ROTATION AND REVOLUTION

A. Fill in the blanks with the appropriate words.

1. Rotation 2. The circle of illumination3. 366 4. Elliptical 5. 23 September

B. Match the rows.

1. (e); 2. (a); 3. (b); 4. (c); 5. (d);

C. Write true or false.

1. False. 2. True. 3. False. 4. False. 5. False;

D. Choose the correct answer.

1. (a); 2. (b); 3. (b); 4. (b); 5. (b);

E. Answer the following questions in one or two sentences.

1. What is the plane of the earth's orbit?

Ans - The level path on which the earth revolves around the sun is called its orbit.

2. What is an equinox?

Ans - The time when rays of the sun are overhead at the equator is called an equinox.

F. Give reasons for the following.

1. Why does the duration of sunlight vary at different places on the earth throughout the year?

Ans – *The duration of sunlight varies at different places on Earth throughout the year because of the Earth's tilt and its orbit around the Sun.

*The Earth is tilted at an angle of 23.5 degrees, so as it orbits the Sun.

*When one part of the Earth is tilted towards the Sun, it receives more direct sunlight and has longer days, while the part tilted away gets less direct sunlight and has shorter days.

G. Answer the following questions in four or five sentences.

1. How does the revolution of the earth cause seasons?

Ans – *Seasons are caused by the revolution of the earth around the sun and the tilt of its axis.

*When the overhead rays of sun fall on the Tropic of Cancer (23½°N) it is summer in the northern hemisphere and winter in the southern hemisphere.

*These changes after six months when the overhead rays of the sun fall on the Tropic of Capricorn (23½°S) it is summer in the southern hemisphere and winter in the northern hemisphere.

2. What is the difference between autumnal and vernal equinox?

Ans –

Autumnal equinox	Spring equinox
1. The autumnal equinox occurs on 23 September.	1. The spring or vernal equinox occurs on 21 March.
2. At this time, the overhead rays are in transition from northern to southern hemisphere, and are vertical on the equator.	2. At this time, the rays are once again vertical on the equator except that the overhead rays of the sun are in transition from the southern hemisphere to the northern hemisphere.

3. Why do Leap years have 366 days?

Ans – *One revolution of the earth takes 365¼ days (¼ day is equal to 6 hours).

*However, only 365 days are included in a year and the ¼ day of four consecutive years are added to make one full day, which is added to the month of February in the fourth year.

*Therefore, every fourth year, there is a year, called a leap year, that has 366 days.

4. What is the difference between the summer and winter solstice?

Ans –

Summer solstice	Winter solstice
1. The summer solstice occurs on 21 June.	1. The winter solstice occurs on 22 December.
2. During the summer solstice, the vertical rays of the sun fall on the Tropic of Cancer (23½° N).	2. On this day, the overhead rays of the sun fall on the Tropic of Capricorn. (23½° S).