrees. Latitude is the name for a group of imaginary lines that run parallel to the equator. The equator is the 0-degree line and splits the earth into two equal halves- Northern and Southern hemispheres. Each hemisphere is divided into 90 degrees, from the equator to the pole.

Lines of latitude get smaller as they get further north because the distance around the earth decreases. At the poles the latitude is 90 degrees and the circular distance is 0 km, each pole being just a single point
Longitude: Lines of longitude run north-south around the planet. They begin at the prime meridian and split the Earth into East and West hemispheres. There are 180 degrees in each hemisphere. All lines of longitude are the same length. There is only one important line of longitude other than Prime Meridian-the International Date Line. This is the 180-degree line in both directions.

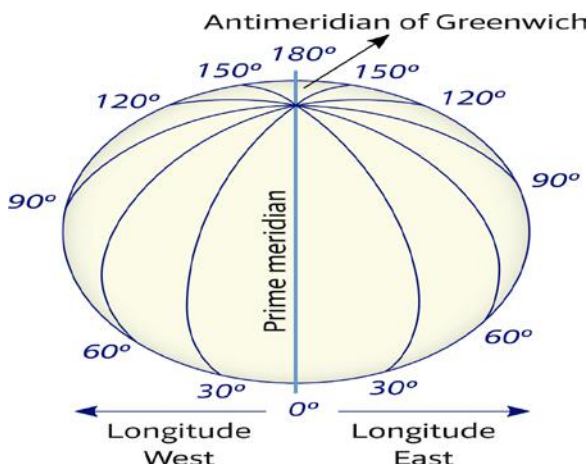
As we move away from the Equator, the size of the parallels of latitude decreases.

The four important parallels of latitude are

- Tropic of Cancer (23¹²°N)
- Tropic of Capricorn (23¹²°S)
- Arctic of Circle (66¹²°N)
- Antarctic Circle (66¹²°S)

Meridians of longitude

Unlike the parallels of latitude which are circles, the meridians of longitude are semi-circles that converge at the poles. If opposite meridians are taken together, they complete a circle, but, they are valued separately as two meridians. The meridians intersect the equator at right angles. Unlike the parallels of latitude, they are all equal in length.



For convenience of numbering, the meridian of longitude passing through the Greenwich observatory (near London) has been adopted as the Prime Meridian by an international agreement and has been given the value of 0° . The longitude of a place is its angular distance east or west of the Prime Meridian. It is also measured in degrees. The longitudes vary from 0° to 180° eastward and westward of the Prime Meridian (Fig. 4.2). The part of the earth east of the Prime Meridian is called the eastern hemisphere and in its west referred to as the western hemisphere.

Longitude: One of the imaginary circles parallel to the Prime Meridian is called longitude. The longitudes have their centers at the center of the earth and have the same radius as the Earth.

- The line of reference running from the North Pole to the South Pole is called Meridians of Longitude.
- The distance between them is measured in 'degrees of longitude'.
- All meridians are of equal length.
- The meridian which passes through Greenwich, where the British Royal Observatory is located, is called the Prime Meridian.
- The value of Prime Meridian is 0° longitude and from it, we count 180° Eastward as well as 180° Westward.
- Prime Meridian divides the earth into two equal halves, the Eastern Hemisphere and the Western Hemisphere.
- 180° East and 180° West meridians are on the same line.
- We can locate any point on the globe if we know its latitude and longitude.

Longitude and time

We all know that the earth rotates from west to east over its axis. It makes the sun rise in the east and set in the west. The rotation of the earth over its axis takes 24 hours to complete one circle or 360° of longitudes. As 180° of longitudes fall both east and west of the Prime Meridian, the sun, thus takes 12 hours' time to traverse the eastern and western hemispheres. In other words, the sun traverses 150 of longitudes per hour or one degree of longitude in every four minutes of time. It may further be noted that the time decreases when we move from west to east and increases with our westward movement. The rate of the time at which the sun traverses over certain degrees of longitudes is used to determine the local time of an area with respect to the time at the Prime Meridian (0° Longitude).



Let us try to understand the question of the determination of time with respect to the Prime Meridian with the following set of examples

Example 1: Determine the local time of Thimpu (Bhutan) located at 90° east longitudes when the time at Greenwich (0°) is 12.00 noon. Statement: The time increases at a rate of 4 minutes per one degree of longitude, east of the Prime Meridian. Solution: Difference between Greenwich and Thimpu = 90° of longitudes Total Time difference = $90 \times 4 = 360$ minutes = $360/60$ hours = 6 hours\Local time of Thimpu is 6 hours more than that at Greenwich, i.e. 6.00 p.m.

Example 2: Determine the local time of New Orleans (the place, which was worst affected by Katrina Hurricane in October 2005), located at 90° West longitude when the time at Greenwich (0°) is 12.00 noon. Statement: The time decrease, at a rate of 4 minutes per one degree of longitude, west of

the prime meridian. Solution: Difference between Greenwich and New Orleans = 90° of longitudes Total Time difference = $90 \times 4 = 360$ minutes = $360/60$ hours = 6 hours\Local time of New Orleans is 6 hours less than that at Greenwich, i.e. 6.00 a. m. In the same way, the time may be determined for any place in the world. However, in order to maintain uniformity of time as far as possible within the territorial limits of a country, the time at the central meridian of the country is taken as the Standard Meridian and its local time is taken as the standard time for the whole country. The Standard Meridian is selected in a manner that it is divisible by 150° or $7^\circ 30'$ so that the difference between its standard time and the Greenwich Mean Time may be expressed as multiples of an hour or half an hour. The Indian Standard Time is calculated from $82^\circ 30'E$ meridian passing through Mirzapur. Therefore, IST is plus 5.30 hours from the GMT ($(82^\circ 30' \times 4)$ (60 minutes=5 hours 30 minutes). Similarly, all countries of the world choose the standard meridian within their territory to determine the time within their administrative boundaries. The countries with large east west span may choose more than one standard meridian to get more than one-time zone such as Russia, Canada and the United States of America. The world is divided into 24 major time zones (Fig. 3.6). The Prime Meridian and decreases to its west. Hence, for a person moving east of the Prime Meridian, the time would be 12 hours less than the time at 0° longitudes. For another person moving westward, the time would be 12 hours more than the Prime Meridian. For example, a person moving eastward on Tuesday will count the day as Wednesday once the International Date Line is crossed. Similarly, another person starting his journey on the same day, but moving westward will count the day as Monday after crossing the line.

Lines of Latitude and Longitude are the imaginary lines that encircle the earth in either an east-west direction or in a north-south direction. Together they form a grid which can be used to identify the locations on the earth surface. When using these lines to find a location the coordinates are always given latitude first and then longitude.

Standard Time

Standard time is the synchronization of clocks within a geographical area or a region to a single time standard, rather than using solar time or a locally chosen meridian (longitude) to establish a local mean time standard. Historically, the concept was established during the 19th century to aid weather forecasting and train travel.

Time Zones

1. The world is divided into 24 time zones of 1 hour.
2. Each time zone is 15 degree of longitude wide
3. Since there are 24 hrs in a day and the earth is divided into 360 degree of longitude, the sun moves across the sky at a rate of 15 degree of longitude per hour.
4. Each time zone is measured relative to Greenwich time, England (Greenwich Mean Time (GMT) is the mean solar time at the Royal Observatory in Greenwich, London, reckoned from midnight.)
5. Time zone at prime meridian is zero.
6. Time zone at the east of Greenwich is denoted by +ve numbers eg: GMT+1, GMT+2 etc, time to the west of Greenwich are denoted by –ve numbers eg: GMT-1, GMT-2 etc.

International Date Line

It is the imaginary line on the Earth that separates two consecutive calendar days. The date in the eastern hemisphere, to the left of line, is always one day ahead of the date in the western hemisphere. It has been recognized as a matter of convenience and has no force in international law.

1. The IDL is an imaginary line on the surface of the earth opposite to the prime meridian 180-degree longitude. In the middle of Pacific Ocean, the date changes as travelled east or west across it.
2. Crossing the IDL travelling east results in one day or 24 hrs being subtracted, travelling across west result in a day or 24 hrs being added.
3. The actual line is not a straight line but rather zig-zag around certain populated areas.

Day Light Saving Time

Daylight saving time (DST) or summer time is the practice of advancing clocks during summer months by one hour so that in the evening hours' day light is experienced later, while sacrificing normal sunrise times. Typically, users in regions with summer time adjust clocks forward one hour close to the start of spring and adjust them backward in the autumn to standard time.

New Zealander George Hudson proposed the modern idea of daylight saving in 1895. Germany and Austria-Hungary organized the first implementation, starting on 30 April 1916.

Map Reading

Map: A map is a representation or a drawing of the earth's surface or a part of it drawn on a flat surface according to a scale.

Atlas: When many maps are put together we get an Atlas. Atlases are of various sizes, measurements drawn on different scales.

They are of different types of maps. Some of them are described below

Physical Maps

Maps showing natural features of the earth such as mountains, plateaus, plains, rivers, oceans etc., are called physical or relief maps.

Political Maps

Maps showing cities, towns and villages, and different countries and states of the world with their boundaries are called political maps.

Thematic Maps

Some maps that focus on specific information; such as road maps, rainfall maps, maps showing distribution of forests, industries etc., are known as thematic maps.

There are three Components of Maps – distance, direction and symbol

Distance

Scale is the ratio between the actual distance on the ground and the distance shown on the map. Scale is very important on any map. If you know the scale, you will be able to calculate the distance between any two places on a map. When large areas like continents or countries are to be shown on paper, then we use a small scale. It is called a small scale map. When a small area like your village or town is to be shown on paper, then we use a large scale that is 5 cm. It is called a large scale map.

Direction

There are four major directions, North, South, East and West. They are called cardinal points. Other four intermediate directions are north-east (NE), southeast (SE), south-west (SW) and north-west (NW). We can find out the direction of a place with the help of a compass. It is an instrument used to find out main directions. Its magnetic needle always points towards north-south direction.

Symbols

It is the third important component of a map. It is not possible to draw

on a map the actual shape and size of different features such as buildings, roads, etc. So, they are shown by using certain letters, shades, colours, pictures and lines. These symbols give a lot of information in a limited space. Maps have a universal language that can be understood by all. There is an international agreement regarding the use of these symbols. These are called conventional symbols.

Various colours are used for the same purpose. For example, generally blue is used for showing water bodies, brown for mountain, yellow for plateau and green is used for plains.

Advantages of Using maps

- Maps can show more details
- Many maps when put together make an atlas and show various continents, countries and can provide information about any particular aspect.
- Maps can be drawn in small scale as well as in large scale.
- Maps can be folded / rolled and are easily portable.

Importance of the art of map reading

Have you ever used a map? If you did you will know that maps contain lots of useful information. Map reading and map drawing are important skills to learn in geography.

Maps use symbols like lines and different colours to show features such as rivers, roads, cities or mountains. Young geographers need to be able to understand symbols. All these symbols help us to visualize what things on the ground actually look like.

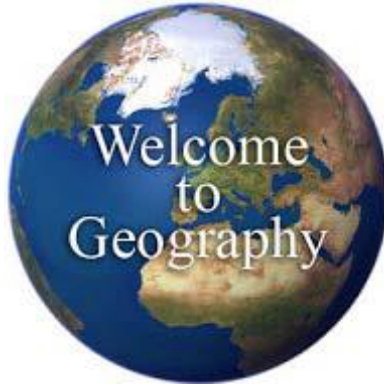
Maps also help us to know distances so that we know how far away one thing is from another. We need to be able to estimate distances on maps because all maps show the earth or regions within it as a much smaller size than their real size. To do this we need to be able to read the scale on a map.

Chapter - 5

Geography-Physical and Human Aspects: Relief, Climate, Economy, Population, Transportation & Communication

The Definition of Geography

Literally, geography comes from Greek words, that is geo that means earth, and graphien that means description. That description involves human environmental nature in certain places. Therefore, human knowledge about environmental nature in certain places, including its difference and similarity, can be considered as geographical knowledge.



So, it can be said that since a long time ago everyone has had knowledge about geography. They only do not know the knowledge they have is geographical knowledge. People just realize that knowledge is geography after they get it formally in school.

In the next development, geography was categorized as science because it was organized systematically. Here geography did not only give description about earth, but its activity was much deeper such as research and analysis, whether from physical or social aspects. In the next, geographical research was not only focused on what was seen from outside, but also arrived to the question: Why do the bodies we see form a unity pattern and its parts are related to each other?

The following are some definitions of geography

1. Barlow

Geography is a science that studies about processes that relate to environment and phenomena, also related pattern that are discussed.

2. James

Geography is a science that sees regularity of natural phenomena so it gives characteristics of a place. Then he states that geography corresponds to activity that is related to efforts to see similarities and differences of one place to another place.

Classification and Branches of Geography

In broad outline, geographical science can be classified into two parts as follows:

1. Physical Geography

Physical geography is a branch of geography that studies physical phenomena on earth's surface. Inspection field of physical geography is natural phenomena of earth's surface that becomes human living environment.

The study of physical geography is supported by several sciences below

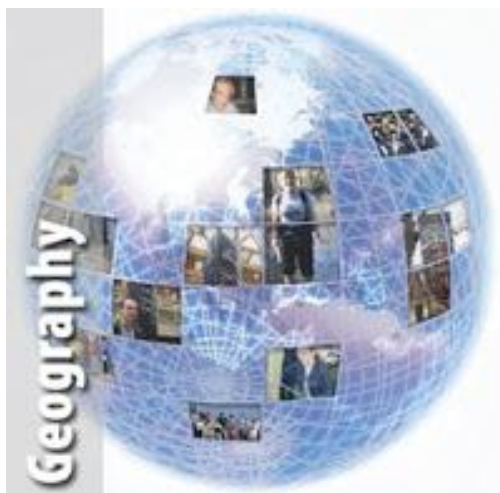
- a) **Geology** => a science that studies structure, composition, history and development process of the earth.
- b) **Pedology** => a science that studies the kinds and formation process of soil.
- c) **Astronomy** => a science that studies celestial bodies.
- d) **Oceanology** => a science that studies about physical and chemical properties of sea water.
- e) **Climatology** => a science that studies about climate.
- f) **Meteorology** => a science that studies about weather.
- g) **Volcanology** => a science that studies about volcanoes.
- h) **Seismology** => a science that studies about earthquake.
- i) **Geophysics** => a science that studies the properties of the inner part of the earth with physical method, such as measuring earthquake, gravitation, and magnetic field.
- j) **Biogeography** => a science that studies spreading of living organisme geographically on earth's surface.

2. Social Geography

Social geography is a branch of geography that covers population aspects and human activities that consist of economic, politics, social, and cultural activities.

Branches of social geography are as follows:

- a. **Human geography** => a branch of geography that studies social economy, and culture of population.
- b. **Anthropogeography** => a branch of geography that studies the spreading of races on earth, seen from geographical point of view.
- c. **Politycal geography** => a branch of geography that studies geographical conditions seen specifically.
- d. **Regional geography** => a branch of geography that studies a certain feigion specifically.
- e. **Population geography** => a branch of geography that studies the numver, spreading, and composition of population.
- f. **Economic geography** => a branch of geography that studies economic activities of population in a certain region.
- g. **Rural geography** => a branch of geography that studies the condition of rural areas, including the society, from geographical point of vies.
- h. **Urban geography** => a branch of geography that studies about urban regions, including the society, from geographical point of view.



Aspects of Geography

In broad outline, geography can be divided into two parts, physical geography and human geography.

Physical geography studies about physical aspects, while human – social-geography studies about social aspects. Those two aspects have influence on the environment of human life. Physical aspects involve: earth’s relief, mineral and structure of rocks, water, weather and climate, flora also fauna. Meanwhile, social aspects involve aspects of social, politics, economy and culture. In geography, physical aspects and social aspects always relate to other sciences.

Table 1: Some of the phenomena studied in physical and human geography.

Physical Geography	Human Geography
Rocks and Minerals	Population
Landforms	Settlements
Soils	Economic Activities
Animals	Transportation
Plants	Recreational Activities
Water	Religion
Atmosphere	Political Systems
Rivers and Other Water Bodies	Social Traditions
Environment	Human Migration
Climate and Weather	Agricultural Systems
Oceans	Urban Systems

1. Physical Aspects

The geographical aspects that can influence human life is physical aspect. Several physical aspects that influence human life are, for example: climate, relief, earthquake, volcanism and so on. Certainly in geography physical aspects that can influence human life are so many, but in this discussion they are limited to several aspects.

Examples of physical aspects that can influence human life are as follows

a) Climate and its elements

Climate is an important geographical element that can influence human activities.

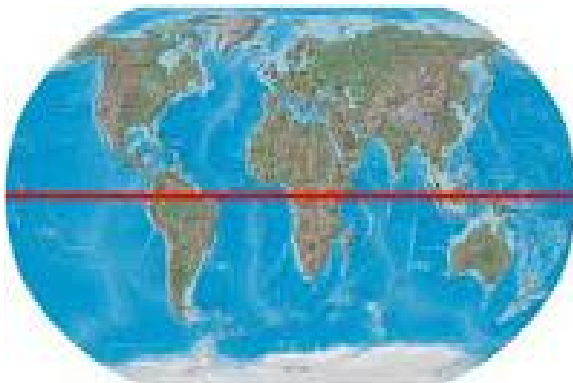
Climate condition on earth’s surface varies. The factors that form of Asia region is archipelago that has four basic climatic characteristics, they are:

1. Annual average temperature is high.
2. Has two seasons that is rainy season and dry season.
3. High air humidity.

The influence of climate on human activity

1. Fisherman start to go to sea (sail to the sea) at night, because they use the land breeze, on the contrary at day time, fishermen come back to the land by using sea breeze.
2. Around the months of October-April farmers from Asia start to work on their land, because in those months has rainy season.

b) Relief of Earth



Earth's relief is the highness and lowness of earth's surface. Earth's relief is a physical aspect of geography that has influence on the life of humans or plants. The following are several influences of earth's relief on human life.

The influence of earth's relief on the growth of plants can be learned in Junghun's classification as follow

1. **Hot Zone, 0-700 meters** => The kinds of plants that live there are riceplant, sugarcane, and coconut.
2. **Temperate Zone, 700-1500 meters** => The kind of plants that live there are coffee, tea quinine, rubber, and horticulture.
3. **Cool Zone, 1500-2500 meters** => The kinds of plants are casuarinas tree and pine.
4. **Cold Zone, >2500 meters** => The kind of plant that live is moss.

c) Earthquake

Earthquake, whether tectonic or volcanic, greatly influences human life. The number of times earthquake happens influenced by geological position.

The effect produced by earthquake on the life on earth's surface is very vast, example:

2. The presence of tectonic earthquake can help geologists to determine the content of minerals in lithosphere.
2. The presence of earthquake can help architects in determining the shape of houses and materials used to build houses that are earthquake-proof.

d) Flora and fauna

Flora refers to the natural vegetation including plants, fungi, algae in a particular geographical region, whereas Fauna refers to the animal's life living in a particular geographical area or region.

2. Social Aspects

Social aspects of geography that can influence human life, for example are population, mobility of population, and the spread of population.

a) Population

One social aspect that influences human life is the number of population. Large potency of population can either support or hinder development.



The potency of population that can support development among others are

1. Productive aged population is a source of labor.
2. Large population can be used as developmental manpower.

3. High quality of manpower can be used as experts.

b) Mobility of Population

The social aspect of geography that corresponds to mobilization of population is urbanization. Urbanization influences urban and rural population. The phenomenon that we can see in urban regions as the effect of urbanization is the spread of slums and high criminality rate. Meanwhile, the phenomenon that arises in the rural areas is the decrease of agricultural productivity as the effect of losing young works.

c) The Spreading of Population

Winder effect of uniform spreading of population are as follows:

1. Development is not evenly distributed.
2. Utilization of natural resources is not optimum.
3. Agricultural land decreases because it is used for housing.

Economic Geography: This branch explains us about spatial distribution and concentration of different types of economic activities influenced by physical factors and practiced by man based on their locational attributes. Accordingly they can be classified as:

- i) **Primary activities:** e.g. Food gathering and hunting, agriculture, fishing, mining and quarrying.
- ii) **Secondary activities:** e.g. Manufacturing and construction activity.
- iii) **Tertiary activities:** e.g. Trade, Transport and Communication.
- iv) **Quaternary activities:** e.g. activities related to specialist service providers such as banking and insurance, administrative and educational, defense and security, legal and medical.

It is noticed that large population engaged in primary activities are concentrated in underdeveloped countries while in developed countries they are concentrated more in secondary and tertiary activities, quaternary services.

Transport and Communication

Transport and communication are a way for us humans to overcome the barrier of physical distance. It is an effective way to connect with people with no regard to the distance that separates them. Transport generally involves the movement of people or goods from one place to another via a means of transport. On the other hand, communication is the passing of information or data from one source to another.

Transport usually involves means of transport such as roadways, railways, air travel etc. While the examples of means of communication are email, telephones, letters etc. Both transport and communication are complementary to each other. But they can also act like substitutes of one another. For example, if you can email the required information to a client, it eliminates the need to travel to go see him.

Both transport and communication play major roles in our development and advancement in the last few decades. Thanks to some marvellous technological advancements that have happened in the last five decades, the quality, speed, accuracy etc of both transport and communication have been outstanding.

Any developing economy like India must acutely focus on these two fields to make certain they face no difficulties in their economic and social growth and development.

Chapter - 6

Flora and Fauna

Biological environment

Ecology is the study of the relation and interactions between organisms and their environment. It comprises the floral and faunal communities of an area. With changes in environmental conditions, structure, density and composition of plants, animals also undergo changes. For Example, if we talk about Himachal Pradesh is a predominantly mountainous state. Consequently, its climate is more congenial to forests. It comprises four forest zones-subtropical, sub-temperate, wet temperate and dry-temperate. The proposed mine area is situated in Kangra district, Himachal Pradesh. The forests of the tract are well scattered on both the banks of river Beas. Scrub forests, Bamboo forests, Chil forests, Scrub mixed with chil, sal and other Broad Leaved forests are present which occur due to altitude, edaphic and biotic factors. Kangra forest consist various type of vegetation and faunal biodiversity.

Flora

Study of biological environment is one of the important aspects in Environmental Impact Assessment in view of the need for conservation of Environmental quality. We were carried out a detailed enumeration of species occurrences of flora at various locations were observed and typical plant species were collected. The visual observations of plants were recorded with a view to obtaining some idea about the relative density of certain species and their predominance. Project influence area have several floral species have been reported with some prominent tree species are *Cassia fistula*, *Ficus bengalensis*, *Aegle marmelos*, *Phoenix sylvestris*, *Mangifera indica*, *Azadirachta indica*, *Dalbergia sissoo*, *Calotropis procera*, *Terminalia arjuna*.

Fauna

The information of important terrestrial animal groups such as birds, reptiles and mammals were collected by trekking inhabiting areas, along the road, nearby village areas and agricultural fields present in the impact zone.

An inventory of the animals has been prepared separately for mammals, reptiles and birds. The faunal species are reported as Common Emmigrant, Pioneer, Monitor Lizard, Common myna, Gray Partridges, Indian Treepie, Parakeet, Jungle Crow, House Crow, Rock Pigeon, Green Bee eater, Red Watlled lopwing, Wood pecker and Indian hare.

Flora and Fauna further give arise to new concept that is Wildlife Tourism, further we will have discussed about the various major Flora and Fauna concept of India, with the help of various major wildlife sanctuaries, National Parks, Biosphere reserves of India.

Various major flora and fauna of India

India enriched with various flora and fauna species, from north to south and from east to west there are various Wildlife sanctuaries, National park and Biosphere reserves exists in its geography. These are also act as factors which motivate tourist who like to visit wildlife of India. According to a study, India is among the 17 megadiverse countries which together possess 60-70% of world's biodiversity. The national parks and wildlife reserves in India are home to around 400 species of mammals and 1300+ species of birds. These wildlife reserves are home to some rare and unique wildlife species like the Indian Sloth Bear, the Chausinga (four-horned antelope) and the Barasinga (swamp deer). In fact, India is the only country where both tigers and lions can be found. It also boasts the highest deer and tiger population in the world. Along with rich fauna, the Indian wildlife reserves are blessed with abundant flora. There are estimated to be around 15000 species of flowering plants, which make about 6-7% of the world's total plant species. The Valley of Flowers National Park in Uttarakhand alone boasts 600 species of flowering plants including the famous and exclusive Brahma Kamal.

a) National Parks and Wildlife Sanctuaries

b) Bio Sphere Reserve

a) National Parks and Wildlife Sanctuaries

National park is the protected area, which are established by the government, to conserve wildlife and also develop them. In this Flora, fauna, landscape, historic objects, etc. Its objective is maintained to protect the natural and historic objects and wildlife of an area. It is highly restricted, random access to people is not allowed.

