Class- X

Revision Worksheet No.- 5

Date: 09/02/2021

Geography **Topic – Soils in India**

Q1) Long answers:

a) Explain the factors responsible for the formation of Soil.

i) **(a) Climate:** The climate in which Soil develops is the most important factor. It is responsible for the following:
(b) Weathering: Extremes of temperature, freezing and thawing of ice break down rocks and favour Soil formation.
(c) Vegetation: The growth and decay of vegetation determines the humus content of the Soil. Roots of plants penetrate the Soil and make it porous.
(d) Bio-chemical processes taking place in Soil: Bacteria and fungi cause the decay of plants and animal remains. Some transform the atmospheric nitrogen into Soil nitrogen.

ii) **The Parent rock:** The physical and chemical composition of the parent rock determines the relative proportion of different minerals in the Soil layers.

iii) **The Topography:** The slope of the land surface is an important factor in the formation of Soil layer.
(a) Hills and slopes: Steep slopes usually have a thin Soil layer because weathered particles are easily carried downslope by running water and wind.
(b) Plains and Valleys: On flat plains and in valleys, thick fertile Soils are developed.

b) What are the main components of Soil?
(i) Silica: The main constituent of sand, it is present as small crystalline grains. It is mainly derived from the weathering of rocks.
(ii) Clay: It is a mixture of silicates and contains many minerals like iron, potassium, calcium, sodium and aluminium. Particles of clay absorb water and swell.
(iii) Chalk: It consists of calcium carbonate which provides the important element calcium.
(iv) Humus: It is the organic matter present in the Soil formed by the decomposition of plants and animal remains and animal manure. It is the most important element that determines the fertility of the Soil.

Q2) Give reasons :

a) Why are Alluvial Soil agriculturally important?
Alluvial Soils are agriculturally important, as they are formed by the deposition of sediments brought by the rivers which gets replenished by the deposition of fresh sediment every year, and are rich in chemical nutrients.

b) Why is deltaic alluvium more fertile than coastal alluvium?
Deltaic alluvium (Khadar) is more fertile than coastal alluvium (Bhangar) as new layers are deposited year after year during monsoonal floods.

c) Why is Alluvial Soil fertile?
Alluvial Soil is very fertile since alluvium is rich in mineral nutrients like potash and lime.

d) Why Black Soils are also called ‘Black Cotton Soil’?
Black Soil is particularly suitable for cotton cultivation due to its water retention capacity. Therefore it is also called ‘Black cotton soil’
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e) Why Black Soil needs to be tilled after the first rains?
When wet, the Soil becomes sticky and difficult to work with. So, the Soil needs to be tilled after the first rains.

f) Why Black soil is Black in colour?
It is Black in colour due to high percentage of iron content.

g) Why is the Red Soil red in colour?
Red Soil is red in colour because it contains a great proportion of iron-oxides. At several places, their colour has slightly changed and appears brown or grey.

h) Why is Red Soil ideal for dry farming?
Red Soil is ideal for dry farming as it does not require moisture

i) Laterite soil is not suitable for cultivation.
Laterite soils are acidic in nature and has low water retaining capacity. It is poor in nitrogen and lime.

j) Why is Laterite Soil not suitable for agriculture?
Laterite Soil is not suitable for agriculture because of its high content of acidity and it cannot retain moisture as it is coarse and porous.

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