Chapter 3 Motions of the Earth

MULTIPLE CHOICE QUESTIONS

1. The centrifugal force originate due to the revolution of the earth.

2. Rotation

3. Equator

4. 21st june

5. Summer

Very short answer type questions

1. The continuous spinning of the Earth on its own axis is known as its rotation.

The movement of the earth around the sun is called revolution.

2. The axis of the Earth on which the earth spins is only an imaginary line the axis of the Earth is tilted from the vertical line this tilt of the axis is known as the inclination of the earth's axis.

3. The Earth rotates with a a speed of 1674 km/he on its axis. But this speed is not same everywhere.

4. Circle of illumination is a a zone of of diffused dim light that occurs between day and night.

5. On December 22, the sun shines directly on the the Tropic of Capricorn , it is known as the Winter solstice.

6. **Summer solstice- On** June 21, the the sun is directly overhead the the Tropic of Cancer this time is is considered as the Summer Solstice.

Winter solstice - On December 22, the sun shines directly on the Tropic of Capricorn it is known as the Winter Solstice.

Short answer type questions

1. The main effects of the earth's rotation are:-

1. Days and nights are occurred due to the rotation of the earth. It is a continuous process.

2. Rotation of the earth causes deflection in the direction of winds and ocean currents.

3. Rotation causes a a centrifugal force, which generates at the the centre of the earth and moves away from the centre.

2. The Earth takes 365 days 5 hours 48 minutes and 45 seconds to complete one revolution.

Normally a year is considered to be of 365 days. The balance of 5 hours 48 minutes and 45 seconds is adjusted as one day on every fourth year. This extra day is added to the month of February on every fourth year this additional day is called a leap day. the year which has 366 days and has 29 days in February is called the leap year.

3. Occurrence of day and night is a continuous process. The sun is the only source of light and heat on the earth. Since, the earth is spherical in shape, only that half of its surface which is facing the sun, will be lit up up by the sun's rays. The portion of the earth facing the sun, experiences day. In contrast, the other half, away from the sun experiences night. Thus, rotation gives us periods of heat and light as well as darkness i.e. , day and night.

4. The main features of the revolution of the earth are:-

1. The path along which the earth moves around the sun is called the orbit of the earth.
2. The earth has its own fixed path . The orbital path of the Earth is elliptical in shape.
3. The earth moves around the sun from west to east.
4. The Earth revolves around the sun at a speed of of about 30 km/ second.

Long answer type questions.

1.

Rotation	Revolution
1. The spinning of the Earth on its own axis is called rotation.	1. The movement of the earth around the sun is called revolution.
2. To complete one rotation the Earth takes 24 hours.	2. To complete one revolution, the Earth takes 365 1/4 days.
3. The effect of rotation is day and night.	3. The effect of revolution is the change in seasons.
4. This rotation period is called the earth's day.	4. the revolution of the earth is called the annual motion of the earth.

2. **Conditions prevailing in the northern and southern hemispheres during summer -**

1. During the summer solstice the northern hemisphere is inclined towards the sun and the southern hemisphere stays away from the sun.

2. Sun rays fall vertically on the Tropic of Cancer while they fall slanting on the Tropic of

Capricorn.

3. The areas near the poles receive less heat as the rays of the sun are slanting.

4. in the northern hemisphere days are longer than nights while it is the opposite in the Southern Hemisphere.

Conditions Prevailing in the northern and southern hemisphere during winter -

1. During the winter the southern hemisphere is inclined towards the sun while the northern hemisphere stays away from the sun.

2. Sun rays fall vertically on the Tropic of Capricorn and slanting on the Tropic of Cancer.

3. 22nd December is the longest day in the southern hemisphere while it is the shortest day in the northern hemisphere.

4. The southern hemisphere receives more heat and light from the sun as compared to the northern hemisphere.

3. During summer solstice the north pole is inclined towards the sun and the places beyond The Arctic circle receives continuous sunlight for about 6 months while South Pole remains in darkness for about 6 months.

While during Winter solstice north pole remains in the darkness for about 6 months while the South Pole receives sunlight for about 6 months because during this time the southern hemisphere is inclined towards the sun and hence receives sunlight throughout this period.

4. Four features of the revolution of the earth are:-

1. The movement of the earth around the sun is known as the revolution of the earth.

2. The Earth takes 365 days 5 hours 48 minutes 45 seconds to complete one revolution.

3. This revolution of the Earth is also called the annual motion of the earth.

4. The seasons are occurred due to the effect of Earth's revolution.

5. Varying length of day and night is also a result of the earth's revolution.

5. Equinoxes can be termed as the times when days and nights are equal. Equinoxes occur twice in a year. March 21 and September 23 are considered as the spring equinox and autumnal and equinox respectively.

The spring and autumnal equinoxes-

1. On 21st March and 23rd September the sun rays fall vertically on the equator.

2. At this position, neither of the poles are tilted towards the sun. Show the whole Earth experiences equal days and equal nights.

3. During the spring and autumnal equinoxes the temperature remains mild.

4. The condition is reversed on September 23rd when it is autumn season in the northern hemisphere and spring season in the southern hemisphere.

(Diagram :- Revolution of the earth and occurrence of seasons)

Fill in the blanks.

1. Elliptical

2. Dawn

3. Centrifugal

4. 30

5. Australia.