Wildlife Sanctuary, is a natural habitat, owned by the government or private agency, that safeguards particular species of birds and animals. In

this Animals, birds, insects, reptiles, etc are preserved. Its objective is to make sure that viable population of the wildlife and their habitats are. Here Restrictions are less and it is open to public

The wildlife of India is diverse and its national parks and biosphere reserves are home to many endangered wildlife species like Royal Bengal Tigers and Red Panda, the vulnerable one-horned Rhinoceros and Snow Leopards, and critically endangered Great Indian Bustard, among many other species of flora and fauna. India boasts 104 national parks, 566 Wildlife Sanctuaries, 131 Marine Protected Areas, 18 Biosphere Reserves, 88 Conservation Reserves and 127 Community Reserves, covering a total of 1,65,088.57 sq km. In total, there are 870 Protected Areas which make 5.06% of the geographical area of the country. The oldest national park in India is Corbett National Park. Sprawling in the foothills of the Himalayas in Uttarakhand, this national park was established in 1936. It is spread in 520.82 sq km area, and is home to a rich flora and fauna, including the Royal Bengal Tigers. India's first biosphere reserve was established in 1986 and is called Nilgiri Biosphere Reserve. This reserve includes Wayanad, Nagarhole, Bandipur and Mudumalai, Nilambur, Silent Valley protected areas situated in Tamil Nadu, Kerala, and Karnataka. The Great Rann of Kutch, with an area of 12454 sq km, is the largest biosphere reserve in India. On the other hand, with an area of 4400 sq km, Hemis National Park in Ladakh is the largest national park in India.

Some of the Best National Parks and Wildlife Sanctuaries to Visit in India

There are around 104 national parks and 566 wildlife sanctuaries in India spread across the country's length and breadth. These wildlife sanctuaries and national parks are home to a variety of animals and birds, and some of them are the safe shelters for unique and threatened animals like one-horned rhinos and Royal Bengal Tiger. Some of the top ones on the list of national parks are:

1. Bandhavgarh National Park and Wildlife Sanctuary, Madhya Pradesh
2. Bandipur National Park and Wildlife Sanctuary, Karnataka
3. Corbett National Park and Wildlife Sanctuary, Uttarakhand
4. Dachigam National Park and Wildlife Sanctuary, Jammu and Kashmir
5. Great Himalayan National Park in Himachal Pradesh

6. Gir National Park, West Bengal
7. Hemis National Park and Wildlife Sanctuary, Jammu and Kashmir
8. Jaldapara National Park, West Bengal
9. Kanha National Park, Madhya Pradesh
10. Khangchendzonga National Park in Sikkim
11. Kaziranga National Park and Wildlife Sanctuary, Assam
12. Keoladeo National Park in Rajasthan
13. Manas National Park and Wildlife Sanctuary, Assam
14. Mudumalai National Park in Tamilnadu
15. Panna National Park, Madhya Pradesh
16. Pench National Park, Madhya Pradesh
17. Periyar National Park and Wildlife Sanctuary, Kerala
18. Ranthambhore National Park, Rajasthan
19. Sunderbans National Park in West Bengal
20. Tadoba National Park, Maharashtra
21. Valley of Flowers and Nanda Devi National Park in Uttarakhand

1. Bandhavgarh National Park, Madhya Pradesh

Bandhavgarh National Park, the most popular national parks in India is located in the Vindhya Hills of the Umaria district in Madhya Pradesh. Declared as a national park in 1968 the Bandhavgarh National Park is spread across the area of 105 km². The name Bandhavgarh has been derived from the most prominent hillock of the area of Umaria. The area of Bandhavgarh is being flourished with a large biodiversity, the place which is also being famed to grip highest density of tiger population in India. Similarly, the park also beholds the largest breeding population of leopards and various species of deer. Over the years, the park has shown a great number of increases in the count of the tiger species and this is the reason why tiger tours are so framed to attract large amount of tourists at its vicinity. The park has been divided into three major zones named as Tala, Magdi and Bamera out of which the Tala zone attracts major number of tourists by offering the tiger sighting opportunities. The park authorities are also focusing on the Magdi Zone by providing more opportunity to spot tigers. Elephant shows are also organized in Magdi zone of the Bandhavgarh national park to increase the chances of spotting the elusive king of the jungle. Bandhavgarh National Park consists of mixed vegetations ranging from tall grasslands to thick Sal forest and so is the perfect habitat of variety of animals and birds. Due to

varied topography, the Bandhavgarh national park provides ample opportunity to spot the majestic Indian tiger and some rarely seen animals like leopard and sloth bear. Due to high wildlife sighting it is becoming popular amongst tourists visiting India.

2. Bandipur National Park, Karnataka

Bandipur National Park is regarded as one of the most beautiful and better-managed national parks of India. Located amidst the picturesque surroundings of the towering Western Ghats on the Mysore-Ooty highway in Karnataka, it is an important part of the Nilgiri Biosphere Reserve that constitutes Karnataka's Rajiv Gandhi National Park (Nagarahole) to its Northwest, Tamil Nadu's Mudumalai Wildlife Sanctuary to its South, and Kerala's Wayanad Wildlife Sanctuary to its Southwest. The total extent of Bandipur National Park is 872.24 sq km. It is located partly in Gundlupet taluk of Chamaraajanagar District and partly in H.D.Kote and Nanjangud taluks of Mysuru District.

Once the private hunting grounds of the erstwhile Maharajas, and nestled at the foothills of the Nilgiris, Bandipur has had a long tryst with tigers. One of the thirty reserves identified across the country to save the tiger and its habitat, it's also one of the last refuges of the endangered Asiatic wild elephant. Apart from the two famed residents, a number of other endangered species such as sloth bears, gaurs, Indian rock pythons, jackals, muggers, and four-horned antelopes can be spotted in this national park. Bandipur also shelters sambar, mouse deer, chital, sloth bear, and the rare flying lizard. Over 200 species of birds and a diversity of flora add to its attraction. Bandipur also supports a wide range of timber trees including teak, rosewood, sandalwood, Indian-laurel, Indian Kino tree, giant clumping bamboo, etc.

Bandipur Forest Safari

Jungle Lodges and Resorts alone is now licensed to operate jeep safaris. Mini-bus safaris operated by the Forest Department begin from the range office. The bus safari is conducted between 6:15 am-9 am and 2:15 pm-5 pm. The fee is 350 INR per person. The jeep safari costs 3000 INR pax and is conducted between 6:15am-8am, 8am-9:45am, 2:30pm-4:30pm and 4:30pm-6:30pm. Trekking is now permitted in Bandipur. Elephant safaris have been discontinued.

3. Corbett National Park, Uttarakhand

Jim Corbett National Park, which is a part of the larger Corbett Tiger Reserve, a Project Tiger Reserve lies in the Nainital district of Uttarakhand.

The magical landscape of Corbett is well known and fabled for its tiger richness. Established in the year 1936 as Hailey National Park, Corbett has the glory of being India's oldest and most prestigious National Park. It is also being honored as the place where Project Tiger was first launched in 1973. This unique tiger territory is best known as the father who gave birth of the Project Tiger in India to protect the most endangered species and the Royal of India called Tigers.

Spans over an extent of 520 square kilometers, its whole area comprises of hills, marshy depressions, riverine belts, grasslands and large lake. It is among the few tiger reserves in India that allows overnight stays in the lap of the National Park. Nature watch and wildlife viewing in the park is done in an open four wheeler Jeep and on elephant back. Sheltering a healthy population of tigers and rare species like Otters and the endemic fish eating crocodile, the national park is one of the most sought after destinations for the wildlife buffs. Dhikala, situated at the border of the extensive Patil Dun valley, is the most popular destination.

4. Dachigam National Park, Jammu and Kashmir

Dachigam National Park is situated about 22 km from the city of Srinagar. It means 'ten villages' named after the ten villages that had to be relocated to construct this park. Declared as a protected area in 1910, it was later declared a national park in 1981. Situated in the Himalayas, the park has rocks as well as steep mountains. Various animals can be found here like the leopard, the musk deer, the Himalayan Black Bear, the jackal and many other unique animals like the hill fox. The park is also home to beautiful birds like the black bulbul, the cinnamon sparrow woodpecker and thousands of migratory birds. The National Park is very unique and is home to the State animal, the Hangul. Dachigam is open throughout the year, but the best time to visit is between April and August. The closest airport is at Srinagar. Habitat to Kashmir Stag: Only area where Kashmir stag is found.

5. Great Himalayan National Park in Himachal Pradesh

Great Himalayan National Park was constituted in 1984 and was formally notified as a national park in 1999. It is located in Banjar Sub-Division of Kullu District of Himachal Pradesh, India, in the far Western Himalayas. GHNHP is one of the most recent additions to a huge network of wildlife reserves found in Himalayan region in India and adjoining countries.



Great Himalayan National Park, Kullu Himachal Pradesh

GHNP was awarded UNESCO World Heritage Site status in 2014, in recognition of its outstanding significance for biodiversity conservation. The park protects over 1,000 plant species, including many medicinal herbs, 31 mammal species and 209 bird species, as well as amphibians, reptiles and insects. Four of GHNP's mammal species and three of its bird species are globally threatened, including the musk deer and the western horned tragopan.

6. Gir National Park in Gujarat

The Gir Forests- the largest compact tract of dry deciduous forests in the semi-arid western part of India is the last abode of the big and regal predator, Asiatic lion (*Panthera leo persica*), an endangered animal species. The sanctuary is internationally acclaimed for successfully saving this precious species from the brink of extinction. It was declared as a sanctuary in 1965. Subsequently out of the 1153.42 sq. km area of the sanctuary, an area of 258.71 sq. km. was declared a National Park. Gir Forests has a topography made up of successive rugged ridges, isolated hills, plateaus and valleys. Besides, being the last abode of Asiatic lions, Gir Forests forms a unique habitat for many mammals, reptiles, birds and insect species along with a rich variety of flora. The overwhelming presence of the omnipotent big cat diverts the attention of the common man from the remarkable bird population that the sanctuary has. However, the birds of Gir sanctuary did attract the great ornithologist, Dr. Salim Ali who believed that, had the Asiatic lions not been there, the area would have been one of the most

fascinating bird sanctuaries of the country. People mostly link Gir with "Maldharis" who have survived through the ages by having symbiotic relationship with the lion. They are religious pastoral communities living in Gir. Their settlements are called "nesses". At present, Gir forests of Gujarat (India) is the only place where this race of lions i.e. Asiatic lion is found in its natural habitat. Unlike the other big cats, lion is tolerant of the presence of human being and it even lives near the human settlements. During the last century in British rule, lion population touched an all-time low of 20 in 1913. The serious conservation efforts by the then Nawab of Junagadh saved the species from the brink of extinction. The subsequent efforts by the Forest Department has successfully brought the population to the present respectable status of 523 numbers of this majestic animal.

7. Hemis National Park, Jammu and Kashmir

It is a high altitude national park located in Ladakh. The park is known to be having the highest number of snow leopards of the whole world. Also known as the largest national park in the country, the park has the Indus river flowing at its boundaries and has parts of the Zaskar range. Apart from being home to the snow leopard, the park is also home to numerous Tibetan Gompas and the world-famous four-hundred-year-old Hemis Monastery. The park houses the Tibetan wolf, the Red fox and the endangered Eurasian brown bear. Bird watching is also very popular here. The park has numerous trekking routes operational from mid-June to mid-October. Snow leopards can only be spotted in the late winter. A vacation here in traditional homestays and monasteries proves to be a brilliant way to spend a summer in the high mountains.

8. Jaldapara National Park, West Bengal

Jaldapara National Park (Erstwhile Jaldapara Wildlife Sanctuary) is situated in the foothills of Eastern Himalayas in the Alipurduar District of West Bengal. It had been placed on the wildlife map of India because of the presence of the Great Indian One Horned Rhinoceros (*Rhinoceros unicornis*). But now the National Park is famous for its rich bio-diversity and Eco-Tourism. A major part of the National Park is in the flood plains of the River Torsa and other small rivers & rivulets, which have created large tracts of grasslands sustaining a population of Great Indian One Horned Rhinoceros with other animals like Elephant, Guar, Sambar (*Cervus unicolor*) etc. Titi Forest block, Bania Forest block, Mendabari Forest block are very rich in flora and avifauna. Forests of the region, which were earlier a part of the Buxa Forest Division, were being managed for commercial purposes till 1929. But due to the presence of pre-historic Rhinoceros, the

Bengal Rhinoceros Preservation Act came into force in 1932 providing protection to the one-horned Rhinoceros in this area. The area was first declared as a “Game Sanctuary” in the year 1941 vide Govt. of Bengal Notification No. 10549-For, dated 13th November 1941 (Annexure-1A) read with amendment Notification No.5238-For, dated 3rd April 1943. In the Year 1951, the area was transferred to the newly created Cooch-Bihar Forest Division with Head Quarter at Nilkuthi Cooch-Bihar. An area of 99. 51sq.km was being managed under Sanctuary Working Circle in the two subsequent Working Plans (1962-63 to 1971-72 and 1972-73 to 1981-82) of Cooch Bihar Division. The Game Sanctuary was re-notified as Jaldapara Wildlife Sanctuary in 1976 vide Govt. notification No. 5404-For Dated 24.6.1976 issued under section 18 of the Wildlife (Protection) Act, 1972 and its area was increased to 115.53 sq.km. The then sanctuary was transferred to the administrative control of the Wildlife Division-II on 10.2.1982 with Head Quarter at Jalpaiguri. 100.98 sq.km area more was added to the then Sanctuary from Cooch Bihar Forest Division vide Govt. Notification No. 7245-For Dated 31.8.1990 making the total area of the Sanctuary as 216.34 sq.km comprising of 12 blocks and 45 compartments. At present, the National Park consists of Eight (8) Territorial Ranges, one Eco-Tourism Range, one Elephant Squad Range, one Caretaker-Tourist Lodge, Twenty-four (24) Beats, Five (5) Camps and Twenty-two (22) Watch Tower.

9. Kanha National Park, Madhya Pradesh

Kanha National Park is nestled in the Maikal range of Satpuras in Madhya Pradesh, the heart of India that forms the central Indian highlands. The national park is being popularized as the Tiger reserve and interestingly is being declared as one of the finest wildlife areas in the world. Spreading across two revenue districts the Mandla and the Kalaghat, Kanha National Park was declared a reserve forest in 1879 and revalued as a wildlife sanctuary in 1933. Its position was further upgraded to a national park in 1955. The Kanha National Park is spread across the area of 940 sq km in the Maikal chain of hills. By bringing up the buffer and core zone all together, the Kanha Tiger Reserve has the total area of 1945 sq km. The landscapes and the surrounding luxurious meadows along with the wooded strands and the dense maroons of forests offer magnanimous sightseeing experiences for the nature lovers. Making the land more beautiful and adorable, the crystal clear streams amidst the dense jungle cleanses the surroundings and makes the wildlife unrivalled. This vivacious land has been the source of inspiration for Rudyard Kipling, a famous writer for his outstanding creation- “The Jungle Book”. The Kanha National Park is the

ideal home for wide ranges of wild creatures; right from the mighty tigers to the most populated Barasingha and the countless species of plants, birds, reptiles and insects. This reserve has fascinated many travelers around the corners of the world with its well-developed infrastructure specially meant for them. The best location here to enjoy the most is the Bammi Dadar, also known as the Sunset Point.

10. Khangchendzonga National Park in Sikkim

Located at the heart of the Himalayan range in northern India (State of Sikkim), the Khangchendzonga National Park includes a unique diversity of plains, valleys, lakes, glaciers and spectacular, snow-capped mountains covered with ancient forests, including the world's third highest peak, Mount Khangchendzonga. Mythological stories are associated with this mountain and with a great number of natural elements (caves, rivers, lakes, etc.) that are the object of worship by the indigenous people of Sikkim. The sacred meanings of these stories and practices have been integrated with Buddhist beliefs and constitute the basis for Sikkimese identity. Mount Khangchendzonga and many natural features within the property and its wider setting are endowed with deep cultural meanings and sacred significance, giving form to the multi-layered landscape of Khangchendzonga, which is sacred as a hidden land both to Buddhists (Beyul) and to Lepchas as Mayel Lyang, representing a unique example of co-existence and exchange between different religious traditions and ethnicities, constituting the base for Sikkimese identity and unity. The ensemble of myths, stories and notable events, as well as the sacred texts themselves, convey and make manifest the cultural meanings projected onto natural resources and the indigenous and specific Buddhist cosmogony that developed in the Himalayan region.

11. Kaziranga National Park, Assam

Kaziranga National Park is one of the prides of India. Kaziranga is the place where the nature unwinds its pristine form in millions of hues, where wildlife roams fearlessly, where man and nature meets together. This prestigious national park of India is situated in the north eastern part of the country in the district of Golaghat and Nagoan in the state of Assam. Let's go back to the beginnings of the twentieth century in the year of 1904 when this beautiful wildlife sanctuary was created, and about 68 years later it was declared as National Park. It is noteworthy to mention that it is the host for two third of world's population of endangered Indian one-horned rhinoceros and also declared as a tiger reserve in 2006, holding the highest density of tigers in the world. The park is also a domicile for large breeding inhabitants

of Elephants, wild water buffaloes and Swamp Deer. It has been declared as a forest reserve in the year of 1908 and wildlife sanctuary in the year of 1950. Area Expansion-Covering an approximate area of 430 square kilometres, Kaziranga was declared as a World Heritage Site by UNESCO for its unique natural environment in the year of 1985. Apart from this, the park has been identified as an important bird area by Birdlife International Society as it is a home to various species of migrating and inhabitant birds. Situated on the banks of river Brahmaputra, the sanctuary is blessed with the four different kinds of vegetation. The Tropical moist mixed deciduous forests and tropical semi-evergreen forests is marked by the 41% of the tall grasses, 29% open jungle, 11% short grasses and rest is covered with the rivers and the water bodies. Its breathtaking array of flora and diverse fauna adds value to the scenic beauty of the park.

According to one legend, a girl named Rawnga, from a nearby village, and a youth named Kazi, from Karbi Anglong, fell in love. This match was not acceptable to their families, and the couple disappeared into the forest, never to be seen again, and the forest was named after them. Kaziranga also could mean the "Land of red goats (Deer)", as the word Kazi in the Karbi language means "goat", and Rangai means "red". Some historians believe, however, that the name Kaziranga was derived from the Karbi word Kajir-arong, which means "the village of Kajir" (kajiror gaon).

12. Keoladeo National Park in Rajasthan

Formerly known as the Bharatpur Bird Sanctuary, the Keoladeo National Park is recognised as one of the world's most important bird breeding and feeding grounds. It originated in as a royal hunting reserve during the 1850s and was a game reserve for Maharajas and the British. In fact, Lord Linlithgow, Viceroy of India from 1936 to 1943, shot over thousands of ducks with his hunting party in a single day! In 1982, Keoladeo was declared a national park and then later listed as a World Heritage Site by UNESCO in 1985. The park is home to over 370 species of birds and animals such as the basking python, painted storks, deer, nilgai and more. Noted Indian ornithologist and naturalist Salim Ali used his influence to garner government support to create Keoladeo National Park. It was also known as the breeding ground for the rare and elusive to spot Siberian crane. Keoladeo National Park offers well-defined treks which can be covered on either foot, or cycle or rickshaws. In fact, the park management has trained the rickshaw pullers in bird watching and they make for extremely knowledgeable guides. The nearest airport is situated at Agra, which is 56-kms from Bharatpur. Delhi is 184 Kms from Bharatpur. Regular rail services

connect Bharatpur with all the major cities such as Delhi, Mumbai, Jaipur and Agra. The Bharatpur railway station is about 5 Kms from the park/bird sanctuary.

13. Manas National Park, Assam

Established in 1985, Manas National Park is located in the Indian state of Assam and is situated near the Manas River which is one of the major tributaries of the Brahmaputra River and divides the park in two halves. The reserve forests of the Manas National Park contain an Elephant Reserve, Project Tiger Reserve, Biosphere reserve and have also been declared a World Heritage Site under UNESCO. The name 'Manas' is derived from the Hindu deity, the snake goddess 'Manasa' and is also shared with the river that transverses through the park. The park was originally spread across 360 sq kilometers upon its establishment in 1985, but after been expanded in the subsequent years it now spreads across 950 sq kilometers and spreads across 5 districts in the state of Assam. The park is placed along the eastern Himalayan foothills and comprises of marshy grasslands and thick monsoon, sub-Himalayan Terai and mountain forests. The park enjoys a favorable climate all year round with heavy rainfall during the monsoons. While it is best to avoid visiting the park during heavy monsoons or summer due to the unfavorable climatic conditions, the Manas National Park is open all year round. The best time to visit is between the months of October till February when the climate is the most pleasant and fauna activity is the highest. The winters in Manas National Park are mild and temperatures rarely go beyond 25 degrees making the park a perfect location for a wild winter getaway.

14. Mudumalai National Park in Tamilnadu

The Mudumalai National Park or Wildlife Sanctuary resides on the northwestern side of the Nilgiri Hills (Blue Mountains), in Nilgiri District, about 150 km north-west of Coimbatore city in Kongu Nadu region of Tamil Nadu. By sharing its boundaries with the states of Karnataka and Kerala, the sanctuary is divided into 5 ranges – Masinagudi, Thepakadu, Mudumalai, Kargudi and Nellakota. The Mudumalai Sanctuary is an important wildlife habitat due to its strategic position as a Wildlife corridor between several other protected areas making an essential part of the Nilgiri Biosphere Reserve. Its north is being crusted with Bandipur National Park and Nagarhole National Park and at its west is the Wayanad Wildlife Sanctuary along the south corner is flourished with Mukurthi National Park and Silent Valley National Park. These parks, sanctuaries and the adjoining Reserve forests cover over 3,300 sq kms of forest supporting a population of 1800–2300 elephants. The area is also being termed as Madumalai Tiger Reserve

due to the presence of around 48 tigers in the Nilgiri Reserve across which tigers are free to roam. In April 2007, the Tamil Nadu state government declared Mudumalai as a Tiger Reserve, under the section 38V of the Wildlife Protection Act of 1972, in an effort to conserve the country's dwindling Tiger populations. Afterward, about 350 families living in the core area have been evicted from the park bringing 1 million rupees (\$20,800) as compensation. Those residing in the 5 km of buffer area around the park were in fear that they too will be evicted but as a matter of pleasure nobody was dislodged from the buffer zone. In fact, some people in this zone were kept involved in the project as trackers and guides to enhance their income through ecotourism. The nearest city to the sanctuary is Gudalur. Mudumalai is accessible via the NH – 67 which is 100 km from Mysore, 39 kms from Ooty and 3 kms from Gudalur. The Nearest railway station to reach Madumalai is Udagamadalam station in the Nilgiri Mountain Railway service, which is nearly 64 km away. Taxi services are available from Udagamandalam to Mudumalai to directly reach at the sanctuary. Major broad gauge railway station nearby is Coimbatore junction. This station is well-connected to all the major cities in the country. The Bangalore Airport is the nearest airport at the distance of 35.5 kms.

