

Question Bank  
Class - VII  
Chapter - 2 (Determination on the  
Location of a Place on the  
Earth's Surface)

1) Fill in the blanks :- (1×5=5)

- a) The distance between  $1^\circ$  latitude is 111.7 km.
- b) Latitude of Kolkata is  $22^\circ 34'$  east.
- c) Highest latitude is  $90^\circ$ .
- d) The antipode of a place on Prime Meridians is  $180^\circ$ .
- e) The time differences at two sides of the IDL is 24 hrs.

2) Write Short notes on :- (2×5=10)

Local Time : All the places on the same meridian of longitude have noon at the same time. This is called local time for the particular place. Places located on different meridians have different local time. The time gap between two consecutive noons at a place is 24 hours. This time gap is called a solar day. If the watches of a place are set by this noon time, they will show the local time of that place.

Standard Time : As the local time differs from place to place it causes great inconvenience for the country as a whole. To overcome this in-convenience, the local time of a central meridian is taken as the time for the whole country. This is called standard time. Example : There are about 30 meridians of longitude cutting through India. That means that India has about 30 local times. In India the longitude of  $82^\circ 30' E$  passing through Allahabad is considered the Standard Meridian. When it is noon on this longitude, the



time is taken as noon for the whole country. This is known as the Indian Standard Time (IST).

Antipode: Antipodes are two places on the earth's surface that are diametrically opposite to each other. If a straight line is drawn through the centre of the earth, it will reach just the opposite side.

IDL: The International Date line may be defined as an imaginary line drawn almost along  $180^\circ$  meridian extending from the north pole to the south pole from which each new date starts and each date ends at last.

GMT: It is the local time of Prime Meridian ( $0^\circ$ ) at the Royal Astronomical Observatory, Greenwich near London. In order to maintain international uniformity, one uniform time, corresponding to the prime meridian, is adopted by all countries. This is called the Greenwich Mean Time (G.M.T.). Indian Standard Time is  $5\frac{1}{2}$  hours ahead of Greenwich.

3) Answer the following: - ( $3 \times 5 = 15$ )

a) Why IDL is not straight?

A) The International Date line passes through the Pacific Ocean. It deviates from  $180^\circ$  longitude in some places in order to keep all the islands under one administration on one side of the Date line. The Date line goes zigzag in some places to avoid land and to leave island groups wholly. (i) It deviates eastwards in the Bering Strait between Alaska and Siberia. (ii) The line deviates westwards ( $7^\circ$ ) of  $180^\circ$  longitude to include the entire Aleutian islands to the east of the line. Further (iii) South the Date line deviates eastwards ( $11^\circ$ ) of  $180^\circ$  around Fiji and Tonga islands. (iv) In 1990 the island of line island Gilbert and Phoenix and so the line deviates  $35^\circ$  of  $180^\circ$ .



Q) Why  $180^\circ$  longitude is named the International Date line?

A) The reasons behind taking  $180^\circ$  as International Date line is (i) It is diametrically just opposite to that of the Greenwich Meridian ( $0^\circ$ ). So time is calculated from beginning to the end at that particular place. (ii) It is mainly spread over the ocean. (iii) It divides four continents. (iv) It is easier to calculate the time of the whole world as it is situated at the border of eastern and western hemisphere.

Q) What is Gromaticule?

A) The network of parallels and meridians is called gromaticule.

Q) What is the necessity of IDL?

A) A traveller going eastwards will be 12 hours ahead of G.M.T. until he reaches  $180^\circ$  east meridian. Similarly, he loses 12 hours when he reaches  $180^\circ$  west going westwards.

Thus, there is total difference of 24 hours at the  $180^\circ$  meridian. This causes a confusion of dates when travelling around the world. To avoid this confusion nations have agreed upon the International Date Line to change dates. When Magellan returned in Spain in 1522 after travelling round the world, he thought he had arrived on the 5th of September, he was shocked to be told that the date was 6th September. As he travelled westwards, he knew nothing about the day he had lost.

Q) What are the differences between - Arctic circle and Antarctic circle?

A) Arctic circle

Antarctic Circle

(i)  $66\frac{1}{2}^\circ$  N parallel is known as Arctic circle. (i)  $66\frac{1}{2}^\circ$  parallel is known as Antarctic circle

(ii) Beyond this lies the Northern polar region.

(ii) Beyond this lies the Southern polar region.

(iii) Arctic ocean lies in North of it. (iii) Antarctic lies in South of it.



4) What are the differences between latitude and longitude? (5)

As Parallels of latitude

Meridians of longitude

(i) Parallels are extended in east-west direction.	Meridians are extended in north-south direction.
(ii) They are parallel to each other.	They are not parallel.
(iii) The highest possible latitude is $90^\circ$ .	The highest possible longitude is $180^\circ$ .
2) There are 39 parallels in both the hemisphere at an interval of $1^\circ$ . The total is 179.	There are 180 meridians in both the hemisphere. The total is 360.
3) From the equator towards the poles the parallels are getting smaller in length.	Meridians remain uniform in length.
4) Parallels are related to climatic belts.	Meridians are related to local time.
5) Total angular measurement is $360^\circ$ .	Total angular measurement is $180^\circ$ .

5) Explain the characteristics of the Meridians of longitude. (5)

As (i) Longitude is the angular distances of a place east or west of the Prime Meridian. (ii) There are 360 meridians of longitude. (iii) The meridians are not parallel. They converge at the two poles. (iv) The meridians are semi-circles. (v) All the meridians are of equal length. (vi) The distance between any two meridian varies they get closer from the equator to the poles. (vii) All meridians run in a true north-south direction.