**8th June, 2020 JESUS & MARY SCHOOL AND COLLEGE MODULE-3**

 **CLASS 10**

 **GEOGRAPHY**

**SOILS IN INDIA**

**EXPLANATION 1 (Types and features of Soils)**

The loose rock materials which form the layer of the upper surface of the Earth's crust is known as soil. It includes weathered rock particles decaying organic matter, living organisms, water and air.

The following types of soil are found in India.

**Alluvial soil –**This soil is formed with the deposition of fine silt brought by running water. It covers about 40 % of total land area of the country. It is found in Uttar Pradesh, Bihar, West Bengal and Assam. It is also found in the deltas of Godavari, Narmada, and Mahanadi etc. It is of two types – old alluvial and new alluvial. The main crops grown in this soil are rice, wheat, sugarcane and jute etc. This soil is rich in humus zinc and potash but lack in minerals.

**2) Black soil - It** is formed when the molten magma cools down on the earth's surface. It is black in colour and occupies about 16 % of total areas of the country. It’s rich in minerals like Iron, potash, calcium etc. But deficient in humus and organic materials

It is moisture retentive soil found in Deccan plateau, Maharashtra, Gujarat, Andhra Pradesh and Tamilnadu. Cotton, sugarcane, oilseeds are main crops grown in this soil.

**3) Red soil** - It covers about 10 % of total areas of the country. It is formed as a result of breaking up of the metamorphic rocks. Its colour is red due to the presence of iron-oxide. It is found in Karnataka, western Odisha, M.P. and Tamil Nadu. It lacks in nitrogen and humus, suitable for dry farming, does not retain moisture.

**4) Desert soil –** found in Rajasthan, Gujarat, western UP etc. Dry in nature, does not hold moisture, lacks in minerals and organic matters. Can be made fertile with the help of Irrigation. Jowr, Bazaar and Ragi are main crops grown. Wheat can be grown with the help of canals.

**5) Laterite soil -** This soil is formed by the weathering. It is formed under the conditions of high temperature and heavy rainfall with alternate wet and dry period. It is red in colour with high content of iron oxide. It of coarse texture, deficient in lime and nitrogen. It is found in hilly region of Western Ghats, Kerala, Vindhyas and Satpura. Unsuitable for agriculture Tapioca and Cashewnut can be grown.

**WORKSHEET**

Q1. Name the soil formed due to deposition of silt. State its two features.

Q2. How is red soil formed? Name two main crops grown in this soil.

Q3. Why is laterite soil unsuitable for agriculture?

Q4. State one difference between old alluvial and new alluvial.

Q5. State three features of black soil.

Q6. State two demerits of alluvial soil.

Q7. Why is desert soil infertile?

Q8. Why is red soil suitable for dry farming?

Q9. How is black soil formed?

Q10. What is soil?

 **EXPLANATION 2 (Soil Erosion – Causes types)**

Removal of top soil by the different agents like running water, wind, sea waves or by human activities is called Soil erosion. It may cause because of the following reasons.

1. Faulty method of farming
2. Deforestation
3. Open grazing
4. Excess irrigation
5. Human activities

**Types of Erosion**

* 1. **Gully Erosion - It** occurs on the steep slopes of the hills. Due to heavy rainfall, the soil is removed by water flowing along definite paths down the slope in channel. It is called gully erosion
	2. **Rill Erosion -** In this type of erosion finger like rills begin to appear on the landscape .When these rills increase and become deeper and wider, these turn into gullies.
	3. **Sheet Erosion**  When the top layer soil on the slope is washed away due to heavy downpour, then it is called sheet erosion. It is slow process of eating away the soil.
	4. **Stream Bank Erosion**  In this process the banks of the streams or rivers get eroded every year by continuous flowing of water during the flood the erosion takes a serious form and gradually bed of the river widens.
	5. **Shore Erosion**  The coastal rocks get eroded by tidal waves. It is very common in the eastern coast where cyclonic storms and floods are very common.
	6. **Wind Erosion** In the desert and semi desert regions wind is the most powerful agent of erosion. Due to lack of vegetation. The winds blow away fine particles of sand and walk the lead unproductive.
	7. **Erosion by human beings**  Man is also responsible for soil erosion when people adopt wrong ways of farming, they clear the forest then erosion takes place

**WORKSHEET**

Q1 What is soil erosion?

Q2 Differentiate between Rill erosion and Gully erosion.

Q3 Why is wind erosion very common in desert and semi desert areas?

Q4 What is stream bank erosion?

Q5 Explain two causes for soil erosion.

Q6 What is sheet erosion?

Q7 Name different agents of soil erosion.

Q8 What is shore erosion?

Q9 What are Rills ?

Q10 What are Gullies?

**EXPLANATION 3 (Conservation of Soils)**

Conservation of soil means the prevention of soil from being washed away. The following steps can be taken to conserve the soil.

1. **Agromatic methods these** methods involve the following steps, through which the soil erosion

 can be stopped.

**a) Crop rotation**  It is a process in which various crops are grown alternatively from the

 same **farm** land. By using this method all required nutrients can be supplied in the soil

 and erosion can be stopped.

**b) Terrance Farming On** high hill slopes, the slope should be cut in to number of

 Terraces having horizontal top and soil erosion are stopped.

**c) Contour ploughing** Farm lands to be tilted along Contour on slopes to prevent soil

from being washed away. It is done in circular manner on hill slopes begning from

 the outer edge.

**d) Strip cropping**  In this technique of farming, the crops are grown in alternation strip

of land to check the impact of winds.

 **2) Non Agromatic method**

**a) Afforestation** The best way to prevent soil erosion is to plant more plants, because the roots

of the trees can hold the top soil tightly and do not let it washed away.

**b) Constructing dams** Dams to be constructed across the streams to regulate the flow of water

 for preventing soil erosion.

**c) Leagal Burning**  Primitive methods of Jhumming cultivation should be banned to prevent

soil erosion.

**WORKSHEET**

Q1. What do you mean by the term soil conservation?

Q2. Why should we conserve the soils?

Q3. What is crop rotation?

Q4. State the advantage of crop rotation.

Q5. How afforestation is helpful for conservation of soil?

Q6. What is strip farming?

Q7. Name an area of India where Terrace farming can be used as an effective tool for soil

 conservation.

Q8. What is Jhumming cultivation? Why should it be banned?

Q9. Name two Agromatic methods to conserve soil from erosion.

Q10. Explain Contour ploughing.

Q11. What is over-grazing?