15. Panna National Park, Madhya Pradesh

Panna National Park located in Panna and Chattarpur district of Madhya Pradesh is formally being renowned as the 22nd tiger reserve of India and fifth in Madhya Pradesh. By covering an area of 542.67 sq km, Panna Reserve lies besides the areas of the Ken River at the central state of India, Madhya Pradesh at a distance of 57 km from Khajuraho, a world heritage center. Panna Tiger Reserve was being found as the best managed and maintained national parks of India by the Ministry of Tourism of India and this reputation brought the park the Award of Excellence in the year 2007. Thanks to all the efforts of Mr. R. Shreenivasa Murthy, a forest officer of the area who brought his best efforts to bring the Panna Park as the best managed and developed park in the area, in collaboration with his team. In the tropical region of Panna, the climate of the reserve area is sometimes so pleasant, sometime so scorching during summers but with heavy rainfalls the area is again plush with greenery to make the ambience more appealing. Ken River flows through this reserve and creates beautiful waterfalls on its way to the valley. The park has numerous sites of historical importance with stone paintings dating back to Neolithic era. The ideal home to Indian tigers, Panna is composed of deciduous forests to include other species like Indian wolf, four-horned antelope, sloth bear pangolin, rusty spotted cat, leopard,

carcal and gharial. Panna National Reserve was established in the year 1981 by the Government of India. This 22nd tiger reserve of India that was recognized under the project tiger was also declared as a Project Tiger Reserve in the year 1994. The area of Panna also included some of the major parts of the former Gangau Wildlife Sanctuary which was created in the year 1975. The reserved forests of the Reserve in Panna district and some protected forests on Chhatarpur district were the hunting preserves of the erstwhile rulers of Panna, Chhatarpur and Bijawar princely states. Today the area of Ganagu Sanctuary is the part of the territorial forests of the present North Panna Forest division to which a portion of the Chhatrapur Forest division was also added later. It was in the year 2008 that the real story starts when the reserve area of Panna lost all its tigers to poaching leaving only 2-4 tigers left. Gradually, it caused the loss of the morale of the staff of Panna jungle authority and so in the following year, i.e. in 2009 Mr. R. Shreenivasa Murthy, IFS as field director of Panna Tiger Reserve initiated the task of reintroducing tigers into the park. In collaboration with WWF and PATA, Murthy introduced two tigers to Panna, one from Bandhavgarh and the other from Panna Tiger Reserve with intricate scientific inputs. Under this project Mr. Murthy and his team translocated one male from Pench and a tigress from Kanha with proper monitoring and protection, where they achieved successful breeding to bring four litters to them. Since then, the officials are focusing on the reproduction of more and more cubs in the area to maintain the previous counts of the tigers in Panna.

16. Pench National Park, Madhya Pradesh

In the heart of India, Madhya Pradesh, Pench National Park is located in the districts of Seoni and Chhindwara. Named after the pristine River Pence which flows through the park, Pench National Park is one of the most popular wildlife reserves in India. The park also has its mention in the famous story of 1894, 'The Jungle Book', penned down by the renowned English Author Rudyard Kipling. The story was worldwide applauded, and hence, the national park became one of the popular national parks in the world in the 1970s and also a prominent tourist attraction in India. Since then, every year oodles of wildlife buffs flock to this place just to spot the famous characters of the book, Akela (The Indian Wolf), Raksha (the female Wolf), Baloo (Sloth Bear), and the vicious Shere Khan (Royal Bengal Tiger). Sprawls over a massive area of 758 sq km, including the core area, Pench National Park has a rich wildlife which proffers visitors an opportunity to indulge into one of the finest wildlife experiences in India. Since its inception in 1965 as a wildlife sanctuary, the park has serving as

the cosy nest of numerous wild creatures including the Royal Bengal tiger, jackal, peafowl, wild dog, wild boar, sloth bear, Indian leopard, fox, striped hyena, monkey, gaur, barking deer, four-horned antelope, Indian wolf, and more such enthralling species. However, later in the year 1975 and 1992, the sanctuary got the recognition of national park and tiger reserve, respectively.

17. Periyar National Park and Wildlife Sanctuary in Kerala

Periyar National Park & Wildlife Sanctuary, locating in Thekkady is the perfect example of nature's bounty with great scenic beauty and rich biodiversity. In this astounding location of Kerala, the Periyar National Park is considered as the most protected area for the elephants and the tigers. One of the most renowned national parks in South India, the Periyar National Park is set high at the Western Ghat ranges. The protected area is widespread along the area of 925 sq km (357 sq mi). The rest of 350 sq km (140 sq mi) of the core zone was declared as the Periyar National Park in the year 1982. The park is being adorned with a picturesque lake at the heart of the sanctuary which is an artificial 100 years old lake at Thekkady and is basically known for its wild elephants and thickly established Western Ghats forests. Many of the intense valleys of Periyar contain tropical evergreen forest with extremely thick tree cover with hardly any sun-rays to get penetrated. These trees are fully grown at the amazing heights of up to 130-140 feet. Some of the areas in the park contain marshy grasslands near the edges of the lake and other water bodies. Spread out across the park are also patches of semi-evergreen forest used as important cover by many of the animal species. Earlier it was under the reign of the Pandayas in 12th century a dam named Mullaperiyar was constructed across the west flowing river Periyar. As a result, it created an artificial lake in the area which today stands at the centre of the sanctuary, enhancing its beauty to greater extents. With the creation of this lake, the landscape and the features of the valley changed drastically. During the 18th and 19th centuries, the reserve was the hunting ground of the Travancore kings, which is today the part of most of the Southern Kerala. In 1899, the area was declared as a forest reserve called the Periyar Lake Reserve with an intention of protecting the hunting areas of the kings from the encroachment of tea plantations. Further, in 1934, the lake reserve was converted into a game sanctuary, the Nellikkampatty Game Sanctuary. The Game Sanctuary covered an area of about 500 sq km. In 1950, some more area was added to create the Periyar Wildlife Sanctuary. In 1978, the sanctuary was included in the Central Government initiative to be known as the Project Tiger and was renamed as Periyar Tiger Reserve. In 1992, the reserve also became a part of Project Elephant when it was

launched by the Central Ministry of Environment and Forests to protect the free ranging populations of wild Asian elephants in various states of India.

18. Ranthambhore National Park, Rajasthan

Ranthambore National Park is one of the largest national parks in northern India. It is situated 14 kilometers from Sawai Madhopur district and about 180 kilometers from Jaipur of southeastern Rajasthan in India. Being considered as one of the best place to view the powerful majestic predator Indian Tiger in the jungle. Ranthambhore National Park is a major wildlife tourist attraction and pulled the attention of wildlife lovers and photographers. Ranthambhore National park is surrounded by the Vindhya and Aravalis hill range and Ranthambhore Tiger Reserve spread over an area approx 1410.64 sq.km including core and buffer area.

The vegetation of the Ranthambhore is the tropical dry deciduous and tropical thorn type due to its hilly track, water is confined from narrow valleys and some lakes. There are several lakes in the park known as Padam Talab, Raj Bagh Talab, and Malik Talab. Ranthambore National Park is probably the best place in the world to see wild Indian tigers in its only dry deciduous natural habitat. Tigers can be easily spotted even during the day time. Ranthambhore is also known for famous heritage site due to ruins and Fort. It is a home for different species of animals and birds. Today, Ranthambhore National Park has become a popular tourist destination in the world for jungle safaris. Due to many popular tigers living in this tiger reserve, thousands of tiger lovers around the world visit Ranthambhore National Park and enjoy the jungle safari during the peak tourist season, which is considered from October to April. Among the many famous tigers of Ranthambhore, the “Machli” was the world's most famous tigress. However, due to prolonged illness, she became weak and died in August 2016, but she left many legends of her youth days. Her generosity of bravery and power has inspired many wildlife documentaries, films and TV shows. Viewing these dangerous wild animals at a short distance in their natural wild environment during jungle safari is indeed an unforgettable wildlife experience of whole life.

19. Sunderbans National Park in West Bengal

Sundarban, the largest delta in the world, consists of 10,200 sq km of Mangrove Forest, spread over India and Bangladesh. The part of the forest within Indian territory is called Sunderbans National Park and is in the southern part of West Bengal. The Sunderbans cover an area of 38,500 sq km, of which about one-third is covered by water/marsh. The forest has a

large number of Sundari trees and it is said that the forest derived its name from these trees. The people of Sundarbans are primarily dependent on agriculture and live in villages adjoining the forest. The hardships of daily existence have given rise to fraternal feelings and non-communal traditions here. Members of both Hindu and Muslim communities worship the same Gods and Goddesses. Wildlife flourishes in Sundarbans, and the main attraction is the Royal Bengal Tiger. These tigers have adapted themselves to surviving in Sundarbans and developed the ability to swim in the saline waters. It is the natural habitat of many other wild animals like jungle fowl, giant lizards, spotted deer, wild boar, crocodiles, etc. Siberian ducks set up residence during their migratory season. Besides the Royal Bengal Tiger, Sundarbans is also home to endangered species like Batagur baska, King Crabs and Olive Ridley Turtles. Sundarbans has been a wildlife sanctuary since 1966. Sundarbans National Park was proclaimed as the core area of Sundarbans Tiger Reserve in 1973. It was declared a UNESCO World Heritage in 1987 and the Sundarbans region as a whole was declared a Biosphere Reserve in 1989. It is estimated that there are now 400 Royal Bengal tigers and about 30,000 spotted deer in the area.

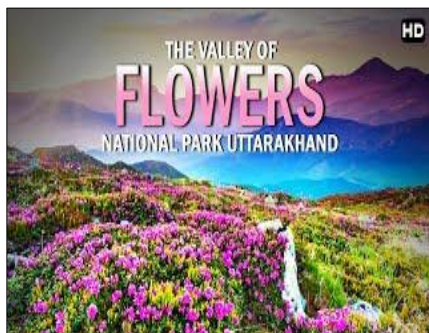
20. Tadoba National Park, Maharashtra

Notably Maharashtra's oldest and largest National Park, the "Tadoba National Park", also known as the "Tadoba Andhari Tiger Reserve" is one of India's 47 project tiger reserves existing in India. It lies in the Chandrapur district of Maharashtra state and is approximately 150 km from Nagpur city. The total area of the tiger reserve is 1,727 Sq.km, which includes the Tadoba National Park, created in the year 1955. The Andhari Wildlife Sanctuary was formed in the year 1986 and was amalgamated with the park in 1995 to establish the present Tadoba Andheri Tiger Reserve. The word 'Tadoba' is derived from the name of God "Tadoba" or "Taru," which is praised by local tribal people of this region and "Andhari" is derived from the name of Andhari river that flows in this area. The Tadoba National Park is divided into three separate forest ranges, i.e. Tadoba north range, Kolsa south range, and Morhurli range, which is sandwiched in between the first two. There are two lakes and one river in the park, which gets filled every monsoon, the 'Tadoba Lake,' 'Kolsa Lake,' and 'Tadoba River.' These lakes and rivers provide vital ingredients needed to sustain the park's life.

21. Valley of Flowers and Nanda Devi National Park in Uttarakhand

The Nanda Devi National Park and Valley of Flowers National Parks is an UNESCO World Heritage Site in Uttarakhand, India. It possesses two core areas about 20km apart, made up by the Nanda Devi National Park and

the Valley of Flowers National Park, plus an encompassing Combined Buffer Zone. In 1988 the site was inscribed as Nanda Devi National Park (India). In 2005 it was expanded to encompass the Valley of Flowers National Park and a larger buffer zone and it was renamed to Nanda Devi and Valley of Flowers National Parks.



Valley of Flowers National Park



Nanda Devi National Park

Nanda Devi National Park

It established in 1982, as a national park. Nanda Devi National Park situated in eastern Uttaranchal (Chamoli district) State and some 300 kilometers (km) northeast of Delhi. The height of Nanda Devi is 7,816 m (25,643 ft). Sir Edmund Hillary has described that the “Nanda Devi Sanctuary is God-gifted Wilderness-India’s-training ground for adventure” in his autobiography. It was tagged as a World Heritage Site by UNESCO in 1988. It was established as Sanjay Gandhi National Park in 1982 but was later converted as Nanda Devi National Park. There are around 312 floral species out of which there are 17 rare species that have been found here. Fir, birch, rhododendron, and juniper are the main flora. Common larger mammals are Himalayan musk deer, mainland serow and Himalayan tahr. Carnivores are represented by snow leopard, Himalayan black bear and perhaps also brown bear. Vegetation is scarce in the inner sanctuary due to the dryness of the conditions. Tourists will not find vegetation near Nanda Devi Glacier. Ramani, alpine, prone mosses and lichens are other notable floral species found in Nanda Devi National Park.

Valley of Flowers National Park

It is located in North Chamoli and Pithoragarh, in the state of Uttarakhand. It Known for its meadows of endemic alpine flowers. At 3352 to 3658 meters above sea level, the gentle landscape of the Valley of Flowers National Park complements the rugged mountain wilderness of Nanda Devi

National Park to the east. Together, they encompass a unique transition zone between the mountain ranges of the Zaskar and Great Himalaya. The park lies completely in the temperate alpine zone. Home to rare and endangered animals, including the Asiatic black bear, snow leopard, musk deer, brown bear, red fox and blue sheep. Birds found in the park include Himalayan monal pheasant and other high altitude birds.

a) Bio Sphere Reserve

Biosphere reserves are 'learning places for sustainable development'. They are sites for testing interdisciplinary approaches to understanding and managing changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity. They are places that provide local solutions to global challenges. Biosphere reserves include terrestrial, marine and coastal ecosystems. Each site promotes solutions reconciling the conservation of biodiversity with its sustainable use. Biosphere Reserve (BR) is an international designation by UNESCO for representative parts of natural and cultural landscapes extending over large area of terrestrial or coastal/marine ecosystems or a combination thereof. BRs are designated to deal with one of the most important questions of reconciling the conservation of biodiversity, the quest for economic and social development and maintenance of associated cultural values. BRs are thus special environments for both people and the nature and are living examples of how human beings and nature can co-exist while respecting each other's' needs.

There are 18 Biosphere Reserves in the country

1. Nilgiri Biosphere Reserve
2. Nanda Devi Biosphere Reserve
3. Nokrek Biosphere Reserve
4. Great Nicobar Biosphere Reserve
5. Gulf of Mannar Biosphere Reserve
6. Manas Biosphere Reserve
7. Sunderbans Biosphere Reserve
8. Simlipal Biosphere Reserve
9. Dibru-Saikhowa Biosphere Reserve
10. Dehang-Dibang Biosphere Reserve
11. Pachmarhi Biosphere Reserve
12. Khangchendzonga Biosphere Reserve

13. Agasthyamalai Biosphere Reserve
14. Achanakamar - Amarkantak Biosphere Reserve
15. Kachchh Biosphere Reserve
16. Cold Desert Biosphere Reserve
17. Seshachalam Hills Biosphere Reserve
18. Panna Biosphere Reserve

1. Nilgiri Biosphere Reserve

The Nilgiri Biosphere Reserve was established in Sept 1986 by UNESCO and was declared a World Heritage site in 2012. It was the first biosphere reserve of India and there are only 34 such Bio Diversity Hot Spots in the world! The reserve encompasses 4 tiger reserves, 2 national parks and 1 wildlife sanctuary covering 3 states with an area over 5,500 sq.km that includes:

- a) Bandipur National Park, Karnataka
- b) Nagarhole National Park, Karnataka
- c) Mudumalai Wildlife Sanctuary, Tamil Nadu
- d) Mukurthi National Park, Tamil Nadu
- e) Sathyamangalam Wildlife Sanctuary, Tamil Nadu
- f) Silent Valley National Park, Kerala
- g) Wayanad Wildlife Sanctuary, Kerala

As stakeholders in the area, we are proud to state that the Nilgiri Biosphere has the largest population of wild tigers and Asian elephants in the world! With an estimated 570 tigers (2014 census) and 6,500 elephants this hotspot is also home to a large number of Indian Bison (Gaur) and a variety of other animals, reptiles and birds. Waterwoods Lodge is situated in the heart of the Nilgiri Biosphere on the banks of the Kabini reservoir that separates Nagarhole and Bandipur National Parks. Kabini is situated 225KM from Bangalore & 75KM from Mysore and has good road access ~ making the drive an excellent getaway from Bangalore and Mysore. The 642 sq km Nagarhole Park is home to a large population of Asiatic elephants and tigers; leopards and deer; Gaur, Langurs, Red Wild Dogs, sloth bear, intricate insects, reptiles and many more. Over 250 bird species nest here, including terrestrial and aquatic birds of prey. Exotic and the endangered species like the Malabar Pied Hornbill and the Crested Hawk Eagle are also spotted here. The backwaters shelter large crocodiles, playful otters and a variety of freshwater fish. All these exotic flora and fauna can be spotted on

Road and Boat safaris that are conducted by the Karnataka Forest Department which can be arranged during your stay at Waterwoods on prior reservation. Both safaris are conducted twice daily.

2. Nanda Devi Biosphere Reserve

Nanda Devi Biosphere Reserve, located in the Himalayan Mountains in the northern part of the country, includes as core areas the Nanda Devi and Valley of Flowers National Parks, which are one World Heritage site. Nanda Devi National Park has remained more or less intact because of its inaccessibility. The Valley of Flowers National Park is renowned for its meadows of endemic alpine flowers and outstanding natural beauty. Together they encompass a unique transition zone between the mountain ranges of the Zaskar and Great Himalaya.

3. Nokrek Biosphere Reserve

The Nokrek Biosphere Reserve is located in the northeast of India on the Tura Range, which forms part of the Meghalaya Plateau (average altitude: 600 metres). The entire area is mountainous and Nokrek is the highest peak of the Garo hills, rising up 1,412 metres. The north of the reserve embraces rather gently undulating hills, while steep slopes characterize the south. The biosphere reserve contains major rivers and streams that form a perennial catchment system. Examples include the Ganol, Dareng and Simsang rivers, of which the latter is the longest and largest. The Simsang originates in the north of the Biosphere Reserve, the Dareng from the southern peaks, and the Ganol flows westward into the Brahmaputra River, which supplies water to numerous towns.

4. Great Nicobar Biosphere Reserve

Great Nicobar is the southernmost island of the Nicobar Islands Archipelago. It covers 103 870 hectares of unique and threatened tropical evergreen forest ecosystems. It is home to a very rich ecosystem, including 650 species of angiosperms, ferns, gymnosperms, bryophytes, among others. In terms of fauna, there are over 1800 species, some of which are endemic to this area.

5. Gulf of Mannar Biosphere Reserve

The Gulf of Mannar endowed with three distinct Coastal ecosystems namely coral reef, seagrass bed and mangroves is considered one of the world's richest region from a marine biodiversity perspective, is known for its unique biological wealth and is a store house of marine diversity of global significance. The Gulf's 4,223 species of plants and animals representing

from primitive to higher forms make it one of the richest coastal regions in India. Most of the islands have luxuriant growth of mangroves on their shorelines and swampy regions. The sea bottom of the inshore area around the islands are carpeted with seagrass beds which serve as ideal feeding ground for Dugong dugon, the endangered herbivorous marine mammal. Highly productive fringing and patch coral reefs surround the islands and are often referred to as underwater tropical rainforest and treasure house for marine biodiversity, in particular marine ornamental fishes. Occurrence of these specialized ecosystems makes Gulf of Mannar a unique large marine ecosystem in the Indian subcontinent.

6. Manas Biosphere Reserve

Manas National Park or Manas Wildlife Sanctuary located in Assam is a UNESCO World Heritage Site, a Project Tiger Reserve, An Elephant Reserve as well as Biosphere Reserve. Unique in all respects, this legendary park is an abode of numerous species of fauna like an Asiatic Elephant, Tiger, Indian One Horned Rhinoceros, Leopards, Barking Deers, Hoolock Gibbons and many more to list.

7. Sunderbans Biosphere Reserve

Sunderban is the largest delta and mangrove forest in the world. The Indian Sunderban is bound on the west by river Muriganga and on the east by rivers Harinbhabha and Raimangal. Other major rivers flowing through this eco-system are Saptamukhi, Thakuran, Matla and Goasaba. Sunderban has extremely rich diversity of aquatic and terrestrial flora and fauna. In fact, Sunderban's highly productive ecosystem acts as a natural fish nursery. Although the region is situated south of the Tropic of Cancer, the temperature is equable due to its proximity to the sea. Average annual maximum temperature is around 35°C. Average annual rainfall is 1920 mm.

8. Simlipal Biosphere Reserve

Located in northeast India, the Similipal Biosphere Reserve lies within two biogeographical regions: The Mahanadian east coastal region of the Oriental realm and the Chhotanagpur biotic province of the Deccan peninsular zone. Volcanic sedimentary rocks are aligned in three concentric rings and accentuate the area's geologic formations. The highest peak in the Similipal hill range is Khairiburu (1,168 metres). Numerous waterfalls and perennial streams flow into major rivers, such as the Budhabalang, Baitarani and Subarnarekha.

9. Dibru-Saikhowa Biosphere Reserve

Dibru-Saikhowa is a National Park as well as a Biosphere Reserve situated in the south bank of the river Brahmaputra in the extreme east of Assam state in India. Dibru-Saikhowa, with an area of 340 sq km, is among the most vibrant wildness on earth and is also distinct for its pristine scenic beauty. Situated in the flood plain of Brahmaputra, Dibru-saikhowa is a safe haven for many extremely rare and endangered species of Wildlife. The forest type of Dibru-Saikhowa comprises of semi-evergreen forests, deciduous forests, littoral and swamp forests and patches of wet evergreen forests. Famed for Feral horses, a total 36 species of mammals and above 400 species of birds have so far been recorded from the Dibru-Saikhowa National Park.

10. Dehang-Dibang Biosphere Reserve

The Biosphere Reserve constitutes an area of 5112 Sq. Km in the district of West Siang, Upper Siang and Dibang valley of Arunachal Pradesh. An area of 4095 Sq.Km constitutes the core zone of the BR and 1017 Sq.Km makes the buffer zone. Due to the steep terrain combined with difficult weather as well as the lack of communication, the area has a very sparse human population. The approximately 10,000 people who live here are primarily of the Adi, Buddhist and Mishmi tribes with ten sub tribes including the Paris, Padams, Karkos, Pangis, Simongs, Ashings, Tangams, Komkars, Millangs, Dalbings, Membas, Khambas and Idu Mishmis. The Biosphere Reserve area is almost totally under the cover of vegetation with villages and cultivations located on lower slopes and terraces edging the major river systems. Considerable territory in the BR lies at elevations above the tree line and this area features a very special array of plants and animals. Two of the most exciting facts relating to the forest here is that in most of the Himalayas outside of Arunachal Pradesh one does not find natural vegetation stretching in an unbroken sequence from the tropics to the mountain tundra. Arunachal Pradesh is the finest stronghold for this type of continuity in the Himalayas. Secondly, in contrast to other areas of the Himalayas outside of Arunachal Pradesh, the BR exhibits a wonderful extent of sub-tropical forest. Forests at subtropical levels are the most severely altered in the Himalayas and Arunachal Pradesh is the last stronghold for many Himalayan species dependents on this forest type.

11. Pachmarhi Biosphere Reserve

The Pachmarhi Biosphere Reserve is located in the biogeographical region of the Deccan Peninsula and the Biotic Province of Central India. The

Satpura mountain ranges cross India from west to east and Pachmarhi lies directly in its centre. The highest peak is the Dhoopgarh, which reaches 1,352 metres above sea level, while the Pachmarhi hills are characterized by steep slopes in the northern regions. The eastern boundary of the biosphere reserve lies along a road with cultivation farms, close to the Dudhi River, while the southern boundary borders the Tawa plateau.

12. Khangchendzonga Biosphere Reserve

Located in the state of Sikkim, bordering Nepal to the west and Tibet (China) to the north-west, this biosphere reserve is one of the highest ecosystems in the world, reaching elevations of 1,220 to 8,586 metres above sea level. The site is one of the world's 34 biodiversity hotspots. It includes vast natural forests that support high species diversity with high levels of endemism. The main economic activities are agricultural and horticultural crops, animal husbandry, fish, dairy and poultry farming.

13. Agasthyamalai Biosphere Reserve

Located in the Western Ghats in the south of the country, the Agasthyamala Biosphere Reserve has peaks reaching 1,868 m above sea level. Consisting mostly of tropical forest, the site is home to 2,254 species of higher plants including about 400 that are endemic. It is also a unique genetic reservoir of cultivated plants, in particular cardamom, jamune, nutmeg, pepper and plantain. Three wildlife sanctuaries, Shendurney, Peppara and Neyyar, are located in the site, as well as the Kalakad Mundanthurai Tiger reserve. A number of tribal settlements comprising a total population of 3,000 inhabit the biosphere reserve. They rely largely on biological resources for their sustenance, although recent projects have been set up to reduce their dependence on the forests.

