Chapter – 01 Geography
The Earth in the Solar System

- If we look at sky in the night it seems to be filled with tiny shining objects-some are bright, others are dim. They seem to be twinkling.
- Once in a month, we see full moon night of a fortnight later, you cannot see it at all. It is a new moon night or 'Amavasya'.
- The sun, moon, stars and planets and all those objects shining in the night are called celestial bodies.
- Some celestial bodies are very big and hot. They are made of gas, have their own heat and light. They emit in large amounts. These celestial bodies are called stars. The sun is a star.
- While watching the night sky, we notice various patterns formed by different groups of stars. These are called constellations. Ursa Major is one such constellation.
- In ancient times, people used to determine directions during the night with the help of stars. The North star indicates the north direction. It is also called pole star.
- Some celestial bodies do not have their own heat and light. They are lit by the light of the stars. Such bodies are called planets.
- **The Solar System:**

  The sun, eight planets, satellites and some other celestial bodies known as asteroids and meteoroids form the solar system.
- **The Sun:**
  (i) The sun is the centre of solar system.
  (ii) It is huge and made up of extremely hot gases.
  (iii) The sun is the ultimate souce of heat and light for the solar system.
- **Planets:**
  (i) The word 'planet' comes from the Greek word 'Planetai' which means wanderers.
  (ii) There are eight planets in our solar system-Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.
  (iii) All the eight planets of the solar system move around the sun in fixed paths. These paths are elongated. They are called orbits.
  (iv) Till August 2006, Pluto was also a planet. But now it is called only a celestial body.

Key Notes

- **The Earth:**
  (i) The earth is the third nearest planet to the sun and is our home.
  (ii) It is slightly flattered at the poles. That is why, its shape is called Geoid.
  (iii) Conditions favourable to support life are probably found only on the earth.
  (iv) From the outer space, the earth appears blue because its 2/3rds surface is covered by water. It is, therefore, called a blue planet.
- **The Moon:**
  (i) Our earth has only one natural satellite that is the moon.
  (ii) It appears so big because it is nearer to our planet than other celestial bodies.
  (iii) The moon moves around the earth in about 27 days and 8 hours.
  (iv) The moon does not have conditions favourable for life.
- **Asteroids:**
  (i) There are numerous tiny bodies which also move around the sun. These bodies are called asteroids.
  (ii) They are found between the orbits of Mars and Jupiter.
- **Meteoroids:**
  (i) The small pieces of rocks which move around the sun are called meteoroids.
  (ii) A galaxy is a huge system of billions of stars, and clouds of dust and gases. These are millions of such galaxies that make the universe.

Chapter – 2 Geography

Globe: Latitudes and Longitudes

- A globe is a true model of the earth.
- The globes are of varying sizes and types.
- Globe can be rotated in the same way as a top spin or potter's wheel is rotated.
- **Axis**-The imaginary line passing through the centre of the earth and joining the two points.
- A needle is fixed through the globe in a titled manner, which is called its axis.
- Another imaginary circular line running on the globe divides it the earth into two equal parts. This line is called as **Equator**.
- The northern half of the earth is known as the Northern Hemisphere and the southern half is called the Southern Hemisphere.
- All parallel circles from the equator up to the poles are called parallels of latitudes.
- The equator represents the zero degree latitude.
- Besides the equator (0 degree celcius), the North Pole 90 degree North), the South Pole (90 degree South), there are four important parallels of latitude - Tropic of Cancer $\left(23\frac{1}{3}^{\circ} S\right)$ in the Southern Hemisphere, Arctic Circle at 2° north of the Equator and Antartic Circle at 2° south of the Equator.
- **Heart Zones of the Earth**
  (i) The area which receives the maximum heat is called the Torrid zone.
  (ii) The areas around Antarctic Circle in the Southern Hemisphere, have medium temperature. These are called Temperature Zones.
  (iii) These are certain cold areas in the hemisphere. They are called Frigid Zones.
- **What are Longitudes:**
  (i) Unlike parallesl of latitude, all meridians are of equal length.
  (ii) Hence, all countries decided that the count should begin from the meridian which passed through Greenwich, where the British Royal Observatory is located. This meridian is called the Prime Meridian.
- **Longitude and Time:**
  (i) The best means of measuring time is by the movement of the earth, the moon and the planets.
  (ii) The sun regularlgy rises and sets every day, and naturally. It is the best time-keeper throughout the world.
  (iii) Local time can be reckoned by the shadow cast by the sun, which is the shortest at noon and longest at sunrise and sunset.

