

CHAPTER – 2

GLOBE: LATITUDES AND LONGITUDES

Q. 1 A Answer the following questions briefly.

What is the true shape of the earth?

Answer:

The Earth is not a sphere. It is slightly flattened at the North and the South Poles and bulge in the middle. Such shape is known as a Geoid.

Q. 1 B Answer the following questions briefly.

What is a globe?

Answer:

Globe is the true miniature model of the Earth. It depicts the actual shape and size of the earth in a smaller form. All the continents and water bodies are marked in their actual sizes on a globe.

Q. 1 C Answer the following questions briefly.

What is the latitudinal value of the Tropic of Cancer?

Answer:

Latitudinal value of Tropic of cancer is $23\frac{1}{2}^{\circ}$ N. The Tropic of Cancer is also called the Northern Tropic. The Tropic of Cancer passes through 16 countries including India.

Q .1 D Answer the following questions briefly.

What are the three heat zones of the Earth?

Answer:

The three heat zones are:

i. Torrid Zone- The mid-day sun is exactly overhead at least once a year on all latitudes in between the Tropic of Cancer and Tropic of Capricorn. These areas, therefore, receive maximum heat and are called the Torrid Zone.

ii. Temperate Zone- The mid-day sun never shines overhead on any latitude beyond the Tropic of Cancer and the Tropic of Capricorn. The angle of sun rays goes on decreasing towards the poles. As such, the areas bounded by the Tropic of Cancer and the Arctic Circle in the northern hemisphere and the Tropic of Capricorn and Antarctic Circle in the southern hemisphere have moderate temperatures. These areas, therefore, are called temperate zones.

iii. Frigid Zone- Areas lying between the Arctic Circle and the North Pole in the Northern hemisphere and the Antarctic Circle and the South Pole in the Southern hemisphere are very cold. It is because here the sun does not rise much above the horizon. Therefore, its rays are always slanting and provide less heat. These areas, therefore, called Frigid zones.

Q. 1 E Answer the following questions briefly.

What are parallels of latitude and meridians of longitude?

Answer:

Parallels of latitudes -The equator divides the earth into two equal halves. Therefore, the equator is an imaginary circular line and is a very important reference point to locate places on the earth. The parallel

circles from the equator to the poles are called the parallels of latitudes. The Latitudes are measured in degrees.

Meridians of longitudes- To fix the position of a place, it is necessary to know something more than the latitude of that place. In order to locate a place precisely, it is important to find out how far east or west such place is from a given line of reference running from the North Pole to the South Pole. These lines of references are called meridian of longitudes.

Q. 1 F Answer the following questions briefly.

Why does the Torrid Zone receive maximum amount of heat?

Answer:

The Torrid Zone receives the maximum heat when the mid-day sun is exactly overhead at least once a year on all latitudes in between the Tropic of Cancer and the Tropic of Capricorn.

Q. 1 G Answer the following questions briefly.

Why is it 5.30 p.m. in India and 12.00 noon in London?

Answer:

India is located east of Greenwich at $82^{\circ}30'E$ is 5 hours and 30 minutes ahead of GMT. So it will be 7:30 p.m. in India when it is 2:00 p.m. noon in London.

Q. 2 A Tick the correct answer.

The value of the prime meridian is

A. 90°

B. 0°

C. 60°

Answer:

Unlike latitudes, all meridians are of equal length. Hence, all countries have decided that the count should begin from the meridian that passes through Greenwich, where the British Royal observatory is located. This meridian is called the Prime Meridian.

Q. 2 B Tick the correct answer.

The Frigid Zone lies near

A. The Poles

B. The Equator

C. The Tropic of Cancer

Answer:

The Frigid Zones are the coldest regions on the Earth and are usually covered with ice and snow.

Q. 2 C Tick the correct answer.

The total number of longitudes are

A. 360

B. 180

C. 90

Answer:

The total number of longitudes is $180+180+1(0^{\circ} \text{ Prime Meridian}) - 1(180^{\circ}\text{E and } 180^{\circ}\text{W are same longitudes}) = 360$. There are total 180 west

longitudes and 180 east longitudes. The 180E and 180W longitude is the same longitude and hence, we have subtracted 1 from 360. The 0° longitude, which is called the Prime Meridian is added to the total count making it 360.

Q. 2 D Tick the correct answer.

The Antarctic Circle is located in

- A. The Northern hemisphere
- B. The Southern hemisphere
- C. The Eastern hemisphere

Answer:

The Antarctic Circle is one of the most important latitude of the Earth and is located at $66\frac{1}{2}^\circ$ south of the Equator.

Q. 2 E Tick the correct answer.

Grid is a network of

- A. Parallels of latitudes and meridians of longitudes
- B. The Tropic of Cancer and the Tropic of Capricorn
- C. The North Pole and the South Pole

Answer:

Since a grid is a network of parallels of latitudes and meridians of longitudes, it is used to measure the accurate position of any place on the surface of the earth. Grid pinpoints the location of a place with the help of latitudes and longitudes.

Q. 3 Fill in the blanks.

- (a) The Tropic of Capricorn is located at _____.
- (b) The Standard Meridian of India is _____.
- (c) The 0° Meridian is also known as _____.
- (d) The distance between the longitudes decreases towards _____.
- (e) The Arctic Circle is located in the _____ hemisphere

Answer:

- (a) The Tropic of Capricorn is located at $23\frac{1}{2}^\circ$ S.

The Tropic of Cancer is one of the major latitudes of the earth lying in the Northern Hemisphere.

- (b) The Standard Meridian of India is $82^\circ 30'$ E Longitude.

The local time of places which are on different meridians is bound to differ. It is difficult to prepare time-table of trains which cross several longitudes. In India, there is a time difference of 1 hour 45 minutes in the local time of Dwarka in Gujarat and Dibrugarh in Assam. Therefore, it is necessary to adopt the local time of some central meridian of the country as the standard meridian.

- (c) The 0° Meridian is also known as Prime Meridian.

The Prime Meridian is an imaginary line runs through France, Western Africa, The United Kingdom, Spain, and Antarctica. With the help of the Equator and Prime Meridian, the earth can be divided into four hemispheres.

- (d) The distance between the longitudes decreases towards poles.

At the equator, the distance between 15° and 30° W longitudes is quite a lot, but as we move toward the poles this distance shrinks and eventually shrinks down to zero. This distance is shortest at the Poles because the all the meridians meet here.

(e) The Arctic Circle is located in the northern hemisphere.

The Arctic Circle is an important parallel of latitude and is located at 66° north of the equator.