14. Achanakmar - Amarkantak Biosphere Reserve

The Achanakmar-Amarkantak Biosphere Reserve is the most dramatic and ecologically diverse landscape in the Chhattisgarh and Madhya Pradesh states of India. It is one of the less developed and least disturbed areas in both the states. It encompasses most of the original natural and cultural features.

15. Kachchh Biosphere Reserve

Rann is largest saline and marshy tracts in the entire world usually have low rain fall and sparse vegetation. However, it forms its own unique ecosystem which supports unique biodiversity of flora and fauna. Similarly, Kachchh Biosphere Reserve (KBR) is mainly composed of two major

ecosystems called Great Rann of Kachchh (GRK) and Little Rann of Kachchh (LRK) covering area of 12,454 km², the reserve mainly it covers kachchh Desert Sanctuary (in GRK) and Wild Ass Sanctuary (in LRK). A reserve also covers part of finest grassland of Asia called “Banni”. Not many researchers are available about the scientific information of KBR.

16. Cold Desert Biosphere Reserve

Cold Desert Biosphere Reserve is a biosphere reserve located in the Western Himalayas, within Himachal Pradesh in North India. Biosphere reserves are the areas of terrestrial and coastal ecosystems which promote the conservation of biodiversity with its sustainable use. It declared a biosphere reserve in 2009.

- i) Pin Valley National Park and its surroundings
- ii) Kibber Wildlife Sanctuary
- iii) Sarchu and Chandratol.

Fauna: Snow leopard, Himalayan black bear, Himalayan blue sheep, Himalayan ibex, snow pigeon, Tibetan gazelle, woolly hare, red fox Brown and black bears, etc. can be spotted here

Flora: Herbs, and Shrub species

17. Seshachalam Hills Biosphere Reserve

The Seshachalam Hills are hilly ranges part of the Eastern Ghats in southern Andhra Pradesh state, in southeastern India. In 2010, it was designated as a Biosphere Reserve. It has large reserves of red sandalwood which is used in medicines, soaps, spiritual rituals, etc. The Seshachalam hill ranges running to North West to South East, over to a length about 80 km and width ranged from 32 to 40 km in the two Rayalaseema region districts, Chittoor and Kadapa. These ranges have typical gorges and gaps due to faulting and stream erosion resulting in to discontinuous ranges. The altitude of Seshachalam hill ranges varies from 168 to 1187m above MSL. The highest hill peak is Tellaralla penta (1187m) and most of the other hill peaks are above 900m MSL.

18. Panna Biosphere Reserve

In October 2020, it was designated as UNESCO Biosphere Reserve. Panna reserve is the third Biosphere reserve of Madhya Pradesh to be included in the UNESCO's World Network of Biosphere Reserves. Before this, Pachmarhi and Amarkantak have been included in the list. Along with Panna; UNESCO also included Fuvahmulah and Addu Atoll in the Maldives

in the list. For India, Panna Biosphere Reserve is the 12th entry in the World Network of Biosphere Reserves while for Maldives it is the 2nd and 3rd entry. At present, the World Network of Biosphere Reserves includes 714 biosphere reserves in 129 countries across the globe.

Note

This is all about the flora and fauna of India, in which we have discussed some major National Parks, Wildlife Sanctuaries and Bio Sphere Reserve of India. These all are the attractions which motivate wildlife loving tourist to visit India due to these reasons.

Chapter - 7

Hill Stations and Plains of India

The hill stations are high-altitude towns for recreation, enjoyment and used as a place of refuge to escape the blistering heat in India during summertime. As India is a vast country with limited amounts of the coastal area most of its towns and districts face continental type of climate with summer being very hot so hill stations (as situated on high altitude due to which it faces low temperature) becomes an excellent spot to escape such hot and humid conditions as well as a place of enjoyment to spend quality time with your family and partner during summer break. The Indian subcontinent has seven principal mountain ranges and the largest of all is the Himalayas that lies in the northern part of India. The famous peaks and ranges include the Kangchenjunga range in the Eastern Himalayas which frames the hill stations of Darjeeling and Gangtok as well as the Nanda Devi in Uttarakhand. The Shivalik range that also lies within the same region also has some famous hill stations that include Mussoorie, Drass, Dalhousie, Kullu, Shimla, Nainital and many more. Most of the hill stations in India were developed by the British around a central mall to get respite from the oppressive summer heat. Many have picturesque lakes as their focal point, making them excellent places for boating activities. Most of the hill stations in India are located in Jammu and Kashmir, Ladakh, Manipur, Himachal Pradesh, Uttarakhand, Sikkim, West Bengal, Arunachal Pradesh, Nagaland and Meghalaya in the Himalayas and in Gujarat, Maharashtra, Karnataka, Goa, Kerala, and Tamilnadu in Western ghats. Some are located in Eastern ghat Tamilnadu, Andhra Pradesh, Odisha and West Bengal.

History

Hill stations in India were established for a variety of reasons. After the revolt of 1857 the "British sought further distance from what they saw as a "disease-ridden" land by escape to the Himalayas in the north and Nilgiri Hills in the south", a pattern which started even before 1857. Other factors included anxieties about the dangers of life in India, among them "fear of degeneration brought on by too long residence in a debilitating land." The hill stations were meant to reproduce the home country, illustrated in Lord

Lytton's statement about Ootacamund, in the 1870s, "such beautiful English rain, such delicious English mud." Shimla was officially made the "summer capital of India" in the 1860s and hill stations "served as vital centers of political and military power, especially after the 1857 revolt."

Dane Kennedy, following Monika Bührlein, identifies three stages in the evolution of hill stations in India: high refuge to hill station, and hill station to town. The first settlements started in the 1820s, primarily as sanatoria. In the 1840s and 1850s, there was a wave of new hill stations, with the main impetus being "places to rest and recuperate from the arduous life on the plains". In the second half of the 19th century, there was a period of consolidation with few new hill stations. In the final phase, "hill stations reached their zenith in the late nineteenth century. The political importance of the official stations was underscored by the inauguration of large and costly public-building projects."

The summer heat and humidity in India is intolerable, but the hill stations in India come to your rescue welcoming you with incredible landscapes set against stunning backdrops and a cold climate all the way through. The hill stations in India, particularly the ones in Uttarakhand and Himachal Pradesh are certainly a treat to the senses. The hill stations in India are regarded to be the best places to visit in North India because of their scenic beauty and wonderful temperatures. These hill stations in North India are preferred mostly by the people who wish to escape the scorching temperatures all over the country during the summers. Here are some of the places that are sure to astound you!

20 Must Visit Hill Stations in India – 2021

1. Manali

Regarded to be one of the best hill stations in India, Manali is a heaven for all the snow lovers. With delicate temperatures during the summers, and chilling weather during the winters, Manali is one of the peaceful places to visit in North India. There are many things to do in Manali, which is fondly known as the Valley of the Gods.



Manali, Himachal Pradesh

Whether you are an adventure and sports enthusiast or love calm and tranquil surroundings, Manali has something for everyone. Located at the northern end of the Kullu Valley, in between the mountains of Himachal Pradesh, it is the most stunning hill station that is at an altitude of 2,050m. The natural scenic beauty, culture and snow-capped mountains are sure to enthrall you and hypnotise you no end. Visiting this place will make you realise why it is termed as such a major attraction in the Himachal tour packages.

- Nearest airport: At Bhuntar (50 km)
- Must visit places: Hidimba Devi Temple, Bhrgu Lake, Pin Valley National Park, Manali Sanctuary, Vashishth Temple, Jogni Falls etc.
- Activities to do: Paragliding at Rohtang Pass, camping and winter sports at Solang Valley, river rafting at Pandoh Dam
- Best for: Families and Couples
- Known for: One of the best Hill Stations in North India, Manali has an unassailable reputation for being a backpacker's paradise at a truly romantic honeymoon destination.

2. Gulmarg, One of the popular hill stations in India

Boasting the scenic beauty of the ever-wonderful Jammu and Kashmir, Gulmarg stands on a different level among all the hill stations in North India. This beautiful hill station in India is the most sought-after place among all the travellers in India and abroad as well.



Gulmarg, Jammu and Kashmir

Set at an altitude of 2,730m, Gulmarg is a hill town that is engulfed by deep ravines, meadows, snow-capped peaks, lush hills and serene valleys. If you are not afraid to try something adventurous, you can even indulge in some skiing that is a popular winter sport here. Gulmarg carries the glory of the ever charming Jammu and Kashmir, making it one of the best hill stations in India.

- Nearest airport: At Srinagar (56 km)
- Must visit places: Khilanmarg, Alpather Lake, Gulmarg Gondola, Gulmarg Biosphere Reserve, Seven Springs, Maharani Temple etc.
- Activities to do: Skiing at Gulmarg Backcountry Ski Lounge, snowboarding at Apharwat Peak, camping at Ningle Nallah etc.
- Best for: Couples
- Known for: Fairly untouched and with supreme beauty, Gulmarg is a heavenly region in Baramulla district of the country which is most known for being a skiing hub of the state.

3. Shimla

With the hill stations in Himachal Pradesh being such beauties, why should the capital of the state be left far behind? Set against oak, deodar and pine forests, Shimla makes for one fascinating sight! While you are there, you can check out the Chadwick Falls, The Ridge, Mall Road, Christ Church and Jaku Hill.



The Ridge, Shimla, Himachal Pradesh

Shimla tourism is always at an all-time high so you get to know about the best attractions and places to stay no matter when you plan to visit.

- Nearest airport: At Chandigarh (113 km)
- Must visit places: Jakhoo temple, Kalka-Shimla railway, Rashtrapati Niwas, The Ridge, Himachal State Museum, Christ Church etc.
- Activities to do: Shopping at Mall road, hot pool bath and river rafting at Tattapani, paragliding, camping, heli-skiing at Narkanda and Kufri etc.
- Best for: Friends and Family
- Known for: This popular Hill Station in North India is best known for its amazing toy train, running between Kalka and Shimla and its many handicrafts markets.

4. Nainital

Nainital is a heaven on earth. Well recognized as the Lake District of India, it is one of the best places to beat the heat in the scorching summer.



Nanital, Uttarakhand

With ancient temples and jaw dropping sceneries to its credit, you can also check out the Jim Corbett National Park which is the oldest national park in India and indulge in exploring caves and boating activities.

- Nearest airport: Nearest domestic airport is at Pantnagar (1 hours' drive) and international at New Delhi (301 kms)
- Must visit places: Nainital Lake, Snow View, Naini Peak, Gurney House, Naina Devi Temple, Hanuman Garhi, Kainchi Dham etc.
- Activities to do: Horse trekking at Tiffin Top, camping and birdwatching at Sattal, cave exploring at Cave Garden etc.
- Best for: Couples
- Known for: A serene hilltop destination, Nainital is known especially for its beautiful lake by the same name where couple can commonly be seen enjoying a romantic boat ride.

5. Kasol – One of the most beautiful hill stations in India

The ideal backpacker's destination, Kasol is a suburb set on the banks of the river Parvati. There are many places to visit in Kasol such as the Malana Village, Parvati River and Tirthan Valley while you can also choose to sip a cuppa and laze around in this secluded heaven.



Kasol Valley, Himachal Pradesh

- Nearest airport: At Bhuntar (31 km)
- Must visit places: Gurudwara Shri Manikaran Sahib, Thakar Kuan, Kheer Ganga Peak, Raghunath Mandir, Malana Village Tirthan Valley, Parvati River etc.
- Activities to do: Trekking at Chalal Trekking Trail, bath in Manikaran Hot Water Pool etc.
- Best for: Friends and Family
- Known for: A lovely hamlet in Kullu region of India, Kasol is easily one of the Most Beautiful Hill Stations in India, which is known for its laidback charm and tranquillity.

6. Srinagar

Lying on the banks of the river Jhelum, Srinagar is certainly a beauty owing to its lovely houseboats, historic gardens, wandering rivers and impeccable climate. The place boasts of the largest tulip garden in Asia and while here, you can visit the Dachigam Wildlife Sanctuary, Dal Lake, Amarnath Cave, Wular Lake, Jama Masjid and the Mughal Gardens.



Srinagar, Jammu and Kashmir

- Nearest airport: At Buntar (31 km)
- Must visit places: Nishat Bagh, Shalimar Bagh, Shankracharya Temple, Hazratbal, Hari Parvat, Kheer Bhawani etc.
- Activities to do: Boating in Dal Lake, visit Indira Gandhi Memorial Tulip Garden etc.
- Best for: Couples
- Known for: The alluring capital of the state of J&K is most popular for the lovely Dal Lake and the mesmerizing house boats afloat on it.

7. Mussoorie, amongst must visit hill stations in India

Mussoorie is a sight to behold! Almost everyone has heard of it and it is on every traveller's wish list when exploring the top hill stations in North India. It is way up, above the mountains of Garhwal and on top of a horseshoe crest.



Mussoorie, Uttarakhand

You will certainly be in for a treat as you check out the spectacular view of the majestic Himalayas and the Doon Valley.

- Nearest airport: At Dehradun (54 km)
- Must visit places: Kempty Falls, Mussoorie Lake, K Dev Bhoomi Wax Museum, Christ Church, Bhadraj Temple, Fish Aquarium etc.
- Activities to do: Ziplining and other adventure sports at Adventure Park Mussoorie, boating and amusement rides at Company Bagh etc.
- Best for: Couples and Family
- Known for: Mussoorie is a famous weekend getaway destination from New Delhi, known for interesting attractions like The Cloud's End and The Mall.

8. Almora

If you are on a budget and looking to cut down on the costs but at the same time experience adventure and tranquility that is synonymous with hill stations, you need to head to Almora. It is the least expensive hill station in India. Set at an elevation of 1,651m, it is famous for its rich cultural heritage and spectacular views of the Himalayas.



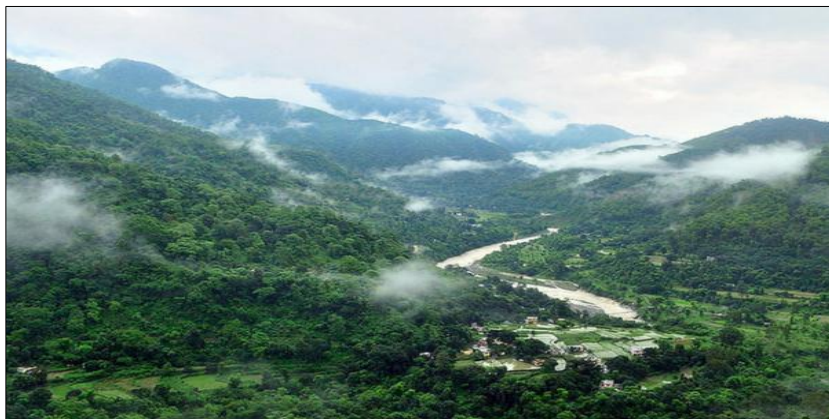
Almora, UP

While there, you can also discover the Binsar Wildlife Sanctuary, the Nanda Devi Temple, the Chitai Temple and the Almora Fort.

- Nearest airport: At Pantnagar (125 km)
- Must visit places: Binsar wildlife Sanctuary, Jageshwar, Kasar Devi Temple, Chitai Temple, Zero Point, Katarmal Sun Temple etc.
- Activities to do: Trekking at Ranikhet road or at Almora-Jageshwar, explore painted rock shelters, visit Deer Park etc.
- Best for: Family
- Known for: A small town in Uttaranchal, Almora is a placid Hill Station in North India better known for its relaxed atmosphere and enchanting natural beauty.

9. Haldwani – A lesser know yet among the best hill stations in India

If you are looking for a laid back vibe that is accompanied by panoramic views, Haldwani is the hill station for you. It comes replete with a rich culture and history. Those interested in hiking, photography and trekking will surely have a great time here.



Haldwani

- Nearest airport: At Pantnagar (35 km)
- Must visit places: Haldwani Zoo Safari, Kali Chaur temple, Dewalchour Roundabout, Gaula Barrage, Sanjya Van, Hedakham Ashram etc.
- Best for: Family
- Known for: Blessed with inviting environment, this Kumaon town is famous for its pleasant weather and rosy surroundings.

10. Palampur

Palampur is one of the most visited hill stations in Himachal Pradesh. It is home to a variety of water bodies, streams and brooks which is a reason tea plantations flourish here. You will also find many treks organised while paragliding activities are also held here.



Palampur, Himachal Pradesh

It is the ideal getaway for the summers and the deodar trees found here, which are the tallest in the country will certainly provide ample amount of shade and a cool atmosphere throughout.

- Nearest airport: Nearest domestic airport is at Gaggal (1 hours' drive) and international at Amritsar (231 km)
- Must visit places: Bundla Tea Estate, Gopalpur Zoo, Shobha Singh Art Gallery, Tea Garden, Tashi Jong Khampagar Monastery, Birni Devi Temple etc.
- Activities to do: Paragliding in Kangra Valley, picnicking at Saurabh Van Vihar etc.
- Best for: Family
- Known for: Palampur is a fantastic hill station of India which is popular for its sprawling tea estates and refreshing climate.

11. McLeodganj, Himachal Pradesh

This charming Tibetan town in the hills of Himachal is one of the Best Hill Stations in India. A small settlement in Dharamshala, another hill resort in the state, it is perfect to visit any time of the year owing to its splendid and balanced but perennially cool climate.



Sun Set Point McLeodganj, Himachal Pradesh

The laidback charm, numerous beautiful Buddhist Monasteries and gorgeous landscape of snow-draped mountains make McLeodganj the ideal choice for a great holiday surrounded by hills.

- Nearest Airport: Gaggal Airport

- Must Visit Places: Namgyal Monastery, Tibetan Museum, Tsuglagkhang and the museum located in the complex, Bhagsunath Temple and the beautiful Bhagsu Falls
- Activities to Do: Hike to the small camp at Triund, go for boat rides at Dal Lake, enjoy quiet nature walks amidst beautiful ambience, and shop at the local market for lovely beaded jewellery, Thangka paintings etc.
- Best for: Couples, adventure seekers and solo travellers
- Known for: Tibetan monasteries and abundance of natural beauty

12. Chopta, Uttarakhand

With lush greenery that turns to a breath-taking view of thick snow, Chopta is a beautiful place in India which draws hundreds and thousands of tourists to its doorsteps.



Chopta, Uttarakhand

While the winters in Chopta make possible the fantastic activity of snow trekking on its pristine slopes, the rest of the year promises a striking vista with its wide-stretching grasslands called Bugyals, making Chopta a year-round travel destination worth visiting.

- Nearest Airport: Jolly Grant Airport in Dehradun
- Must Visit Places: Tungnath Temple, Kedarnath Wild Life Sanctuary, Koteswar Temple, Koteswar Mahadev, Deoria Tal lake
- Activities to Do: Camping, trekking, rock climbing, hiking to Chandrashila, snow trekking, rappelling etc.

- Best for: Friends and solo travellers
- Known for: Snow laden slopes perfect for snow trekking and a hiking trip to the famous Tungnath temple.

13. Kalimpong, West Bengal

The quieter version of the famous hill destination in West Bengal, Darjeeling, Kalimpong is as much beautiful and nature-enriched place than its neighbour. The lush green hills sprinkled with soft white snow creates a magical view that you can only find here.



Kalimpong, West Bengal

Although there are not many Things to do in Kalimpong, the beauty of the place lies in this very fact which allows you to forget all the hassles of life and relaxes you to your very core. Ironically enough that's what makes this lovely destination a coveted addition in this list of Best Hill Stations in India.

- Nearest Airport: Bagdogra Airport
- Must Visit Places: Lepcha Museum, Durpin Dara hill, Rishi Bankim Chandra Park, Zong Dong Palri Fo Brang Gumpa, Morgan House built during the colonial times and the unique Cactus nursery.
- Activities to Do: Discover the enigmatic Buddhist culture, visit and indulge in nature photography at Neora Valley National Park, hike to Deolo hill and enjoy activities like Paragliding and horse riding, shop for lovely Tibetan handicraft items etc.

- Best for: Couples and Senior Citizens
- Known for: Peaceful surroundings, Buddhist culture and monasteries

14. Pelling, Sikkim

Pelling is a lesser known but one of the absolute Best Hill Stations in India which stands out for being a quaint hideout in the western part of scenic Sikkim. With not just spellbinding natural beauty but a fantastic cultural fiesta to boast about, the place is undoubtedly a beautiful place to escape the humdrum of everyday life.



Pelling, Sikkim

Surrounded by the snowy summits of Kanchenjunga range this small town lets you rejuvenate thoroughly, sipping a hot cup of tea and gazing at the gorgeous beauty of Pelling.

- Nearest Airport: Bagdogra Airport
- Must Visit Places: Sangachoeling Monastery, Singshore bridge, Pemayangtse Monastery, Rimbi Waterfall, Kanchenjunga Waterfall, Kanchenjunga National Park etc.
- Activities to Do: Hike to the nearby village of Darpa, have a picnic at Sewaro Rock Garden, attend Maghe Purne Festival celebrated at the delightful Khecheopalri Lake, explore the verdant meadows of Kaluk village etc.
- Best for: Families and Friends
- Known for: Buddhist culture, monasteries and peaceful environs

15. Shillong, Meghalaya

An inimitable hill station in India, Shillong is the capital city of Meghalaya and identified for its scintillating views of hill and sweet smelling flowers found everywhere. The picturesque vista of lush hills, waterfalls and misty vantage points render this place nothing less than a paradise on earth.



Shillong, Meghalaya

Along with the scenic natural beauty, Shillong also features charming colonial buildings which further accentuate the delights of this quaint hill resort of North-East India.

- Nearest Airport: Shillong Airport in Umroi
- Must Visit Places: Umiam lake, Shillong Peak, All Saint's Cathedral, Lady Hydari Park, Elephant Falls, Don Bosco Museum and Sweet Falls
- Activities to Do: Go for a pleasing boat ride at the beautiful Ward's Lake, enjoy myriad water sports at Umiam lake, trek at David Scott Trail, shop for local fruits, vegetables and exciting handicraft items at Bara Bazaar, and enjoy live jazz performances at Café Shillong
- Best for : Solo Travellers and Friends
- Known for: Scenic natural beauty, youth culture, colonial buildings etc.

16. Mahabaleshwar, Maharashtra

One of the Best Hill Stations in India and a highly popular one too, Mahabaleshwar is a treasured destination of Maharashtra. It is known for the

enchancing views of Sahyadri Ranges, cool climate and the dazzling sunrises and sunsets as seen from various winsome points in the region.



Mahabaleshwar, Maharashtra

Packing, both scenic splendour and myriad opportunities for thrilling adventure sports, the resort makes for a beautiful getaway destination in the west.

- Nearest Airport: Pune
- Must Visit Places: Pratapgarh Fort, Mahabaleshwar Temple, Wilson Point, Babington Point, Rajpuri Caves, Elephant's Head Point etc.
- Activities to Do: Take a romantic boat ride at Venna Lake, go for jungle trekking and nature walks in Tapola, hike up to Lingmala Falls, relish fresh strawberry ice-cream at Mapro Garden, enjoy a picnic at Connaught Point, try activities like horse riding, paragliding etc.
- Best for: Couples and Friends
- Known for: Being an excellent weekend getaway spot near Mumbai and Pune, with the abundance of scenic beauty, possibilities of adventures and yummy strawberries

17. Coorg, Karnataka

With a sobriquet like 'Scotland of East', Coorg's beauty and charisma do not need an introduction. The thick blankets of greenery spread all around, and sparkling blue skies make this place a genuinely scintillating hill station which attracts people from all over the country and beyond.