(iv) When the prime meridian of Greenwich has the sun at the highest point in the sky, all the places along this meridian will have mid-day or noon.

(v) As the earth rotates from west to east, those places east of Greenwich will be ahead of Greenwich time and those to the west will be behind it.

(vi) At any place a watch can be adjusted to read 12 0'clock when the sun is at the highest point in the sky, when it is mid-day.

- **Why do we have Standard Time?**

(i) The local time of places which are on different meridians are bound to differ.

(ii) For example, in India there will be a difference of of about 1 hour and 45 minutes in the local times of Dwarka in Gujarat and Dibrugarh in Assam.

(iii) In India, the longitude of $\left(23\frac{1}{3}^{\circ}\ S\right)$ is treated as the standard meridian. The local time at this meridian is taken as the standard time for the whole country. It is called Indian Standard Time.

Chapter – 03 Geography

Motions of the Earth

- The Earth has two types of motions namely, rotation and revolution.
- Rotation is the movement of the earth on its axis. Days and Nights take place because of rotation.
- Revolution is the movement of the earth around the Sun in a fixed path or orbit. Revolution causes the change of seasons.
- The axis of the earth which is an imaginary line, has an angle of 2° with its orbital plane.
- The circle that divides the day from night on the globe is called the circle of illumination.
- **Revolution:**
  - (i) The second motion of the earth around the sun in its orbit is called revolution.
  - (ii) It takes 365 days and 6 hours (one year) to revolve around the sun.
  - (iii) We consider a year as consisting of 365 days only and ignore six hours for the sake of convenience.
  - (iv) Six hours saved every year are likely to make one day (24 hours) over a span of four years.
  - (v) This surplus day is added to the month of February.
  - (vi) Every fourth year, February is of 29 days instead of 28 days. This year with 366 days is called a leap year.
  - (vii) The earth goes around the sun in an elliptical orbit.
  - (viii) The nights are longer than the days in winter season. This position of the earth is called as summer solstice.
  - (ix) On 22nd December the Tropic of Capricorn gets direct rays of the sun as the South Pole tilts towards it. It is summer in Southern hemisphere and winter in Northern hemisphere. This is called winter solstice.
  - (x) On 21st March and 23rd September, direct rays of the sun fall directly on the equator. During this period, the whole earth experiences equal days and equal nights. This is called an equinox.

Chapter – 04 Geography

Maps

- A map is a representation or a drawing of earth's surface or part of it, drawn on a flat surface according to a scale.
- **Type:**
  (i) Maps are of several types.
  (ii) Maps showing natural features of the earth are called physical or relief maps.
  (iii) Maps showing cities, town and villages, countries and states of the world with their boundaries are called political maps.
  (iv) Some maps focus on specific information like rainfall map, road maps, maps of tourist places are called thematic maps.
- **Components of Maps:**
  (i) There are three components of maps-distance, direction and symbol.
  (ii) Distance is measured in terms of scale. Scale is the ration between the actual distance on the ground and the distance shown on the map.
  (iii) When large areas like contintents or countries are to be shown on a paper, then we use a small scale.
  (iv) When a small area like your village to town in to be shown on paper, then we use a large scale map.
  (v) Directions are cardinal points like North, South, East and West.
  (vi) Symbols are certain letters, shades, colours, pictures and lines, which give us information about a limited place.
  (vii) Various other things like sketches and plan are used to draw an area of a large scale.

