**Chapter 8 Soil**

MCQ

1. Loamy soil
2. 4 layers
3. Top soil
4. Clayey soil
5. Loamy soil
6. Deforestation

Fill in the blanks

1. Ants and beetles
2. Soil profile
3. Top soil, subsoil, parent rock, and bedrock
4. Iron oxide
5. Chemical
6. Terrace farming

True or False

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

 Q4.

1. Water is present in the soil. This water evaporates due to the heat of sun. Thus ,water drops can be seen on the inner walls of the jar.
2. Air is present in between soil particles. When we pour water the air come out in the form of the bubbles.

Q5. Very short answer type question

1. Soil forms the uppermost layer of the earth’s crust.
2. The process of soil formation is called weathering.
3. D- horizon forms the water table
4. Loamy soil contains equal amount of sand, clay and silt
5. Yes, afforestation reduces soil erosion, as the roots of trees hold the soil together.

Q6. Short answer type question

1. Humus is the organic matter formed by the decay of dead plants and animals in the soil.
2. Water table is the level below which the ground is saturated with water. The rainwater accumulates above the D- horizon and forms water table.
3. Clayey soil has high water retention capacity . It is sticky when wet and turns hard on drying. So, potters use clayey soil to make pots and lamps.
4. Loamy soil is rich in humus. It has adequate air space and contains sufficient water. Therefore, it is best soil for growing crops.
5. Microorganisms present in the soil, decompose the animal and plant remains into humus. Humus is the remains of dead and decaying plant and animals present in the soil.
6. Afforestation:
7. Planting trees in large number is known as afforestation
8. It reduces soil erosion ,as roots hold the soil .

Deforestation:

1. Cutting of trees in large number is known as deforestation
2. Soil erosion occurs due to deforestation because no roots are there to hold the soil.
3. Soil Erosion: Carrying away of the top fertile layer of soil by various agents is called soil erosion.

Agents of soil erosion:

1. Deforestation

2. Floods

3. forests fire

4. overgrazing

Q7. Long answer type question

1. **Why is soil called a valuable natural resource? Explain.**

Ans: Soil is called a valuable natural resource because of the following reasons:

1. Plants grow in soil and absorb nutrients from soil. They prepare food by process of photosynthesis and this food is used almost by every living organism directly or indirectly.
2. Soil is a home for many animals like ants ,earthworms, beetles, millipedes etc and various microorganisms. These animals are useful for plant’s growth. For example: earthworm turn and loosen the soil. Many microorganisms decompose dead and decayed matter and form humus, which increases fertility of soil.
3. Soil also keeps the plants in their placev by holding their roots firmly.
4. **Define soil profile. Draw a labelled diagram of soil profile.**

Ans: A vertical section through the soil, showing the different layers of soil is calledsoil profile. Each layer of this profile is called horizon. There vare 4 horizons. They are

1. A – horizon or Top Soil
2. B – horizon or Subsoil
3. C– horizon or parent rock
4. D– horizon or bedrock

 A – horizon or Top Soil : It is soft, porous, dark in colour. Humus is present in it. It can hold a lot of water. Roots are present in this layer and insects, worms and bacteria are present in this layer.

B – horizon or Subsoil : It is present below A- horizon. It is light in colour and contains less humus. It is harder than the top soil. It is rich in soluble minerals and iron oxide.

C– horizon or parent rock : It is present below B- horizon. It is made up of lumps of rocks with spaces between them. This layer is infertile as humus is absent in this layer.

D– horizon or bedrock: It is present below C- horizon. It is made up of hard and solid rock.

**Note: Draw the diagram of soil profile here...see page no. 88**

1. **Explain how soil is formed?**

**Ans:** Soil formation is a very slow process. Soil is formed when big rocks break down into small particles by the action of sun’s heat , wind, rain, flowing water and climatic condition. The process of soil formation by breaking down of rocks is called weathering. Weathering is of 2 types:

1. Physical weathering: The process in which rocks break into smaller pieces without change in characteristics of original rock.
2. Chemical weathering: in this type of weathering minerals present in the rocks are broken down into new mineral components .
3. **How can you show the presence of living organisms in soil?**

Ans. Flood a small area in the garden with a lot of water. We will observe small insects, larvae, earthworm coming out from the soil. This clearly shows that soil is a home to many living organisms.

1. **Distinguish between Sandy , clayey and loamy soil.**

Ans:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S.no | Property | Sandy soil | Clayey soil | Loamy soil |
| 1. | Particle size | Large | Very small | Medium size |
| 2. | Spaces between soil particles | Quite large  | Quite less | sufficient |
| 3. | Presence of air | Well areated | Not Well areated | Can hold sufficient air |
| 4. | Water holding capacity | Cannot hold much water | Can hold much water | Can hold moderate amount of water |
| 5. | Humus content | Lacks humus | Contains some amount of humus | Rich in humus |