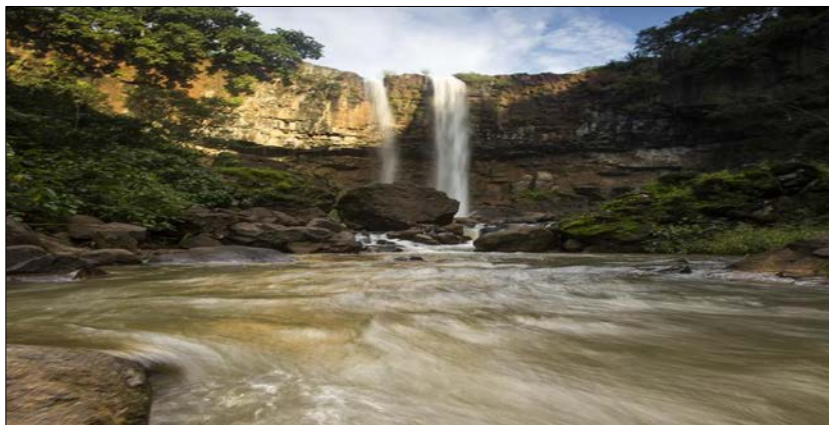
Coorg, Karnataka

It is also well-known for its aromatic coffee, delicious food and plentiful wildlife which impart it a unique magnetism pulling nature lovers, photographers and food connoisseurs with equal force.

- Nearest Airport: Mysore
- Must Visit Places: Namdroling Monastery or Golden Temple, Abbey Falls, Raja's Seat, Iruppu Falls, Nagarahole Wild Life Sanctuary, Madikeri, Talakaveri etc.
- Activities to Do: Have fun bathing elephants at Dubare Elephant Camp, trek through Tadiandamol, Mullayanagiri, Kodachadri or Brahmagiri, enjoy a hearty meal of Coorg special Pandi Curry with Akki Roti, take a relaxing walk through a coffee plantation, and enjoy activities like camping, fishing and river rafting etc.
- Best for: Couples
- Known for: Coffee plantations and misty mountains

18. Amarkantak, Madhya Pradesh

A popular religious destination cum hill resort in Madhya Pradesh, Amarkantak is among the Best Hill Stations in India which offer much more than just spectacular views hills. The sacred hill town is perched upon the union point of Vindhya and Satpura ranges and is the home of the holy river of Narmada.



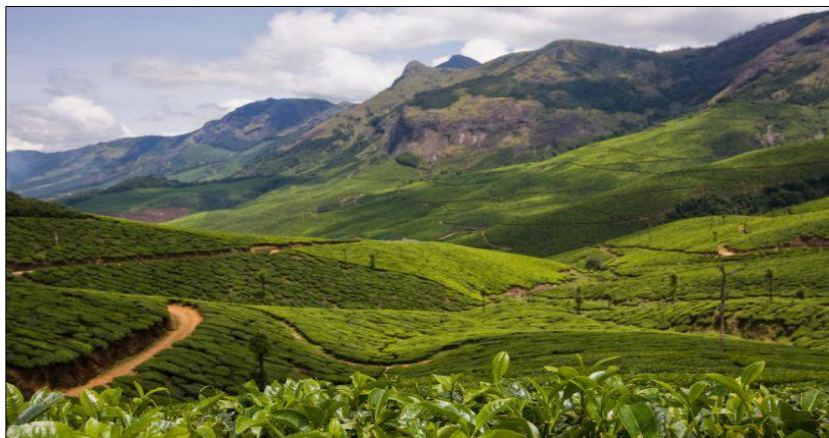
Amarkantak, Madhya Pradesh

Apart from ancient temples and splendid vistas of the mountain ranges, the place is also famous for its humongous array of flora and fauna, especially medicinal plants that grow here in abundance.

- Nearest Airport: Jabalpur
- Must Visit Places: Narmadakund, Kapil Dhara falls, Trimukhi Temple etc.
- Activities to Do: Explore the ancient temple of Kalachuri, take a calming nature walk in Mai ki Bagiya or Mother's Garden, discover the various medicinal plants grown in its woods, and witness the incredible natural beauty of Amarkantak
- Best for: Senior Citizens and Families
- Known for: Ancient temples and medicinal plants

19. Munnar, Kerala

The rolling hills of Munnar in Kerala have always provided people with the ultimate haven for achieving utter bliss and respite. Blessed with vast stretches of tea and spice plantations, magnificent wildlife and exhaustive natural beauty at every corner, Munnar undoubtedly lies among the top Best Hill Stations in India.



Munnar, Kerala

Sought by romantics and honeymooners in large number every year the place doesn't just appease you with its natural magnificence but also with productive activities that you can enjoy here including trekking, yoga, Ayurvedic spa treatments, food trails and shopping.

- Nearest Airport: Cochin
- Must Visit Places: Tea gardens along Kolukkumalai Hills, Echo Point, Attukal Waterfalls, Top Station, Kundala Lake, Tata Tea Museum, Matupetty Dam etc.
- Activities to Do: Birdwatching at Thekkady Bird Sanctuary, wildlife spotting at Eravikulam National Park, enjoy mountain biking at Anamudi Shola or Vandanmedu areas, have a picnic at Lakkam Waterfalls, rock climbing, rappelling etc.
- Best for: Couples
- Known for: Tea and spice plantations

20. Kodaikanal, Tamil Nadu

Another magnificent hill station in South India, Kodaikanal is often heralded as the 'princess of hill stations' and for every good reason. With panoramic views of the velvety green hills spread all around and numerous beautiful locations to enjoy the coruscating vistas of its bewitching natural beauty, Kodaikanal deserves the title.



Kodaikanal, Tamil Nadu

The tranquil atmosphere permeating in its air is just a bonus which makes this place one of the top choices for travel destinations in the country, for a restful vacation in the hills.

- Nearest Airport: Madurai
- Must Visit Places: Silver Cascade waterfall, Wax Museum, Dolphin's nose, Bryant Park, Kodaikanal Solar Observatory, Kuringi Andavar Murugan temple, Green Valley view, Shenbaganur Museum, Perumal peak, Kookal caves etc.
- Activities to Do: Enjoy boating at Kodaikanal Lake, hike to Pillar Rocks for excellent views, take a relaxing nature walk in Pine trees encrusted forests, go bicycling or strolling at Coakers Walk, indulge in nature photography at Thalayar Falls etc.
- Best for: Families and Friends
- Known for: Sprawling lush hills, wildlife and Neelakurinji flowers

There are many Hill Stations in India and among those these twenty bag the most accolades. Not that the others are any less, only these Hill Stations located in India, are way too good for any other to beat them. Maybe to find your inner peace or kindle some romance, these are perfect for every reason and every excuse whatsoever for the ideal break from the city life! So, what are you waiting for? Simply grab your backpack and set out for these Most Beautiful Hill Stations in India.

Chapter - 8

Deserts and Coastal Areas of India

Deserts areas of India

Deserts in India offer some of the most spectacular landscapes, full of visual inspirations. From the vast expanse of the Thar Desert to the incredible cold desert of Ladakh, India packs an assortment of desert destinations for intrepid travelers. The Thar Desert, also known as the Great Indian Desert, is the 17th largest desert on earth. A major part of the Thar Desert is in Rajasthan. As it extends into Gujarat, the golden sand desert transforms into a dazzling white salt desert. The northern region of the country also boasts some astonishing desert terrains. Nestled high in the Himalayas, Spiti Valley in Himachal Pradesh and Ladakh are known as cold deserts. Both the places don't get much rain due to their position on the leeward side of the Himalayas.

7 Most Fascinating Deserts in India

Sr, No.	Place	Situated in	Desert Type
1	Jaisalmer	Thar Desert	Hot and Dry
2	Bikaner	Thar Desert	Hot and Dry
3	Jodhpur	Thar Desert	Hot and Dry
4	Great Rann of Kutch	Thar Desert	Salt Marsh
5	Little Rann of Kutch	Thar Desert	Salt Marsh
6	Ladakh	Himalayas	Cold Desert
7	Spiti Valley	Himalayas	Cold Desert

1. Jaisalmer

In the middle of the Thar Desert, about 575 km from Jaipur, lies a city proudly flaunting its golden facade. That's none other than Jaisalmer in Rajasthan.



Jaisalmer, Rajasthan

Most of the structures, from palaces to temples to houses in the city are made of yellow sandstone. Even the surrounding desert is adorned with sparkling golden sand. So, this medieval city has earned the sobriquet of the “Golden City”. It is named after Rawal Jaisal, then Maharaja of the region who founded this city in the 12th century. Sand dunes, near Jaisalmer, are a major draw for travelers here. Nearly 40 km away from the city, Sam Sand Dunes is popular for its desert safari experiences.

Explore the vastness of the Thar desert on a jeep or on a camel’s back. You can do this as a day excursion from Jaisalmer or camp overnight in a mud cottage or a Swiss tent. A night stay in the dunes offers opportunities to delve into the fascinating beauty of the desert. Enjoy a gorgeous sunset and a bonfire under the star-studded sky during the night. A side from the dunes, you can visit the majestic Jaisalmer Fort which is one of the oldest forts in Rajasthan. A UNESCO World Heritage site, it is massive and India’s only living fort. In addition to palaces, the fort has temples, houses and shops inside it.



Jaisalmer Fort, Rajasthan

Who can believe, this arid land also nurtures wildlife. Desert National Park, situated some 42 km from Jaisalmer is birdwatchers' paradise. The major attraction of the park is the Great Indian Bustard, a critically endangered bird. It is one of the best deserts in India to explore unique desert wildlife. Chinkara, also known as the Indian Gazelle is a commonly sighted animal in this national park. You may also spot desert fox, hedgehog, desert cat and wolf.

Jaisalmer is well-connected by road with many cities of Rajasthan and Gujarat by state transport and private buses. The nearest airport is located in Jodhpur, almost 280 km away from Jaisalmer. From Jodhpur Airport, it is a 5-hour drive. Jaisalmer Railway Station is the nearest railhead that has direct trains from cities like Jaipur and Delhi.

Where to stay in Jaisalmer

Jaisalmer Marriott Resort & Spa is one of the best hotels in the town. From delectable food to the upkeep of rooms, this hotel offers excellent hospitality. Among the mid-range hotels, Hotel Golden Haveli is a wonderful choice.

2. Bikaner

Bikaner derives its name from Rao Bikaji, a Rathore King who established this city in 1488. Aptly called the "Camel City", Bikaner offers a truly grandiose experience of sandy deserts in India. It lies some 330 km from Jaipur amid the undulating sandhills of the Thar desert.



Sand Dunes Near Bikaner

The city is renowned for its red sandstone forts, beautiful desert vistas and unforgettable camel safari experiences. Junagarh Fort is one of the most imposing edifices in the city that is constructed in red sandstone and marble. It was built in the late 16th century by Raja Rai Singh, the sixth ruler of Bikaner. Sprawling over 5 hectares, the fort is dotted with beautiful palaces, temples and courtyards.



Chinkara

Many palaces in the city, the likes of Laxmi Niwas Palace, now serve as heritage hotels offering a royal stay to the guests. A major highlight of the Bikaner trip is camel safari. It should be done preferably in the evening so that you don't miss the colourful desert sunset of Bikaner. The desert city

also boasts of one of a kind camel farm which is apparently a camel research and breeding center. Known as National Research Centre on Camel, it is managed by the Government of India. Here, you can relish a lot of sweet delicacies prepared from camel milk. Besides the grandeur of the city, explore the diversity of wildlife in Gajner Wildlife Sanctuary.

Approximately 32 km from the city, this sanctuary is home to chinkara, blackbuck, nilgai, desert fox and a variety of birds. Flocks of imperial sandgrouses are a common sight in the sanctuary. Bikaner has excellent road connectivity with all neighbouring cities. There are regular buses to Bikaner from Jodhpur, Delhi and Ahmedabad. Bikaner Railway Station has direct trains from metro cities like Mumbai and Delhi. It doesn't have an airport. By flight, you can arrive in Jodhpur (250 km). And then take a cab or a bus for the onward journey to Bikaner.

Where to stay in Bikaner

Karni Bhawan Palace is a good mid-priced hotel in Bikaner. It is a well-maintained heritage property that once served as a guesthouse for the royal guests. Among the budget hotels, Tanisha Heritage Haweli is an excellent option. It is a guesthouse with a homely ambiance. For those looking for a lavish stay in Jaisalmer, Narendra Bhawan Bikaner and The Laxmi Niwas Palace are nice heritage properties. These hotels were royal residences of the then king of Bikaner State.

3. Jodhpur

Nicknamed as the "Blue City", Jodhpur really appears draped in a sheet of blue. An aerial view of the city from the mighty Mehrangarh Fort is simply breathtaking. The city gets its name from its founder Rao Jodha, a former ruler of the present-day Rajasthan State.

Overlooking the old city, Mehrangarh Fort is an iconic landmark of Jodhpur. The expanse of modern Jodhpur city is well beyond the fort walls. However, the panoramic blue-blanketed landscape of the old city never fails to impress the onlookers. Jaswant Thada is another noted monument to visit in the city. A finely carved white marble memorial, Jaswant Thada was built by Maharaja Sardar Singh of Jodhpur as a tribute to his father Maharaja Jaswant Singh II. For a desert safari experience, you can visit Osian which lies nearly 65 km away from Jodhpur. Ruins of ancient temples are an added attraction of Osian town.

Jodhpur is one of the most popular deserts in India where tourists flock from October to March as the weather turns pleasant.



Jodhpur-Blue City of India

The best way to reach Jodhpur from Mumbai and Delhi is by flight. Jodhpur is well connected by trains from metro cities. It has excellent road connectivity with other neighbouring cities and towns.

Where to stay in Jodhpur

From the most luxurious to mid-range to affordable, Jodhpur offers a range of lodging options. Zostel Jodhpur is a great place to stay for solo travelers and backpackers. You can see stunning views of the famous Mehrangarh Fort from here. Hotel Ratan Vilas is a fabulous choice among the mid-priced hotels. If you want to experience truly royal living and your pocket supports, then Umaid Bhawan Palace is an amazing choice. It is one of the most luxurious hotels in Jodhpur.

4. Great Rann of Kutch

Acclaimed as India's largest salt plain, the Great Rann of Kutch forms a part of Kutch district in Gujarat. It is popularly referred to as Rann of Kutch which is a slight misnomer.

The Rann of Kutch in fact comprises two deserts. Spread over 7500 sq km, the larger one is the Great Rann of Kutch. And its adjacent, relatively smaller salt desert is called the Little Rann of Kutch. During monsoon, the



Great Rann – One of the Splendid Deserts in India

Great Rann is awash from heavy rains. As the floodwater recedes after the rainy season, the area begins to dry leaving a salty marshland. The Great Rann is abuzz with tourists from October to March, which is the best season to visit this white salt desert. With the onset of the festive season in December, it turns into one of the most vibrant deserts in India. A lavish spectacle of music and folk dance, Rann Utsav (festival) is celebrated from December to February. It is one of the major attractions of the Great Rann that draws hordes of travelers from all over the world.

The actual dates are announced by the government every year. So, you should check the dates on the Rann Utsav website before planning a trip. The festival is organised in a village called Dhordo. Bhuj, roughly 80 km away from Dhordo, is the nearest railhead. A domestic airport in Bhuj connects it to Mumbai. From Bhuj Airport, it is a 2-hour drive to Dhordo.

Where to stay near great Rann

The Tent City is one of the fantastic places to stay near Great Rann if one can afford it. It comprises tented cottages that offer a comfortable stay. However, this is not the only option. There are a few other mid-priced resorts next to White Rann. You can check Gateway to Rann Resort which is located in Dhordo village.

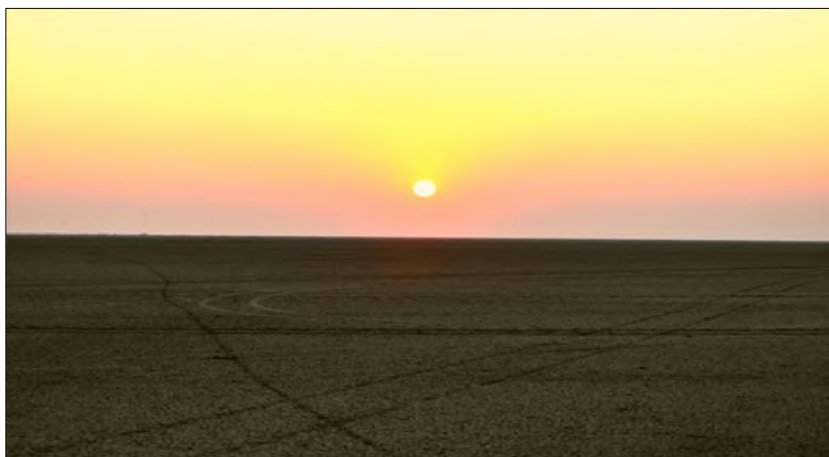
5. Little Rann of Kutch

I would call it the lesser-known cousin of the Great Rann. A wide stretch of barren land dappled with patches of swamp and thorny bushes, Little Rann of Kutch is one of the most unique deserts in India.



Little Rann

It lies nearly 170 km away from Ahmedabad in Kutch district of Gujarat. Sprawling 4,954 sq km, the Little Rann is home to one of India's largest wildlife Sanctuaries, the Wild Ass Sanctuary. It boasts some of the rare wildlife, like wild ass and short-eared owl.



Sunset in One of the Most Surreal Deserts in India – Little Rann

In addition, Little Rann attracts a large number of migratory birds, including flamingos and demoiselle cranes. So, it is rightly known as birdwatchers' heaven. Evening safari in the Little Rann offers astounding views of a tranquil sunset in the desert.

The Little Rann is accessible by road from Ahmedabad, which houses the nearest airport and railway station to reach here.

Where to Stay Near Little Rann

You can stay in Dasada or Zainabad which are nearby villages to the Little Rann. Rann Riders is an amazing resort in Dasada if you are visiting the Little Rann. Their hospitality is superb.

6. Ladakh

In the far northern region of India lies the land of high mountain passes, Ladakh. “La” means passes and “Dakh” means many in the local language. So, Ladakh derives its name from the high-altitude passes. With its arid mountains, glacial lakes and sinuous trails, Ladakh is home to some of the breathtaking landscapes. It is one of the magnificent cold deserts in India that you will fall in love with. In the far northern region of India lies the land of high mountain passes, Ladakh. “La” means passes and “Dakh” means many in the local language.



Ladakh – One of the Most Scenic Deserts in India

So, Ladakh derives its name from the high-altitude passes. With its arid mountains, glacial lakes and sinuous trails, Ladakh is home to some of the breathtaking landscapes. It is one of the magnificent cold deserts in India that you will fall in love with. Here, you can visit Khardung La and soak in the stunning vistas of the surroundings. At 5,602 m, Khardung La is the highest motorable pass in the world. This barren and beautiful land houses numerous Buddhist monasteries.

Summer season spanning May to August is the best time to visit Ladakh when the weather is warm and sunny. In winters, Ladakh gets wrapped in a thick blanket of snow and the mercury drops below zero degrees. The nearest airport is in Leh with direct flight connectivity from Delhi and Srinagar. Ladakh is reachable from Leh by road via two routes, Leh-Srinagar highway (434 km) and Leh-Manali highway (490 km).

Where to Stay In Leh-Ladakh

The Grand Dragon Ladakh and Gomang Boutique Hotel are some of the best hotels in Leh. For budget-conscious travelers, Shaolin guesthouse is a nice place to stay in the vicinity of the city center.

7. Spiti valley

Encompassed by lofty mountain ranges, Spiti Valley is a high-altitude desert in Himachal Pradesh. It is blessed with prolific scenic beauty. Quaint villages, towering mountains with sparse vegetation, deep gorges and glacial streams, the surreal appearance of Spiti Valley is impressive.



Kye Gumpa (Monastery) in Spiti Valley

This cold desert mountain valley is a noted religious center for Buddhism. It contains some of the most ancient Buddhist monasteries in the world. Tabo Monastery and Kye Gumpa (Ki Monastery) are the two most famous monasteries in the valley. Founded in the tenth century, Tabo Monastery is considered the oldest monastery in the valley.

The biggest monastery of Spiti Valley, Kye Gumpa is perched on a hill at 13,668 ft (4,166 m) height. From the hilltop, Key Monastery offers splendid views of the valley and the Spiti River.

A visit to Chandra Taal, Dhankar Lake, Langza Village and the Kibber Wildlife Sanctuary is a must when in Spiti Valley. The major highlight of Langza Village is an incredible, lifelike statue of Lord Buddha, overlooking the valley.



Buddha Statue in Langza Village

As India's snow leopard habitat, Kibber Wildlife Sanctuary attracts wildlife lovers from around the globe. It is indeed one of the best cold deserts in India for adventure seekers and wildlife explorers.

Kaza town is the gateway to Spiti Valley. It is accessible from Manali (197 km) and Shimla (414 km) by road. During heavy snowfall, the Manali route is shut. However, the Shimla route via Kinnaur is open year-round barring some exceptional situations like landslides.

Where to stay in spiti valley

Spiti Village Resort is a fabulous eco-resort in Kaza town. It is located in a serene locality in proximity to Kaza Market. Hotel Deyzor is another good option in Kaza with a nice in-house restaurant.

9.2 Coastal areas of India

India has a very long coastline, and it measures about 7,516.6 km bordering the mainland and the islands with the Bay of Bengal in the East, the Indian Ocean on the South and the Arabian Sea on the West. The coastline is distributed among nine states and four union territories (UTs). Among the states, Gujarat has the longest coastline and among the UTs, Andaman and Nicobar Islands has the longest coastline.

- The coastal environment plays a vital role in a nation's economy by virtue of the resources, productive habitats and rich biodiversity.
- The coastal zone is also endowed with a wide range of coastal ecosystems like mangroves, coral reefs, seagrasses, salt marshes, dunes, estuaries, lagoons, etc.
- The coastal areas are assuming greater importance in recent years, owing to the increasing human population, urbanization and accelerated developmental activities.
- As per Census 2011, the coastal districts have a share of about 15.5% (nearly 18.8 crores) of the national population and about 4.4 lakh people reside in the Island territories.
- There are 13 major ports in India.



Number of Indian Coastal States and Union Territories

There are nine states and four Union Territories of India situated on the coast.

Nine Coastal States of India

1. Gujarat
2. Maharashtra
3. Goa
4. Karnataka
5. Kerala
6. Tamil Nadu
7. Andhra Pradesh
8. Odisha
9. West Bengal

Four Union Territories

1. Daman & Diu
2. Puducherry
3. Andaman & Nicobar Islands (Bay of Bengal)
4. Lakshadweep Islands (Arabian Sea)

Length of the coastline of India – State –Wise/UT-Wise

The length of Indian coastline, including islands, in States and UTs are given in the following table:

Length of the Coastline of India	
State/UT	Length (in Km)
Gujarat	1214.7
Andhra Pradesh	973.7
Tamil Nadu	906.9
Maharashtra	652.6
Kerala	569.7
Odisha	476.4
Karnataka	280
West Bengal	157.5
Goa	101
Andaman & Nicobar Islands	1962
Lakshadweep	132

Puducherry	47.6
Daman & Diu	42.5
Total	7,516.6

Chapter - 9

Islands of India

Island Tourism

Tourism to islands is a special form of tourism that often requires specific consideration as there are distinctive characteristics of islands such as fragile environments and historical and socio-cultural aspects that can result in unique challenges to developing a successful tourism destination. De-stress your mind and body. The sight of the sea is like meditation - it relaxes your mind and body. You feel rejuvenated and fresh. According to studies, the sound of the waves calms your soul and the healthy vibes of the island revitalize your heart, brain, and other organs.

Developing Island Tourism in India

India's maritime potential is huge and unexplored. The country has a 7516 km coastline, a 23 lakh sq. km Exclusive Economic Zone (EEZ), and 1382 offshore Islands and islets. A majority of these islands lie in Andaman & Nicobar and Lakshadweep. The Andaman & Nicobar Islands float in splendid isolation in the Bay of Bengal. The picturesque undulating islands and islets are covered with rain-fed, damp and evergreen forests, endless varieties of exotic flora and fauna and have pristine beaches. These islands also host historically significant landmarks namely Cellular jail, Netaji Subhash Chandra Bose Island, Viper Island, Hopetown and Mount Harriet.



The islands have been declared as two of the 218 Endemic Bird Areas of the world having more than 270 species and sub-species of birds. The islands have 96 wildlife sanctuaries, nine national parks and a biosphere reserve. Andaman & Nicobar Islands is indeed an ideal destination for lovers of island tourism, beaches, ecotourism, wildlife and history.