Chapter – 05

Major Domains of the Earth

- The earth is the only planet which has life. Human beings can live here because the life sustaining elements of land, water and air are present on the earth.
- The earth has four components-Lithosphere, Atmosphere, Hydrosphere and Biosphere.
- **Lithosphere:**
  (i) The solid portion of the earth is called the lithosphere.
  (ii) There are two divisions of the earth's surface. The large and masses are called continents and the huge water bodies are called the ocean basins.
  (iii) The highest mountain peak Mt. Everest is 8,848 metres above the sea level.
  (iv) There are seven main continents-Asia, Europe, Africa, North America, South America, Australia and Antartica.
- **Hydrosphere:**
  (i) The earth is a blue planet.
  (ii) More than 71% of the earth is covered with water.
  (iii) Hydrosphere consists of water in all its forms. It includes the water in rivers, lakes, oceans and glaciers.
  (iv) More than 97% of the earth's surface water is found in the oceans and is too salty for human use.
- **Oceans:**
  (i) Oceans are huge water-bodies and major of the hydrosphere.
  (ii) The three chief movements of ocean waters are the waves, the tides and ocean currents.
  (iii) Some major oceans in the world are the Pacific Ocean, the Atlantic Ocean, the Indian Ocean and the Arctic Ocean.
- **Atmosphere:**
  (i) The envelope of air surrounding the earth is called the atmosphere.
  (ii) It provides us with the air we breathe and protects us from the harmful effects of the sun's rays.
  (iii) The atmosphere has 78% nitrogen, 21% oxygen, and other gases like carbon and argon are 1% by volume.
- **Biosphere:**
  (i) It is a narrow zone of contact between the land, water and air.
  (ii) All the living organisms including human beings are linked to each other and are dependent upon the biosphere for survival.

Chapter – 06 Geography

Major Landforms of the Earth

- Within the earth a continuous movement is taking place.
- The first is internal process which leads to upliftment and sinking of the eath's surface at several places.
- The second is the external process. It is the continuous wearing down and rebuilding of the land surface.
- The wearing away of the earth's surface is called erosion.
- The surface is being lowered by the process of erosion and rebuilt by the process of deposition.
- These two processes are carried out byt running water, ice and wind.
- The different landforms depending on elevation and slope are mountains, plateaus and plains.
- **Mountains:**
  (i) A mountain is any natural elevation of the earth's surface with a peak or a summit.
  (ii) In some mountains, there are permanently frozen rivers of ice. They are called glaciers.
  (iii) A continuous chainof mountains over a large area is called 'Range'.
  (iv) The Himalayas, The Alps and The Andes in Asia, Europe and South America respectively are some leading mountains.
  (v) There are three types of mountains-Fold mountains, Block mountains and the Volcanic mountains.
  (vi) Mountains are storehouse of water. Further they have forests which give us fuel, fodder, shelter and other products.
- **Plateau:**
  (i) A plateau is a flat-topped table land. It is an elevated flat land.
  (ii) The Deccan plateau in India is one of the oldest plateaus.
  (iii) Plateaus are useful as they are rich in mineral deposits.'
  (iv) Many plateaus have waterfalls. The lava plateaus have soil good for cultivation.
- **Plains:**
  (i) Plains are low-lying and flat stretches of land.
  (ii) Plains may be extremely level, slightly rolling and undulating.
  (iii) Plains are fertile. They are good for cultivation, transport and habitation.
- **Landforms and the People.**
  (i) Human settlements are dependent upon types of landforms.
  (ii) Areas which are dangerous or isolated have less habitation as compared to areas which are palm or rich in minerals.