Lakshadweep, on the other hand, is one of the world's most spectacular tropical island systems offering a precious heritage of ecology and culture. The unique features of the islands are its coral reef and a huge area of lagoon spread over 36 islands that offer excellent potential for water sports like swimming, wind surfing, diving, snorkeling and kayaking.

The islands of Andaman & Nicobar and Lakshadweep have a strategic advantage for being developed into exotic destinations. With Andaman & Nicobar Islands having proximity to established tourist destinations of South East Asia namely Bangkok, Phuket, Singapore and with Lakshadweep close to Maldives, Colombo and Dubai, the islands have a huge potential to emerge as one of the leading island tourism destinations in the world.

India, today, receives more than 10 million foreign tourists every year. As per India Tourism Statistics Report around 62 per cent of the total Foreign Tourist Arrivals come for leisure, holiday and recreation. Andaman & Nicobar and Lakshadweep islands can be promoted as a new destination for leisure holiday and recreation to global tourists.

16 Beautiful Islands in India

There are so many beautiful islands in India to savour some of the most life-altering wonderful experiences of nature. So, without further ado here's a list of some of the extremely beautiful islands of India, far away from the tourist crowd. Take a look!

1. **Majuli Island** – Experience The Biggest River Islands
 2. **Diu Island** – Witness The Magic of Serenity
 3. **Divar Island** – Island of Untouched Lively Culture
 4. **St Mary's Islands** – Eye-witness The Cluster of 4 Islands
 5. **Little Andaman Island** – The Most Stunning Islands in India
 6. **Lakshadweep Islands** – Relieve Your Stress
 7. **Barren Island** – Get Ready to Amaze
 8. **Grand Island** – Adore Water Sports to The Fullest
 9. **Great Nicobar Island** – Encounter The Largest Island in India
 10. **Havelock Island** – Seizure The Picturesque Landscape
 11. **Agatti Island** – Sense The Amazing Islands
 12. **Neil Island** – Feel The Exotic Beauty
 13. **Kadmat Island** – Capture The Exquisiteness
 14. **Pamban Island** – Rejuvenate Your Mind
 15. **Munroe Island, Kerala** – Enthral Your Senses
 16. **Netrani Island, Karnataka** – Get Mesmerize with The Beauty
1. **Majuli Island-Experience The Biggest River Islands**

Majuli Island is the one of the biggest river islands in the world and subsequently in India. The most unique of all the islands in India, this place is famous for its breath-taking sunrises and stunning sunsets. You will get a fair taste of Assamese culture here. Out of all the islands of India, this one is the most unconventional one. You will find moss instead of sand on its coast and traditional northeastern cuisine instead of seafood. However, it will prove to be an experience worth all the travel.



Best Time to Visit: October-December

How to reach: Take boat ride from Jorhat which is fairly connected through airways to Guwahati. There are two ferries – one leaves at 10 am and the other at 3 pm.

Places to see: 21 Satras and Mishing Village

Where to stay: La Maison de Anand, Yggdrasill Bamboo Cottage or government accommodations.

Things to do: Rent a motorcycle to explore the island. Try your hand at local meshing and mask making.

Tips: Witness the beauty of the biggest island and incorporate this in your itinerary if you are visiting Guwahati.

2. Diu Island – Witness the Magic of Serenity

This small island of India has traces of Portuguese culture infused in it. The architectural beauty and serenity can stun you to a surreal world. The exquisite beaches and tropical sea-food with a dash of Gujarati influence, will make it a notch different from other islands in India. And the best part, alcohol is legal here, unlike in Gujarat!



Best time to visit: October – January.

How to reach: Diu can be reached by airways and roadways from most major Indian cities. However, it does not have a railway station.

Places to see: Diu Fort, Gangeshwar Temple, Seashell Museum and St Paul's Church.

Where to stay: Sugati Beach Resort, Kostamar Beach Resort, and Krishna Park Resort. Most of the high end resorts are located near Nagoa Beach.

Things to do: Rent a scooter or a bike to enjoy the locale to the fullest.

Tips: Enjoy the beauty of Diu Island by a Scotty ride or a bike ride and enjoy some of the drinks with your friends.

3. Divar Island – Island of Untouched Lively Culture

One of the untouched islands in India, Divar Island lies about 10 km upstream from Panjim, Goa. It is situated across the bustling river of Mandovi, and has retained the lively culture and countryside feel of Goa.



Best time to visit: Mid-November – Mid-February

How to reach: 10 mins ferry ride from Viceroy's Arch in Old Goa

What to see: Our Lady of Compassion Church, Shree Ganesh Sateri Temple, European Houses and Portuguese landmarks.

Where to stay: Divar Island Retreat Guest House

Things to do: Just for your info, Dil Chahta Hai was also shot here. So, you can recreate some of your favorite scenes from that movie here.

Tips: Don't miss out on taking beautiful pictures out here as you will get the same view as in the movie Dil Chahta Hai.

4. St Mary's Islands – Eye-witness The Cluster Of 4 Islands

St Mary's is a set of four small islands in India. Quite similarly to Giant's Causeway in Ireland, these islands are famous for their basaltic rock formations cut into a peculiar hexagonal shape. The rocky beach and clear blue water make these islands a must visit. This island in India is still unknown to a large number of people.



Best time to visit: December – January

How to reach: Only way to reach this island is to take a boat from Malpe, Karnataka. The ride is roughly 15 mins and costs about Rs500 for a round trip.

Places to see: Coconut gardens and basaltic rock formations.

Where to stay: Unfortunately there are no accommodation facilities on this empty island in India. However, you can make your arrangements on the Malpe, nothing like it.

Things to do: A few selfies and group pictures on this extraordinary rock formations are requisite.

Tip: Carry your own food and beverage since there is no refreshment facility available on the islands.

5. Little Andaman Island – The Most Stunning Islands in India

Little Andaman Island is one of the offbeat destinations in Andaman Islands. Not heavily crowded, this place has some really alluring beaches and is one of the best Indian islands. It is one of the most beautiful islands in



India, and perfect for those who love nature in its raw form. For a budgeteer, this is the perfect island in India for honeymoon. It would not be a conventional one, but a memorable one, nonetheless.

Best time to visit: December – February

How to reach: It's a little more than a day's voyage by ship from Port Blair.

Places to see: White surf waterfalls, Whisper wave waterfalls, Hut bay and Coral reefs on the east of the island

Where to stay: Jina Resort and Blue View

Things to do: Surfing on some fabulously high waves is the top thing to do in this best island in India.

Tips: For all the nature lovers and enthusiasts it's a treat to witness the beauty of the Island.

6. Lakshadweep Islands – Relieve Your Stress

Beautiful Lakshadweep Islands is a set of 36 palm-laden coral islands. This group is the smallest island in India. The extraordinary beauty and fairly untouched environment can beat any amount of stress that you had prior to your visit. It is one of the amazing islands in Indian Ocean.



Best time to visit: October – May

How to reach: This set of islands in India has good connectivity through airways and seaways.

Places to see: Kavaratti Island Marine Aquarium, Minicoy Island and Agatti Island

Where to stay: Coral Beach Resort or Island Holiday Home

Things to do: Scuba diving at Kavaratti and Kadmat

Tips: Carry a camera to conquer and capture the beauty of the most mesmerizing islands of India.

7. Barren Island – Get Ready To Amaze

Barren Island, the most easterly island of Andaman, is the only active volcanic island of India and also of South Asia. The astonishing beauty and lava rocks on this beautiful island makes it one of the most fascinating islands of India and will certainly take you through a memorable journey. One of the most pristine Indian islands, the sad part is that landing ashore is prohibited. You are only allowed to circle around the island in a board vessel.



Best time to visit: February – May

How to reach: Ships sail from Port Blair on Tuesdays, Thursdays and Saturdays. Or take a seaplane from Port Blair. You need a minimum of 7 passengers.

Places to see: Kaala pathar beach, Radhanagar beach, Elephanta beach

Where to stay: True to its name, the island is inhabited. And there are no accommodations available there. However, you can book your retreat on Port Blair.

Things to do: Diving and barefoot scuba on your day trip to Barren Island

Note: A special Inner Line Permit (ILP) is required from the Forest Department.

8. Grand Island-Adore Water Sports To The Fullest

The best place for diving and snorkeling near Goa is the Grand Island. It is famous for its exceptional scuba diving sites. The exquisite beauty and unlitteed beaches will add to your experience.



How to reach: A ferry ride will take 20-40 min from Goa depending on the departure point. It can be arranged by your resort.

Popular Attractions: Suzy's Wreck dive, Shelter Cove dive, Bounty Bay dive, Sail Rock dive, Spice plantation and Dolphin points.

Where to stay: This island is open just for a day trip of 8 hours. There are no accommodation facilities available.

Best time to visit: October – May.

Things to do: Ship-wreck scuba diving and bait-fishing.

Tip: Since the island is used as a base for Indian Navy, there might be chances that the entry is closed due to training exercises. Check with your hotel in Goa for the information before setting your plan.

9. Great Nicobar Island - Encounter The Largest Island in India

The Great Nicobar Island is the largest island in India and also one of the most beautiful of Indian Ocean islands. Its crystal clear water will tempt you to take a dip and let go of your inhibitions. Amazing flora and fauna of this place makes it a small world of its own. One of the best islands in India, this place is perfect for a small vacation with your family or your spouse.



Best time to visit: February – June

How to reach: Boats and helicopters are available from Port Blair.

Places to see: Indira Point, Campbell Bay, Great Nicobar Biosphere Reserve

Where to stay: Silver Sand Havelock, Anugama Resort, and Aashiaanaa Residency Inn

Things to do: Lazy dipping and floating on the serene coasts

Tips: Be daring enough to witness the crystal-clear waters of the amazing Island.

10. Havelock Island – Seizure The Picturesque Landscape

The list is incomplete without adding the best island in India- Havelock Island, which is also the largest island in Andaman. Known for its picturesque beaches and alluring scenery, Havelock Island is one of the most beautiful islands in India to visit. There is so much to do and see on this island which is why it is famous among honeymooners and families. FYI, it is also one of the best coral islands in India. This Island offers its tourists one of the most fun-filled Scuba diving in India considering all the activities that can be done in the Islands.



Best time to visit: February – June

How to reach: Take an air-conditioned ferry from Port Blair which takes 90 minutes to reach.

Places to see: Radhanagar beach, Kalapathar Beach, Elephant Beach

Where to stay: Symphony Palms Beach Resort, Havelock Nagri Resort, Barefoot at Havelock

Things to do: Scuba diving, exploring coral reefs

Tips: If you are planning to take a break with your spouse then you must visit this beautiful island in India.

Private Islands for Honeymoon

Beaches are often popular for its romantic significance and when it comes to plan a trip for honeymoon, the beaches in India amuses the new bees who want to make their honeymoon memorable for lifetime. Following list of beaches, will give you an idea about best known beaches in India that are considered to be the top honeymoon destinations in India.

11. Aggati Island – Sense the Amazing Islands

What makes Aggati Island one of the best islands in India Ocean is its calm lagoons, coral reefs, and white sand beaches. If you want a perfect island getaway, head to this island in Lakshwadeep archipelago. The breathtaking island is located in Agatti atoll where you can explore amazing corals.



Best time to visit: October-May

How to reach: Take a ferry from Cochin.

Places to see: Tinnakara Island, Bangaram Island

Where to stay: Agatti Island Beach Resort, Tinnakara Tent Houses

Things to do: Explore coral reefs, swimming

Tips: Must watch the beautiful view of corals and white sandy beaches which are a treat for eyes.

12. Neil Island – Feel the Exotic Beauty

Located between Havelock and Rose Islands, Neil island is another of the islands in Indian Ocean that you may wish to visit. The romantic aura brewing in its air, positions this serene island as one of the most exotic honeymoon destinations in the world. It lures a huge crowd of both domestic and international tourists because of its charming coral reefs teeming with tropical fish. Get an exotic vibe on your tropical holiday on Neil Island.



Best time to visit: October-February

How to reach: Take a ferry from Port Blair or Havelock.

Places to see: Sitapur Beach, Lakshamanpur Beach, Bharatpur Beach

Where to stay: Summer Sands Beach Resort, Pearl Park Beach Resort

Things to do: Beach hopping, watersports

Tips: Don't miss out on watching the charming coral reefs along with the tropical fishes which is a spectacular view.

13. Kadmat Island – Capture the Exquisiteness

Another island in the kitty of Lakshwadeep, Kadmat island will greet you with the scenic views of the ocean. Also known as Cardamom Island, it is one of the most beautiful islands in Indian Ocean that offers you a remote island experience. You simply cannot afford to miss it on your Lakshwadeep tour. The place is famous for its marine turtles and myriad water activities it has to offer.



Best time to visit: October-May

How to reach: Take a ferry from Agatti Island. It is where the nearest airport is.

Places to see: Mohiyudeen mosque, Golden Jubilee Museum

Where to stay: Kadmat Resort, Kadmat Beach Resort

Things to do: Scuba Diving, Snorkeling

Tips: You must surely visit Cardamom Island which is indeed one of the most beautiful Island amongst Lakshadweep Islands.

14. Pamban Island – Rejuvenate Your Mind

If you have heard about Rameshwaram, then Pamban Island in Tamil Nadu should not be one of the unknown islands in India to you. The island is known for its white sandy beaches and the unique bridge that connects the rest of the state to Rameshwaram. A drive on the bridge is an amazing experience in itself. If you wish to explore Tamil Nadu, then take a ferry and spend some time on this island.



Best time to visit: Any time of the year

How to reach: Take the bridge or ferry ride to Rameshwaram

Places to see: Gulf of Mannar Marine National Park, Dhanushkodi Beach, Ramar Patham temple

Where to stay: Daiwik Hotels, Hyatt Palace Rameshwaram

Things to do: Visit APJ Abdul Kalam's old house

Tips: Hire a ferry and a ferry ride in exploring the Island which is beautiful.

15. Munroe Island, Kerala – Enthral Your Senses

Planning to visit some of the beautiful islands in India then Kerala is a must visit for you. The magical backwaters of Kerala will surely make your vacation a memorable one indeed. Munroe Island is a collection of 8-island cluster which is a fascinating network of water canals and this assists in integrating various water bodies in the particular region. Guests can enjoy houseboats where they can stay overnight in one of the stunning Indian Islands.



Best time to visit: Munroe Island in Kerala can be visited in the months of October to May. The place must not be visited in the monsoon season which lasts from June to September.

How to reach: As Munroe Island is situated at a distance of 25 kms from Kollam, you can use ferry which will cost you INR 500. There are two shifts for the ferry ride one in the morning at 9 AM and other in the afternoon at 2 PM.

Places to see: Thenmala, M.G Beach, Jatayu Rock, Shendurni Wildlife Sanctuary, Varkala Beach, Chavara and Palaruvi Falls. However, there are other attraction as well.

Where to stay: You can prefer to stay in lodges or in hotels which are nearby.

Things to do: You can have beach fun or enjoy staying in houseboats or enjoy splash of water in waterfalls.

Tips: The place must not be visited in the monsoon season which lasts from June to September.

16. Netrani Island, Karnataka – Get Mesmerize with The Beauty

Netrani Island in Karnataka can be one of your top picks amongst Indian Islands which is popularly called as the Pigeon Island. The Netrani Island can be reached by the coast of Murudeshwara which is located in the

Konkan coast. The Island is famous for its scenic beauty, picturesque landscapes, attractive cliffs, jagged rocks and is one of the beautiful Islands in India for the aquatic life enthusiasts where you can spot whale sharks and butterflyfish.



Best time to visit: Netrani Island in Karnataka must be visited in the months of December to January where you can enjoy scuba diving, snorkelling and various other water sports. You must not visit the place during monsoon season from June to September.

How to reach: As the Netrani Island is located near the Arabian Sea, you can reach by hiring boats from Bhatkal or you can even hire cabs or auto-rickshaws which are also available from Bhatkal.

Places to see: You can visit ruined temple which is nearby the Island or a Roman Catholic Church or a mosque. The choice is yours.

Where to stay: You can book hotels near the Netrani Island such as KSTDC Mayura Gerusoppa, Kairali Residency or Sagar Kinara Beach Resort and many other hotels.

Things to do: Scuba Diving, snorkelling and other adventurous water sports. Scuba diving starts at 5000 INR per dive.

Tips: You must not visit the place during monsoon season from June to September as there will be no water sports owing to high water level in the sea.

Chapter - 10

Mountain Ranges in India Major Passes, Mountain Peaks

The world's highest mountain range, the Himalayas, spans five countries including India. Not surprisingly, it's the most well-known of the major mountain ranges in India. The Himalayas are where three religions—Hinduism, Buddhism, and Islam—meet. The range features prominently in Hindu mythology, and attracts holy sages and Tibetan monks alike. The Himalayas also influence the climate in India by preventing cold winds from blowing south. However, there are a number of other major mountain ranges that play an important role in India's environment and culture too.

1. Great Himalaya Range

In India, the Himalaya mountain range is geographically split into the Great Himalaya, Middle Himalaya and Outer Himalaya ranges. The Great Himalaya is the highest zone, with perpetually snow-covered peaks rising more than 22,000 feet above sea level. It stretches for over 1,200 miles along India's northern border, all the way from Jammu and Kashmir in the West (where it's bounded by the Indus River) to Arunachal Pradesh in the East. The section in Sikkim has the loftiest peaks, with Mount Kanchenjunga being the third highest peak in the world at 28,169 feet above sea level. It's shared with Nepal though. The highest peak that's entirely in India is Nanda Devi in the Garhwal region of Uttarakhand, at 25,643 feet above sea level.



The Great Himalaya also has two of Uttarakhan's important glaciers: the Gangotri glacier is the source of the holy Ganges River, while the Yamunotri glacier feeds the Yamuna River.

India's forbidding but magnetic Great Himalaya Range draws both trekkers and religious devotees. As Hindus consider it to be the abode of the gods, some of the most visited pilgrimage places in India are located there, such as the Char Dham in Uttarakhand. While Mount Kanchenjunga remains unconquered, the trek to Dzungri Peak in Sikkim is more doable. Various organizations also conduct treks to Nanda Devi from Munisyari. You'll need to be super fit though! The high altitude of the range means that there are only a few mountain passes. One of them, Nathu La, connected India to Tibet before it was closed and is a popular day trip from Gangtok in Sikkim. Unfortunately, it's off limits to foreigners for security reasons.

2. Middle Himalaya Range

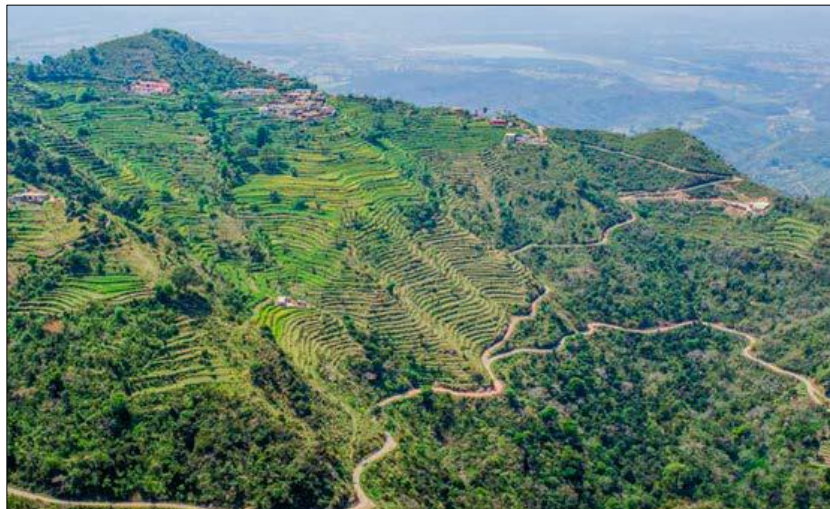
The fertile and predominantly forest-covered Middle Himalaya mountain range runs parallel to the Great Himalaya on its southern side. Its peaks are much more accessible, with elevations of about 5,000 to 20,000 feet above sea level. Most of India's popular hill stations are located in the Middle Himalaya, in the states of Himachal Pradesh and Uttarakhand. These include Shimla, Manali, Dalhousie, Dharamsala (where the Dalai Lama lives), Nainital, Mussoorie, and Almora. The Great Himalayan National Park (one of India's little-known UNESCO World Heritage sites), in the Kullu district of Himachal Pradesh, is part of the range as are popular adventure destinations Auli and the Valley of Flowers National Park in Uttarakhand. The Middle Himalayas also cover the Kashmir Valley in Jammu and Kashmir, Darjeeling in West Bengal, and Gangtok in Sikkim.



There are two major mountain ranges in the Middle Himalaya—the Pir Panjal Range and Dhauladhar Range. The Pir Panjal Range is the longest and most significant one. It starts near Patnitop in Kashmir and extends southeast for about 180 miles to the upper Beas River in Himachal Pradesh. Its tallest peaks are in the Kullu district, with Indrassan being the highest at 20,410 feet above sea level. The range offers moderately difficult treks such as Kashmir Alpine Lakes, Deo Tibba, Pin Parvati, Bhabha Pass, and Hampta Pass. The ski resort of Gulmarg in Kashmir is within the Pir Panjal Range too. India's longest railway tunnel, which runs for about 7 miles, also passes through the range to connect the Kashmir Valley to Banihal in Jammu. The Dhauladhar Range, in the Kangra district of Himachal Pradesh, looms over Dharamsala and McLeodganj. Its highest peak is Hanuman Tibba at about 19,488 feet above sea level. Trekking opportunities are plentiful there too.

3. Outer Himalaya Shivalik Range

The Outer Himalayas, also known as the Shivalik Range, is regarded as the Himalayan foothills. It separates the mountains from the plains, and consists of valleys and hills that rise no more than about 5,000 feet above sea level. A large part of the range is located in Himachal Pradesh, up to the Beas River. It also encompasses Jammu, some of Punjab and Chandigarh, Haridwar and Rishikesh in Uttarakhand, and Kalimpong in West Bengal.



The historic Kalka Shimla Mountain Railway toy train winds its way through the Shivalik Range from Kalka, about 45 minutes north of Chandigarh, to Shimla in Himachal Pradesh. Haridwar is a popular Hindu pilgrimage destination. Foreigners frequently head to the ashrams at

Rishikesh, the birthplace of yoga. Adventure activities such as river rafting and bungee jumping are also offered there. You'll be able to get a superb view of Mount Kanchenjunga from Kalimpong and river rafting takes place along the Teesta River nearby. The town also has Buddhist monasteries, established by the many monks who fled Tibet, and provides opportunities for hiking and experiencing local village life.

4. Trans-Himalaya Karakoram Range

The Trans-Himalaya, to the north of the Great Himalaya in the Union Territory of Ladakh, is India's most isolated and remote mountain range. It's made up of the Karakoram, Zaskar and Ladakh ranges. The craggy Karakoram Range is bounded by the Nubra Valley to the south, and extends north into the Gilgit-Baltistan region of Pakistan. This formidable, impenetrable mountain range is sometimes referred to as "the roof of the world." It has eight peaks over 24,600 feet in height and its elevation rarely falls below 18,045 feet. The tallest peak, K2, is located in disputed territory that's currently controlled by Pakistan. At 28,251 feet above sea level, it's the second highest mountain in the world.



In India, the Karakoram's highest peak is Saltoro Kangri in the Saltoro mountain range, at 25,400 feet above sea level. The five peaks of Saser Kangri, in the Saser Muztagh range, are not far behind with the tallest having an elevation of 25,171 feet. Mamostong Kangri, in the remote Rimo Mustagh ranges around Siachen Glacier is 24,659 feet above sea level. The Karakoram Range is the most heavily glaciated part of the planet outside the Polar Regions. Mountaineers can access its Indian peaks from the Nubra

Valley but permits must be obtained, as it's a sensitive border area. In October 2019, the Indian government announced that tourists can now visit Siachen Glacier (which is also the world's highest battlefield). Rimo Expeditions conducts trips.

5. Trans-Himalaya Ladakh Range

The Ladakh Range lies to the south of the Karakoram Range, between the Nubra Valley and Leh. It runs parallel to the Indus River and extends to India's border with Tibet. The landscape is characterized by granite rocks and sparse vegetation. The peaks in this range are about 16,400 to 19,700 feet above sea level. Instead of having any notable peaks, the Ladakh Range is better known for its spectacular high-altitude mountain passes.