Chapter – 07 Geography

Our Country-India

- India is a country of vast geographical expanse.
- In the north, it is bound by the lofty Himalayas, the Arabian Sea in the west, the Bay of Bengal in the East and the Indian Ocean in the south.
- India has an area of 3.28 million sq km. The north-south stretch from Kashmir to Kanyakumari is about 3,200 km and the east-west extend from Arunanchal Pradesh to Kuchchh is about 2,900 km.
- It is the second most populous county of the world after China.
- **Locational Setting:**
  (i) India is situated in the northern hemisphere.
  (ii) The Tropic of Cancer $(23°30'N)$ passes almost halfway through the country.
  (iii) From south to north, main land of India extends between $8°4'N$ and $37°6'N$ latitudes.
  (iv) From west to east, India extends between $68°7'E$ and $97°24'E$ longitudes.
  (v) The local time changes by four minutes for every one degree of longitudes. The sun rises two hours earlier in the east (Arunachal Pradesh) then in the west (Gujarat).
  (vi) The local time of longitude of $82°30'E$ has been taken as the Indian Standard time.
- **India's: Neighbours and Administrative Divisions:**
  (i) India shares its border with seven countries-Pakistan, China, Nepal, Bhutan, Bangladesh, Sri Lanka and Maldives. Sri Lanka is separated from India by the Palk Strait.
  (ii) India is a vast country. For administrative purpose, the country is divided into 28 states and 7 Union Territories. New Delhi is the capital.
  (iii) Rajasthan is the largest state and Goa is the smallest and Goa is the smallest state in terms of area.
- **Physical Divisions**
  (i) India is marked by a diversity of physical features such as mountains, plateaus, plains, coasts and islands.
  (ii) In the north are the Himalayas meaning the 'abode of snow'.
  (iii) The Himalayas are divided into three main parallel ranges-Great Himalayas or Himadri, the Middle Himalaya or Himachal and the Shiwalik.
  (iv) The Northern Indian Plains lie to the south of the Himalayas. They have alluvial deposits made by the Indus, the Ganga, the Brahmaputra and their tributaries.
  (v) In the western part of India is the Great Indian Desert.
  (vi) To the South of Northern Plains lies the Peninsular Plateau. It has the Aravalis, the Vindhyas, the Satpuras, the Narmada, the Tapi, the Western Ghats and the Eastern Ghats.
  (vii) West of Western Ghats and East of Eastern Ghats lie the coastal plains. The eastern coastal plains and the western coastal plains are located here.
  (viii) The Sunderban delta is formed where the Ganga and Brahamaputra flow into the Bay of Bengal.
  (ix) Two group of Islands also form part of India. One is the Lakshdweep Island in the Arabian sea and the Andaman and Nicobar Islands in the Bay of Bengal.

Chapter – 08 Geography

India: Climate, Vegetation and Wildlife

- **Climate:**
  (i) In daily life, we hear about changes in weather and climate through changes in temperature, rainfall, sunshine, etc.
  (ii) These are four major seasons in India:
    (a) Cold weather season (winter) from December to February.
    (b) Hot weather season (summer) from March to May.
    (c) South-west Monsoon season (Rainy) from June to September.
    (d) Season of Retreating Monsoon (Autumn) from October and November.
  (iii) The climate of a place is affected by its location, altitude, distance from the sea and relief.
- **Natural Vegetation:**
  (i) It includes all sorts of trees, shrubs and grasses. Natural vegetation is dependent upon climate conditions and the amount of rainfall a place receives.
  (ii) It is of various types:
    (a) Tropical Rainforests occur in areas of heavy rainfall. They are also called evergreen forests.
    (b) Tropical Deciduous Forests occur in areas with monsoon and are found in the areas receiving between 100 cm and 200 cm of annual rainfall. They are also called monsoon forest.
    (c) Thorny bushes vegetation is found in dry areas.
    (d) Mountain vegetation is found in areas with height, like the mountainous areas.
    (e) Mangrove forests survive in saline water.
- **Why are Forests Necessary:**
  (i) Forests release oxygen which we breathe and absorb carbon dioxide.
  (ii) They prevent soil erosion.
  (iii) They provide timber for furniture, fuel wood, medicinal plants, honey, gum, etc.
  (iv) They are the natural habitat of wildlife.
  (v) Reckless cutting of trees should be stopped to prevent natural vegetation.
- **Wildlife:**
  (i) Forests are home to a variety of wildlife.
  (ii) Thousands of species of animals, and a large variety of reptiles, amphibians, mammal, birds, insects and worms dwell in the forest.
  (iii) Tiger is found in various parts of the country and is our national animal. Gir forests in Gujarat are found lion, elephants, camels, etc.
  (iv) India is rich in bird life too. Peacock is our national bird. Other common birds are parrots, pigeons, bulbul, etc.
  (v) Projects like Project Tiger and Project Elephant have been launched to protect wildlife.