The most famous of these is Khardung La, which is often incorrectly said to be the highest drivable road in the world. At an altitude of 17,582 feet above sea level, you won't want to stay there any longer than about 15 minutes before feeling lightheaded. Going on the Sham Valley Trek, through foothill villages, is an excellent way of experiencing the Ladakh Range. Yama Adventures and Ladakhi Women's Travel Company are two reputable organizers of this trek.

6. Trans-Himalaya Zaskar Range

South of the Ladakh Range, on the other side of the Indus River, the Zaskar Range separates the Ladakh region from the Zaskar region of Jammu and Kashmir. Its peaks are higher than that of the Ladakh Range, with many rising more than 19,500 feet above sea level. The tallest are the twin peaks of Nun, at 23,409 feet, and Kun at 23,218 feet. It's possible to climb them, although the trek is challenging. Adjacent to these peaks, in the

Shafat Glacier, Pinnacle Peak is the third highest mountain in the range at 22,736 feet above sea level. White Needle and Z1 are other significant peaks in the same area.



The Zaskar climate is harsh. Snowfall blocks the range's mountain passes during winter, effectively cutting residents of the Zaskar Valley off from the rest of the country. During this time, the only way in or out is by walking along the frozen Zaskar River, which has cut a sharp gorge through the range. This trek, popularly known as the Chadar Trek, is one of the most difficult in India. Should you undertake it, your accommodations will be in caves along the route. In July and August, it's possible to go rafting down the river on Grade 4 and 5 rapids. Buddhist monasteries are another attraction in Zaskar. The most incredible one is Phugtal, halfway between Padum and Darcha. It can't be reached by road, so you'll have to trek (or ride a pony) to it. Himalayan Homestays, a community-based tourism initiative of the Snow Leopard Conservancy, arranges treks and accommodations in several villages in Zaskar.

7. Purvanchal Range

The Purvanchal Range lies south of the Brahmaputra (Dihang) River in Arunachal Pradesh and forms the boundary between India and Myanmar. It extends along the Northeast Indian states and has a relatively low elevation that decreases towards the south. The average height of peaks in this range is about 9,845 feet above sea level. The highest is Dapha Bum, in the Mishmi Hills at the northeastern tip of Arunachal Pradesh. It stands at 15,020 feet above sea level. In Nagaland, the highest peak is Saramati in the Naga Hills

at 12,550 feet above sea level. In the hills of Manipur, the elevation is generally less than 8,200 feet above sea level. The highest peak in Mizoram is Phawngpui, also known as Blue Mountain, at 7,080 feet above sea level in the Mizo Hills. However, the elevation of the Mizo Hills is generally less than 4,920 feet.



The Northeast region is largely tribal. Its remoteness, poor roads and lack of infrastructure have kept tourists away, although this is slowly changing. In addition to tribal culture, nature and wildlife are top attractions, including Namdapha National Park in Arunachal Pradesh and Keibul Lamjao National Park in Manipur. Pangsau Pass, on the Myanmar border in Arunachal Pradesh, provides a superb view across the Purvanchal Range.

8. Aravalli Range

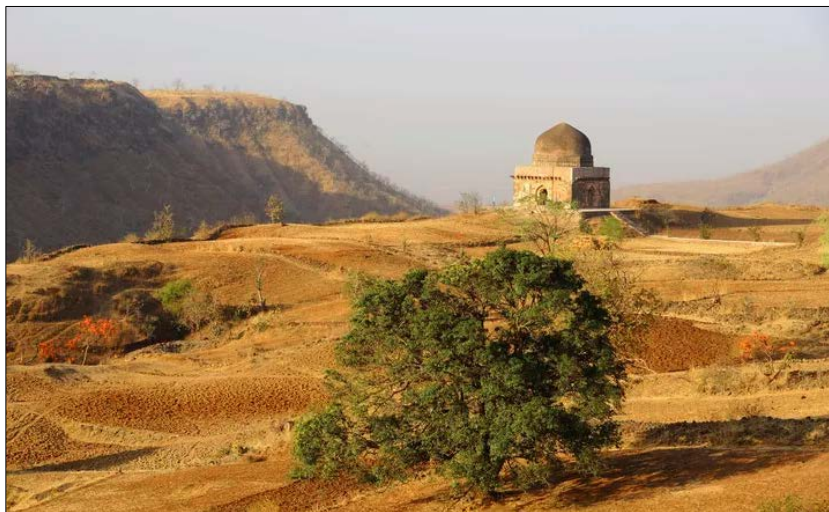
The 500-mile-long Aravalli Range (meaning "line of peaks") runs from Champaner and Palanpur in eastern Gujarat to the outskirts of Delhi. About 80 percent of it is situated in Rajasthan, where it borders the Thar desert and provides protection from the extreme desert climate. The highest peak is Guru Shikhar at Mount Abu, near the Gujarat border, with an elevation of 5,650 feet above sea level. However, most of the hills are concentrated in the area around Udaipur. Mewar rulers used this to their advantage by constructing immense forts, such as Chittorgarh and Kumbhalgarh, in strategic places.



There are many other forts and palaces dotted through the range, as well as tourist destinations including Bundi, Bera (popular for leopard spotting) and Pushkar (where the famous annual camel fair is held). As one of the oldest fold mountain ranges (formed when tectonic plates are pushed together) in the world, the Aravalli Range has an extensive history. Archeologists have uncovered evidence of civilization dating back to the Stone Age. Unfortunately, these days, the range is being degraded by deforestation and illegal mining.

9. Vindhya Range

The Vindhya Range runs across central India on the northern side of the Narmada River in Madhya Pradesh. It extends more than 675 miles from Jobat in Gujarat to Sasaram in Bihar. Technically, it's not a single mountain range but chains of hills, ridges and plateaus. This is particularly so after it divides and branches east of Madhya Pradesh's Malwa region. The general elevation of the Vindhya Range is around 980-2,100 feet above sea level, with peaks rarely going over 2,300 feet. The tallest is Kalumar Peak, at 2,467 feet above sea level in the Damoh district of Madhya Pradesh. The range's sandstone structure is largely responsible for its stunted height. However, the ancient Hindu epic "The Ramayana" says that the mountains deliberately reduced their size to please revered Vedic sage Agastya, after they grew so big they blocked the sun's path.



Several ancient Hindu texts mention the Vindhya Range as the dividing line between Sanskrit-speaking Aryans in the north and indigenous Dravidians in the south. Evidence of prehistoric activity has also been found in the area, including India's highest concentration of prehistoric paintings in the Bhimbetka caves at the foothills near Bhopal in Madhya Pradesh. Mandu is another popular tourist destination. This abandoned city from the Mughal era is perched on a plateau 2,079 feet above sea level about two hours southwest of Indore.

Fun Fact: The Vindhya Range and the Himalayas are the only two mountain ranges to be mentioned in the national anthem of India.

10. Satpura Range

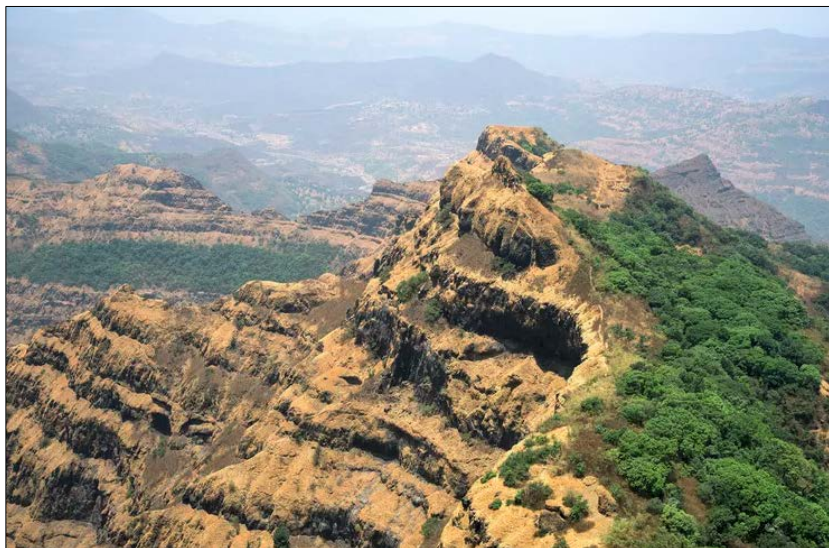
On the southern side of the Narmada River in Madhya Pradesh, the Satpura Range runs parallel to the Vindhya Range in between the Narmada and Tapi rivers. It extends for about 560 miles from the Rajpipla Hills in Gujarat to the Maikala Hills in Chhattisgarh (where it meets the Vindhya Range at Amarkantak). The Satpura Range is higher than the Vindhya Range, with peaks reaching over 4,000 feet in the heavily forested Mahadeo Hills at Pachmarhi. The highest one is Dhupgarh, at 4,400 feet above the sea level. This is the tallest peak in central India.



Pachmarhi is the only hill station in Madhya Pradesh and numerous Bollywood movies have been filmed there. It's known for its cave temples dedicated to Lord Shiva. According to the ancient Hindu epic "The Mahabharata", they were built by the Pandava brothers during their exile. The most important temple in the area sits atop Chauragarh Peak, at about 4,363 feet above sea level. The peak also has a fort that served as capital of the Gond dynasty in the 16th century. Sunrises are spectacular from there but be prepared for an arduous climb up more than a thousands steps to reach the top! The rugged terrain of Satpura National Park is popular for nature, wildlife and adventure activities such as trekking.

11. Western Ghats

The lengthy Western Ghats runs for approximately 5,250 miles along the western side of India, separating the coast from the Deccan plains. It extends from near the Satpura Range in Gujarat down through Maharashtra, Goa, Karnataka, Kerala and Tamil Nadu to end at the southernmost tip of India near Kanyakumari. The Western Ghats is made up of multiple mountain ranges, with more than 70 peaks varying in height from 1,713 feet to 8,842 feet above sea level. Almost a third of them are above 6,561 feet, with most of these being in Kerala. The highest is Anamudi, in the Anaimalai Hills on the Kerala-Tamil Nadu border. Other major ranges in the Western Ghats are the Sahyadri mountains in Maharashtra, Cardamom Hills in Kerala, and Nilgiri mountains in Tamil Nadu. These mountains influence India's weather by acting as a barrier against the southwest monsoon clouds and drawing much of the rainfall.



However, what really makes the Western Ghats remarkable is its biodiversity. The mountains are home to about 30 percent of India's flora and fauna species, and are recognized as a UNESCO World Heritage Site and one of the top biodiversity hot-spots in the world. National parks such as Mollem, Periyar, Silent Valley, Nagarhole, Bandipur, and Mudumulai are popular. Other tourist places include Matheran, Mahabaleshwar, Wayanad, Munnar, Ooty, Coonoor, Coorg, and Kodaikanal. Riding the historic Nilgiri Mountain Railway toy train up to Ooty is a memorable experience.

12. Eastern Ghats

Similar to the Western Ghats, the lesser-known Eastern Ghats separates the coast from the plains on the eastern side of India. It runs through Odisha, Andhra Pradesh and Tamil Nadu (where it meets the Western Ghats at the Nilgiri Mountains). The Eastern Ghats is flatter than the Western Ghats, and its hills have been divided into several parts by the major rivers in southern India (the Godavari, Mahanadi, Krishna, and Kaveri). It still has a few peaks over 3,280 feet above sea level though, mainly in the Maliya Range in Odisha and Madugula Konda Range in Andhra Pradesh. The highest is Jindhagada Peak in Andhra Pradesh, with an elevation of 5,545 feet.



The fertile Eastern Ghats plays a significant role in agriculture, as the region is very suitable for crops. Bhubaneswar in Odisha and Vishakhapatnam in Andhra Pradesh are the major cities for accessing the Eastern Ghats. Tourist spots in Odisha include Satkosia Tiger Reserve, Simlipal National Park, and the Koraput district in the far south where many tribes reside. In Andhra Pradesh, the most popular parts of the Eastern Ghats include the Araku Valley, Gandikota canyon, and Borra caves.

Major Passes

A mountain pass is a navigable route through a mountain range or over a ridge. Passes have played a key role in trade, war, and both human and animal migration throughout history. Let us have a look at some important passes in India. Mountain Passes are often found just above the source of a river, constituting a drainage divide. A pass may be very short, consisting of steep slopes to the top of the pass, or maybe a valley many kilometers long, whose highest point might only be identifiable by surveying. Some of the most important passes in the country are Zoji La (Pass), Banihal Pass, Shipki La (Pass), Bara-Lacha Pass, Rohtang Pass, Mana Pass, Niti Pass, Nathu La (Pass), Jalap La (Pass).

Important Passes in India

1. **Zoji La (Pass):** It is in the Zaskar range of Jammu & Kashmir. The road route from Srinagar to Leh goes through this pass. It has been created by the Indus River.
2. **Banihal Pass:** Banihal Pass is a mountain pass across the Pir Panjal Range at a maximum elevation of 2,832 m. It connects the Kashmir Valley in the union territory of Jammu and Kashmir to the outer

Himalayas and the plains to the south. In the Kashmiri language, "Banihāl" means blizzard.

3. **Shipki La (Pass):** Shipki La is a mountain pass and border post with a dozen buildings of significant size on the India-China border. The river Sutlej enters India near this pass.
4. **Bara-Lacha Pass:** Bara-lacha la also known as Bara-lacha Pass, is a high mountain pass in the Zaskar range, connecting Lahaul district in Himachal Pradesh to Leh district in Ladakh, situated along the Leh–Manali Highway.
5. **Rohtang Pass:** It is a high mountain pass on the eastern end of the Pir Panjal Range of the Himalayas around 51 km from Manali. It connects the Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh, India.
6. **Mana Pass:** The pass is one of the highest vehicle-accessible passes in the world, containing a road constructed in the 2005-2010 period for the Indian military by the Border Roads Organisation. Mana Pass is the last point between India and China Border.
7. **Niti Pass:** The Niti Pass located at 5800 meters connects India with Tibet. The pass is located in Uttarakhand.
8. **Nathu La (Pass):** Nathu La is a mountain pass in the Himalayas in East Sikkim district. It connects the Indian state of Sikkim with China's Tibet Autonomous Region. Nathu means "listening ears" and La means "pass" in Tibetan.
9. **Jelep La (Pass):** Jelep La or Jelep Pass, elevation 4,267 m or 13,999 ft, is a high mountain pass between East Sikkim District, Sikkim, India and Tibet Autonomous Region, China. It is on a route that connects Lhasa to India.

Mountain Passes in India

Name	State	Height (ft)	Between Separating
1. Auden's Col	Uttarakhand	17552	
2. Banihal Pass	Jammu and Kashmir (Jammu, Kashmir)	9291	Jammu & Kahmir
3. Bara-lacha-la	Himachal Pradesh	16400	
4. Changla Pass	Jammu and Kashmir (Ladakh)	17585	Leh & Changthang
5. Khardung La	Jammu and Kashmir (Ladakh)	17582	Leh & Nubra
6. Kongka Pass	Jammu and Kashmir (Ladakh)	16965	Ladakh & Aksai Chin
7. Lanak Pass	Jammu and Kashmir	17933	Ladakh & Tibet

	(Ladakh)		
8. Kunzum Pass	Himachal Pradesh (Lahaul and Spiti)	14931	Lahaul & Spiti
9. Karakoram Pass	Jammu and Kashmir (Ladakh)		Ladakh & Xinjiang
10. Nathu La	Sikkim	14140	Sikkim & Tibet
11. Palakkad Gap	Kerala	750	Kerala & Tamil Nadu
12. Thamarassery Pass	Wayanad Kerala	1700	Malabar & Mysore
13. Malabar & Mysore	Kollam Kerala	690	Travancore & Tamil Nadu
14. Rohtang Pass	Himachal Pradesh	13051	Manali & Lahaul
15. Sasser la	Jammu and Kashmir (Ladakh)	17,753	Nubra & Siachen Glacier
16. Zojila Pass	Jammu and Kashmir (Kashmir, Ladakh)	12,400	Kashmir & Ladakh

Mountain Peaks in India

Top 10 Highest Mountain Peaks in India are discussed here. Whoever has heard about India, whether he or she is a resident of the country or lives abroad, knows the subcontinent for its diversity, not only culturally and lingual but also in terms of natural terrain, including valleys, mountains, rivers, flora, and fauna. Our country is also home to the mighty Himalayas, the highest mountain range in the world, which has some of the highest peaks as well. The Karakoram ranges, Garhwal Himalaya and Kanchenjunga are home to the highest peaks in India, such as Kanchenjunga, Nanda Devi, and Kamet, to name the top three.

Kanchenjunga is the highest mountain peak in India and ranked 3rd highest peak in the world with an elevation of 8,586 m (28,169 ft). It is situated at the border of India and Nepal in the Himalayas range in Sikkim. Anamudi is the highest peak in the Western Ghats in India and also the highest point in South India.

Highest Peaks in India

1. Kangchenjunga Peak

Kanchenjunga is known as the highest mountain peak in the India. It is the 3rd highest peak in the world. It stands tall with an elevation of 8,586 meters (28,169 ft). The literal meaning of Kanchenjunga is “The Five Treasures of Snows” (namely gold, silver, gems, grain, and holy books). Located on the border that divides India from Nepal.

Height: 8586 metres.

Location: Sikkim.

2. Nanda Devi Peak

Nanda Devi is the second highest mountain peak in India. It is situated in the Garhwal Himalayas region in the state of Uttarakhand, where it boasts holding the maximum height in the state. In fact, if you consider in entirety, Nanda Devi can be said to be the highest peak in the Indian mainland, because Kanchenjunga lies on the border regions of India and Nepal.

Height: 7816 metres

Location: Utrrakhand

3. Kamet Peak

Kamet Peak is the third highest Peak in India. The Kamet is the highest summit in the Zaskar mountain Range of Garhwal region in the Chamoli District of Uttarakhand. Surrounded by three other towering peaks, it is situated quite close to Tibet. Additionally, Kamet is located north of the main range, making it a remote and rugged site for access and trekking activities.

Height: 7756 metres.

Location: Utrrakhand.

4. Saltoro Kangri Peak

Saltoro Kangri Peak is the fourth highest peak in India. The Saltoro Kangri is the highest peak of Saltoro Mountain ranges, a sub range of Karakoram (the biggest range of greater Himalaya mountains). Saltoro is home to some of the longest glaciers in the world, namely the Siachen Glacier. It is ranked as the 31st highest independent mountain peak in the world.

Height: 7742 metre

Location: Jammu and Kashmir.

5. Saser Kangri Peak

Saser Kangri is the fifth highest peak in India and 35th highest mountain in the world. The Saser Kangri comprises a group of five magnificent summits, located in the Saser Muztagh range in the states of Jammu and Kashmir. It is also one of the sub-range of the great Karakoram range lies and is situated at the southeastern direction from the Karakoram range.

Height: 7,672 metre

Location: Jammu & Kashmir.

6. Mamostong Kangri Peak

Mamostong Kangri is the sixth highest peak in the India where as 48th independently highest peak in World. It is the highest summit in the sub-ranges of Rimo Mustagh of the Great Karakoram range. It holds a towering height of 7,516 m (24,659 ft) and is also in the vicinity of the Siachen Glacier.

Height: 7516 metre

Location: Jammu & Kashmir

7. Rimo Peak

The Rimo, which graces the northern side of Rimo Muztagh is again a part of the great Karakoram ranges. The Rimo mountain series comprises four peaks, with Rimo I being the highest among them. To the northeast of the Rimo Mountains is the Karakoram Pass, one of the vital trade routes in central Asia. Rimo forms a part of the Siachen Glacier and holds a staggering elevation of 7,385 m (24,229 ft).

Height: 7385 metre

Location: Jammu & Kashmir.

8. Hardeol Peak

Hardeol Peak is on eighth position when we talk about the highest peaks in India. Hardeol famously referred to as Temple of God, is one of the most renowned summits in the Kumaon Himalaya, which is located in the northern parts of the Kumaon Sanctuary and borders the Nanda Devi. Hardeol peak graces the Milam valley of Pithoragarh district in Uttarakhand.

Height: 7151 metre

Location: Uttrakhand

9. Chaukamba Peak

Chankamba Peak is on the ninth position of the list. It is the highest mountain in the Gangotri group, located in the Garhwal Himalaya region of Uttarakhand. The Gangotri Group comprises four peaks, with Chaukhamba holding the position of the highest among them. It got its name because of the arrangement of the four peaks, so close to each other.

Height: 7138 metre

Location: Uttrakhand.

10. Trisul Peak

Rounding up the list in the 10th rank is Trisul, one of the three mountain peaks comprising a certain group of summits, situated in the mountainous regions of Kumaon in Uttarakhand state. The highest among them, Trisul has a height of 7,120 meters. The trio got their name from the Trishul weapon of Lord Shiva. The group is located in close vicinity of the Nanda Devi sanctuary.

Height: 7120 metre

Location: Uttrakhand.

Chapter - 11

River System of India: Indus, Ganges and Peninsular Rivers

Rivers of India

The rivers of India play an important role in the lives of the Indian people. The river systems provide irrigation, potable water, cheap transportation, electricity, as well as provide livelihoods for a large number of people all over the country. This easily explains why nearly all the major cities of India are located by the banks of river. The rivers also have an important role in Hindu mythology and are considered holy by all Hindus in the country.

Seven major rivers (Indus, Brahmaputra, Narmada, Tapi, Godavari, Krishna and Mahanadi) along with their numerous tributaries make up the river system of India. Most of the rivers pour their waters into the Bay of Bengal. Some of the rivers whose courses take them through the western part of the country and towards the east of the state of Himachal Pradesh empty into the Arabian Sea. Parts of Ladakh, northern parts of the Aravalli range and the arid parts of the Thar Desert have inland drainage. All major rivers of India originate from one of the three main watersheds.

- The Himalaya and the Karakoram ranges
- Vindhya and Satpura ranges and Chotanagpur plateau in central India
- Sahyadri or Western Ghats in western India

The rivers of India can be classified on the basis of origin and on the type of basin that they form.

1. Himalayan Rivers

The main Himalayan river systems are the Ganga, the Indus and the Brahmaputra river systems. The Himalayan rivers form large basins. Many rivers pass through the Himalayas. These deep valleys with steep rock sides were formed by the down - cutting of the river during the period of the Himalayan uplift. They perform intense erosional activity up the streams and carry huge load of sand and silt. In the plains, they form large meanders, and

a variety of depositional features like flood plains, river cliffs and levees. These rivers are perennial as they get water from the rainfall as well as the melting of ice. Nearly all of them create huge plains and are navigable over long distances of their course. These rivers are also harnessed in their upstream catchment area to generate hydroelectricity.

Code	Basin Name
1	Indus (Up to border)
2a	Ganga
2b	Brahmaputra
2b	Barak and others
3	Godavari
4	Krishna
5	Cauvery
6	Subernarekha
7	Brahmani and Baitarni
8	Mahanadi
9	Pennar
10	Mahi
11	Sabarmati
12	Narmada
13	Tapi
14	West flowing rivers South of Tapi
15	East flowing rivers between Mahanadi and Godavari
16	East flowing rivers between Godavari and Krishna
17	East flowing rivers between Krishna and Pennar
18	East flowing rivers between Pennar and Cauvery
19	East flowing rivers South of Cauvery
20	West flowing rivers of Kutch and Saurashtra including Luni
21	Minor rivers draining into Bangladesh
22	Minor rivers draining into Myanmar
23	Area of North Ladakh not draining into Indus
24	Drainage Area of Andaman & Nicobar Islands
25	Drainage Area of Lakshadweep Islands

2. Peninsular Rivers

The main peninsular river systems include the Narmada, the Tapi, the Godavari, the Krishna, the Kaveri and the Mahanadi river systems. The Peninsular rivers flow through shallow valleys. A large number of them are seasonal as their flow is dependent on rainfall. The intensity of erosional activities is also comparatively low because of the gentler slope. The hard rock bed and lack of silt and sand does not allow any significant meandering. Many rivers therefore have straight and linear courses. These rivers provide huge opportunities for hydro-electric power.

3. The Indus River System

The Indus originates in the northern slopes of the Kailash range in Tibet

near Lake Manasarovar. It follows a north-westerly course through Tibet. It enters Indian territory in Jammu and Kashmir.

It forms a picturesque gorge in this part. Several tributaries - the Zaskar, the Shyok, the Nubra and the Hunza join it in the Kashmir region. It flows through the regions of Ladakh, Baltistan and Gilgit and runs between the Ladakh Range and the Zaskar Range. It crosses the Himalayas through a 5181 m deep gorge near Attock, lying north of the Nanga Parbat and later takes a bend to the south west direction before entering Pakistan. It has a large number of tributaries in both India and Pakistan and has a total length of about 2897 km from the source to the point near Karachi where it falls into the Arabian Sea. The main tributaries of the Indus in India are Jhelum, Chenab, Ravi, Beas and Sutlej.

Jhelum

The Jhelum originates in the south-eastern part of Kashmir, in a spring at Verinag. It flows into the Wular Lake, which lies to the north, and then into Baramula. Between Baramula and Muzaffarabad it enters a deep gorge cut by the river in the Pir Panjal range. It has a right bank tributary the Kishanganga which joins it at Muzaffarabad. It follows the Indo-Pakistan border flowing into the plains of Punjab, finally joining the Chenab at Trimmu.

Chenab

The Chenab originates from the confluence of two rivers, the Chandra and the Bhaga, which themselves originate from either side of the Bara Lacha Pass in Lahul. It is also known as the Chandrabhaga in Himachal Pradesh. It runs parallel to the Pir Panjal Range in the north-westerly direction, and cuts through the range near Kishtwar. It enters the plains of Punjab near Akhnur and is later joined by the Jhelum. It is further joined by the Ravi and the Sutlej in Pakistan.

Ravi

The Ravi originates near the Rotang pass in the Kangra Himalayas and follows a north-westerly course. It turns to the south-west, near Dalhousie, and then cuts a gorge in the Dhaola Dhar range entering the Punjab plain near Madhopur. It flows as a part of the Indo-Pakistan border for some distance before entering Pakistan and joining the Chenab river. The total length of the river is about 720 km.

Beas

The Beas originates in Beas Kund, lying near the Rohtang pass. It runs

past Manali and Kulu, where its beautiful valley is known as the Kulu valley. It first follows a north-west path from the town of Mandi and later a westerly path, before entering the Punjab plains near Mirthal. It joins the Sutlej river near Harika, after being joined by a few tributaries. The total length of the river is 615 km.

Sutlej

The Sutlej originates from the Rakas Lake, which is connected to the Manasarovar lake by a stream, in Tibet. Its flows in a north-westerly direction and enters Himachal Pradesh at the Shipki Pass, where it is joined by the Spiti river. It cuts deep gorges in the ranges of the Himalayas, and finally enters the Punjab plain after cutting a gorge in a hill range, the Naina Devi Dhar, where the Bhakra Dam having a large reservoir of water, called the Gobind Sagar, has been constructed. It turns west below Rupar and is later joined by the Beas. It enters Pakistan near Sulemanki, and is later joined by the Chenab. It has a total length of almost 1500 km.

4. The Brahmaputra River System

The Brahmaputra originates in the Mansarovar lake, also the source of the Indus and the Satluj. It is slightly longer than the Indus, but most of its course lies outside India. It flows eastward, parallel to the Himalayas. Reaching Namcha Barwa (7757 m), it takes a U-turn around it and enters India in Arunachal Pradesh and known as dihang. The undercutting done by this river is of the order of 5500 metres. In India, it flows through Arunachal Pradesh and Assam, and is joined by several tributaries.

In Tibet, the river is known as the Tsangpo. There, it receives less volume of water and has less silt. But in India, it passes through a region of heavy rainfall and as such, the river carries a large amount of rainfall and considerable amount of silt. The Brahmaputra has a braided channel throughout most of its length in Assam, with a few large islands within the channel.

The shifting of the channels of the river is also very common. The fury of the river during rains is very high. It is known for creating havoc in Assam and Bangladesh. At the same time, quite a few big pockets suffer from drought.

5. The Narmada River System

The Narmada or Nerbudda is a river in central India. It forms the traditional boundary between North India and South India, and is a total of 1,289 km (801 mi) long. Of the major rivers of peninsular India, only the

Narmada, the Tapti and the Mahi run from east to west. It rises on the summit of Amarkantak Hill in Madhya Pradesh state, and for the first 320 kilometres (200 miles) of its course winds among the Mandla Hills, which form the head of the Satpura Range; then at Jabalpur, passing through the 'Marble Rocks', it enters the Narmada Valley between the Vindhya and Satpura ranges, and pursues a direct westerly course to the Gulf of Cambay. Its total length through the states of Madhya Pradesh, Maharashtra, and Gujarat amounts to 1312 kilometres (815 miles), and it empties into the Arabian Sea in the Bharuch district of Gujarat.

6. The Tapi River System

The Tapi is a river of central India. It is one of the major rivers of peninsular India with the length of around 724 km, and only the Tapi River along with the Narmada river, and the Mahi River run from east to west. It rises in the eastern Satpura Range of southern Madhya Pradesh state, and flows westward, draining Madhya Pradesh's historic Nimar region, Maharashtra's historic Khandesh and east Vidarbha regions in the northwest corner of the Deccan Plateau and South Gujarat before emptying into the Gulf of Cambay of the Arabian Sea, in the State of Gujarat. The Western Ghats or Sahyadri range starts south of the Tapi River near the border of Gujarat and Maharashtra.

The Tapi River Basin lies mostly in northern and eastern districts Maharashtra state viz, Amravati, Akola, Buldhana, Washim, Jalgaon, Dhule, Nandurbar, Malegaon, Nashik districts but also covers Betul, Burhanpur districts of Madhya Pradesh and Surat district in Gujarat as well.

The principal tributaries of Tapi River are Purna River, Girna River, Panzara River, Waghur River, Bori River and Aner River.

7. The Godavari River System

The river with second longest course within India, Godavari is often referred to as the Vriddh (Old) Ganga or the Dakshin (South) Ganga. The name may be apt in more ways than one, as the river follows the course of Ganga's tragedy. The river is about 1,450 km (900 miles) long. It rises at Trimbakeshwar, near Nasik and Mumbai (formerly Bombay) in Maharashtra around 380 km distance from the Arabian Sea, but flows southeast across south-central India through the states of Madhya Pradesh, Karnataka, Orissa and Andhra Pradesh, and empties into the Bay of Bengal. At Rajahmundry, 80 km from the coast, the river splits into two streams thus forming a very fertile delta. Like any other major rivers in India, the banks of this river also has many pilgrimage sites, Nasik, Triyambak and Bhadrachalam, being the

major ones. It is a seasonal river, widened during the monsoons and dried during the summers. Godavari river water is brownish. Some of its tributaries include Indravati River, Pranahita (Combination of Penuganga and Warda), Manjira, Bindusara and Sabari. Some important urban centers on its banks include Nasik, Bhadrachalam, Rajahmundry and Narsapur. The Asia's largest rail-cum-road bridge on the river Godavari linking Kovvur and Rajahmundry is considered to be an engineering feat.

8. The Krishna River System

The Krishna is one of the longest rivers of India (about 1300 km in length). It originates at Mahabaleswar in Maharashtra, passes through Sangli and meets the sea in the Bay of Bengal at Hamasaladeevi in Andhra Pradesh. The Krishna River flows through the states of Maharashtra, Karnataka and Andhra Pradesh.

The traditional source of the river is a spout from the mouth of a statue of a cow in the ancient temple of Mahadev in Mahabaleshwar.

Its most important tributary is the Tungabhadra River, which itself is formed by the Tunga and Bhadra rivers that originate in the Western Ghats. Other tributaries include the Koyna, Bhima, Mallaprabha, Ghataprabha, Yerla, Warna, Dindi, Musi and Dudhganga rivers.

9. The Kaveri River System

The Kaveri (also spelled Cauvery or Kavery) is one of the great rivers of India and is considered sacred by the Hindus. This river is also called Dakshin Ganga. The headwaters are in the Western Ghats range of Karnataka state, and from Karnataka through Tamil Nadu. It empties into the Bay of Bengal. Its waters have supported irrigated agriculture for centuries, and the Kaveri has been the lifeblood of the ancient kingdoms and modern cities of South India.

The source of the river is Talakaveri located in the Western Ghats about 5,000 feet (1,500 m) above sea level. Talakaveri is a famous pilgrimage and tourist spot set amidst Bramahagiri Hills near Madikeri in Kodagu district of Karnataka. Thousands of pilgrims flock to the temple at the source of the river especially on the specified day known as Tula sankramana when the river water has been witnessed to gush out like a fountain at a predetermined time. It flows generally south and east for around 765 km, emptying into the Bay of Bengal through two principal mouths. Its basin is estimated to be 27,700 square miles (71,700 km²), and it has many tributaries including Shimsha, Hemavati, Arkavathy, Kapila, Honnuhole, Lakshmana Tirtha, Kabini, Lokapavani, Bhavani, Noyyal and Famous Amaravati.

10. The Mahanadi River System

The Mahanadi is a river of eastern India. The Mahanadi rises in the Satpura Range of central India, and flows east to the Bay of Bengal. The Mahanadi drains most of the state of Chhattisgarh and much of Orissa and also Jharkhand and Maharashtra. It has a length of about 860 km.

Near the city of Sambalpur, a large dam - the Hirakud Dam - is built on the river.

Chapter - 12

Major Wetlands and Water Bodies and Ramsar Sites in India

Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season. Water saturation (hydrology) largely determines how the soil develops and the types of plant and animal communities living in and on the soil. Wetlands may support both aquatic and terrestrial species. The prolonged presence of water creates conditions that favor the growth of specially adapted plants (hydrophytes) and promote the development of characteristic wetland (hydric) soils.

Categories of Wetlands

Wetlands vary widely because of regional and local differences in soils, topography, climate, hydrology, water chemistry, vegetation and other factors, including human disturbance. Indeed, wetlands are found from the tundra to the tropics and on every continent except Antarctica. Two general categories of wetlands are recognized: coastal or tidal wetlands and inland or non-tidal wetlands.

Coastal/Tidal Wetlands

Coastal/tidal wetlands in the United States, as their name suggests, are found along the Atlantic, Pacific, Alaskan and Gulf coasts. They are closely linked to our nation's estuaries where sea water mixes with fresh water to form an environment of varying salinities. The salt water and the fluctuating water levels (due to tidal action) combine to create a rather difficult environment for most plants. Consequently, many shallow coastal areas are unvegetated mud flats or sand flats. Some plants, however, have successfully adapted to this environment. Certain grasses and grasslike plants that adapt to the saline conditions form the tidal salt marshes that are found along the Atlantic, Gulf, and Pacific coasts. Mangrove swamps, with salt-loving shrubs or trees, are common in tropical climates, such as in southern Florida and Puerto Rico. Some tidal freshwater wetlands form beyond the upper edges of tidal salt marshes where the influence of salt water ends.

Inland/Non-tidal Wetlands

Inland/non-tidal wetlands are most common on floodplains along rivers and streams (riparian wetlands), in isolated depressions surrounded by dry land (for example, playas, basins and "potholes"), along the margins of lakes and ponds, and in other low-lying areas where the groundwater intercepts the soil surface or where precipitation sufficiently saturates the soil (vernal pools and bogs). Inland wetlands include marshes and wet meadows dominated by herbaceous plants, swamps dominated by shrubs, and wooded swamps dominated by trees. Certain types of inland wetlands are common to particular regions of the country. For more information, see Wetland Classifications and Types for a full list.

Many of these wetlands are seasonal (they are dry one or more seasons every year), and, particularly in the arid and semiarid West, may be wet only periodically. The quantity of water present and the timing of its presence in part determine the functions of a wetland and its role in the environment. Even wetlands that appear dry at times for significant parts of the year -- such as vernal pools-- often provide critical habitat for wildlife adapted to breeding exclusively in these areas.

The Ramsar Convention is an international treaty for the conservation and sustainable utilization of wetlands, recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value.

Sl. No.	Name of Site	State Location	Date of Declaration	Area (in Sq. km.)
1	Kolleru Lake	Andhra Pradesh	19.8.2002	901
2	Deepor Beel	Assam	19.8.2002	40
3	Kabartal Wetland	Bihar	21.07.2020	26.20
4	Khijadia Wildlife Sanctuary	Gujarat	13.04.2021	5.12
5	Nalsarovar Bird Sanctuary	Gujarat	24.09.2012	120
6	Thol Lake Wildlife Sanctuary	Gujarat	05.04.2021	6.99
7	Wadhvana Wetland	Gujarat	05.04.2021	6.30
8	Bhindawas Wildlife Sanctuary	Haryana	25.05.2021	4.12
9	Sultanpur National Park	Haryana	25.05.2021	1.425
10	Chandertal Wetland	Himachal Pradesh	8.11.2005	0.49
11	Pong Dam Lake	Himachal Pradesh	19.8.2002	156.62
12	Renuka Wetland	Himachal Pradesh	8.11.2005	0.2
13	Wular Lake	Jammu &	23.3.1990	189

		Kashmir		
14	Hokera Wetland	Jammu and Kashmir	8.11.2005	13.75
15	Surinsar-Mansar Lakes	Jammu and Kashmir	8.11.2005	3.5
16	Tsomoriri Lake	Jammu and Kashmir	19.8.2002	120
17	Asthamudi Wetland	Kerala	19.8.2002	614
18	Sasthamkotta Lake	Kerala	19.8.2002	3.73
19	Vembanad Kol Wetland	Kerala	19.8.2002	1512.5
20	Tso Kar Wetland Complex	Ladakh	17.11.2020	95.77
21	Bhoj Wetlands	Madhya Pradesh	19.8.2002	32.01
22	Lonar Lake	Maharashtra	22.7.2020	4.27
23	Nandur Madhameshwar	Maharashtra	21.6.2019	14.37
24	Loktak Lake	Manipur	23.3.1990	266
25	Bhitarkanika Mangroves	Orissa	19.8.2002	650
26	Chilka Lake	Orissa	1.10.1981	1165
27	Beas Conservation Reserve	Punjab	26.9.2019	64.289
28	Harike Lake	Punjab	23.3.1990	41
29	Kanjli Lake	Punjab	22.1.2002	1.83
30	Keshopur-Miani Community Reserve	Punjab	26.9.2019	3.439
31	Nangal Wildlife Sanctuary	Punjab	26.9.2019	1.16
32	Ropar Lake	Punjab	22.1.2002	13.65
33	Keoladeo Ghana NP	Rajasthan	1.10.1981	28.73
34	Sambhar Lake	Rajasthan	23.3.1990	240
35	Point Calimere Wildlife and Bird Sanctuary	Tamil Nadu	19.8.2002	385
36	Rudrasagar Lake	Tripura	8.11.2005	2.4
37	Bakhira Wildlife Sanctuary	Uttar Pradesh	29.06.2021	28.94
38	Haiderpur Wetland	Uttar Pradesh	8.12.2021	69.08
39	Nawabganj Bird Sanctuary	Uttar Pradesh	19.9.2019	2.246
40	Parvati Agra Bird Sanctuary	Uttar Pradesh	2.12.2019	7.22
41	Saman Bird Sanctuary	Uttar Pradesh	2.12.2019	52.63
42	Samaspur Bird Sanctuary	Uttar Pradesh	3.10.2019	79.94
43	Sandi Bird Sanctuary	Uttar Pradesh	26.9.2019	30.85
44	Sarsai Nawar Jheel	Uttar Pradesh	19.9.2019	16.13
45	Sur Sarovar	Uttar Pradesh	21.8.2020	4.31
46	Upper Ganga River (Brijghat to Narora Stretch)	Uttar Pradesh	8.11.2005	265.9

47	Asan Conservation Reserve	Uttarakhand	21.7.2020	4,444
48	East Kolkata Wetlands	West Bengal	19.8.2002	125
49	Sunderbans Wetland	West Bengal	30.1.2019	4230

Two new Ramsar sites (Wetlands of International Importance) were announced by Minister for Environment, Forest and Climate Change, Shri Bhupender Yadav on World Wetlands Day 2022. Thus increasing the total number of Ramsar sites to 49. The two new Ramsar sites are Khijadia Wildlife Sanctuary in Gujarat and Bakhira Wildlife Sanctuary in Uttar Pradesh.

The term was coined when the International Treaty for the Conservation and Sustainable Use of Wetlands was signed at a city in Iran called Ramsar in 1971. The topic, 'Ramsar Sites of India' is important for the upcoming IAS Exam.

Latest Updates about Indian Ramsar Sites

1. Khijadia Wildlife Sanctuary in Gujarat and Bakhira Wildlife Sanctuary in Uttar Pradesh were announced as Ramsar sites (Wetlands of International Importance) on the occasion of World Wetland day 2022 (2nd January 2022) held at Sultanpur National Park, a Ramsar site in Haryana.
2. Haiderpur Wetland in Uttar Pradesh has been added as the 47th Ramsar Site in December 2021. It is a human-made wetland formed in 1984 and is located within the boundaries of Hastinapur Wildlife Sanctuary.
3. Four new sites have been added to the list of Ramsar Sites in India in August 2021. These are:
 - Sultanpur National Park – Gurugram, Haryana
 - Bhindawas Wildlife Sanctuary – Jhajjar, Haryana
 - Thol Lake Wildlife Sanctuary – Near Ahmedabad, Gujarat
 - Wadhvana Wetland – Vadodara, Gujarat
4. In 2020, the following sites were added to the Ramsar Sites of India List:
 - December 2020 – The Tso Kar Wetland Complex was added to the list of Ramsar sites in India. This includes the high-altitude wetland complex of two connected lakes, Startsapuk Tso and Tso Kar, in Ladakh.
 - November 2020 – Maharashtra – Lonar Lake

- November 2020 – Agra (Uttar Pradesh) – Sur Sarovar also called, Keetham Lake
 - November 2020 – Uttarakhand – Asan Barrage
 - July 2020 – Bihar – Kanwar Lake or Kabal Taal
 - February 2020 – Kolkata – Sunderban Reserve Forest (Sunderban Wetlands)
5. 2nd February 2021 marked the 50th anniversary of the Ramsar Convention, the day which is also celebrated as World Wetlands Day. India on this occasion established the Centre for Wetland Conservation & Management which is the first in the country. It is set up under the Ministry of Environment, Forest and Climate Change (MoEF&CC), at the National Centre for Sustainable Coastal Management (NCSCM) in Chennai.
 6. Sambhar Lake had been in the news for its deterioration over salt mining. Sambhar Lake is a Ramsar Site in India.

Facts of Ramsar Sites & Indian Wetlands

Ramsar Sites in India & Indian Wetlands	
What are Ramsar Sites?	Any wetland site which has been listed under the Ramsar Convention that aims to conserve it and promote sustainable use of its natural resources is called a Ramsar Site.
What is the Ramsar Convention?	Ramsar Convention is known as the Convention of Wetlands. It was established in 1971 by UNESCO and came into force in 1975.
Is India a part of the Ramsar Convention?	Yes, India is a party to the Ramsar Convention. India signed under it on 1st February 1982.
How many Ramsar Sites are in India?	There are 49 Ramsar Sites in India
Which is the largest Ramsar Site in India?	Sundarbans is the largest Ramsar Site of India
Which is the first Ramsar Site in India?	Chilika Lake (Orissa) and Keoladeo National Park (Rajasthan) were recognized as the first Ramsar Sites of India
Which Indian state has the most number of Ramsar Sites?	Uttar Pradesh has the most number of Ramsar Sites in India. It has 10 Indian Wetlands.
Which is the smallest wetland in India?	Renuka Wetland (Area – 20 ha) in Himachal Pradesh is the smallest wetland of India.

Other Interesting Facts about the Ramsar sites that as an IAS aspirant, you must know about

1. Ramsar sites are one of the major protected areas in the world.
2. There are currently over 2400 Ramsar sites in the world covering an area of 2.5 million sq. kilometres.
3. World's First Ramsar site was identified in 1974, which was the Cobourgh Peninsula in Australia.
4. The United Kingdom has the world's largest number of Ramsar Sites i.e. 175.
5. February 2 is celebrated as International Wetlands Day, as the Ramsar Convention was signed on February 2, 1971.
6. The Ramsar Convention works with the collaboration of the following organizations:
 - a) International Union for Conservation of Nature (IUCN).
 - b) Birdlife International.
 - c) International Water Management Institute (IWMI).
 - d) Wetlands International.
 - e) Wildfowl & Wetlands Trust (WWT)
 - f) WWF International
7. To research any of the Ramsar sites, one can check the Ramsar Sites Information Service (RSIS)
8. The number of contracting parties for the Ramsar Convention as of October 2019 is 171.

Question Bank

Short Answer Type

- Q1. Define Latitude
- Q2. Name the southernmost point of India.
- Q3. What is urban geography?
- Q4. In which Time zone does India lie?
- Q5. Where are the Aravalli Ranges located?
- Q6. What makes Khardungla Pass famous?
- Q7. Describe the flora of Western Ghat.
- Q8. Where is Loktak Lake located/? State its features.
- Q9. When was the first Ramsar convention held?
- Q10. Name the largest saltwater lake in India.
- Q11. Biosphere Reserve.
- Q12. Superstructure.
- Q13. GMT
- Q14. International Dateline
- Q15. Major Passes in North East India.
- Q16. Purvanchal
- Q17. Highest Peak of eastern and western ghats.
- Q18. Main River in Tamil Nādu
- Q19. Andaman and Nico-bar island.
- Q20. Tourism Minister of India.
- Q21. What is the importance of Geography of Tourism?
- Q22. Define time zone and how many time zone are there.
- Q23. What is longitude?
- Q24. What is relief?
- Q25. What are the famous tourist attractions of north east?

- Q26. Enlist major five rivers of peninsular India.
- Q27. What are the major tourist attractions of coastal India?
- Q28. Which is the southern most point of India (including islands)?
- Q29. Which is the oldest mountain range in India?
- Q30. Tropic of cancer crosses through how many Indian states?
- Q31. Major passes in Himachal Pradesh.
- Q32. Karakorum range.
- Q33. Local Time
- Q34. First two countries with top time zones.
- Q35. Main tributaries of Ganga.
- Q36. St. Mary's Island.
- Q37. Main tributaries of River Krishna.
- Q38. Main tributaries of Brahmaputra.
- Q39. Main Glaciers in Uttarakhand.
- Q40. Highest point on Eastern Ghats

Long Answer Type

- Q1. State Importance of geography in Tourism.
- Q2. What is IDL? Explain with the help of diagram.
- Q3. Enumerate components of Map.
- Q4. What is communication? Also enlist the major types of communication.
- Q5. Write short note of Vindhya and Satpura ranges.
- Q6. Write detail note on Himalayan River system.
- Q7. Identify and explain major passes of south India with help of map.
- Q8. State the role of economy in Tourism with the help of case study
- Q9. Write a note on Indo Gangetic Plains.
- Q10. Distinguish between sanctuary and National Park.
- Q11. Write about the Time Zone of the world.
- Q12. Explain the flora and fauna of western ghat.
- Q13. Write a short note on peninsular rivers.

Q14. Describe the major wetland of India.

Q15. Explain the Ramsar Sites in India.

Q16. Explain:

Hill stations of eastern Himalayas.

Vindhya range.

Q17. What is the importance of geography in tourism sector? Describe with the suitable examples?

Q18. Describe about famous tourist attractions in Delhi.

Q19. Write a short note on type of tourism southern peninsula.

Q20. Discuss about the scope of adventure tourism in Himalayas.

Q21. What are the points to consider for effective map reading?

Q22. Describe about the famous five rivers of Punjab and their important tributaries.

Q23. Present the case study of Shimla as a tourist destination. Consider addressing its geographical features in tourism development.

Q24. Describe about Following:

Wetlands of India vs Tourism

Flora and Fauna of India vs Tourism.

Q25. Write a detailed note on transport of India.

Q26. What are the differences between sanctuary and national parks?

Q27. What is latitude & longitude?

Q28. Write a short note on climate of India.

Q29. What is geography & tourism interface?

Q30. Write a detailed note on time zones.

Q31. What is geography & tourism interface?

Q32. Write a detailed note on time zones.

Q30 Write a short note on river system in India.

Q31. Write a short note the various coastal areas in India.