# NCERT solution Soil

**Question 1**

In addition to the rock particles, the soil contains
(i) air and water
(ii) water and plants
(iii) minerals, organic matter, air and water
(iv) water, air and plants

**Answer**
(iii) minerals, organic matter, air and water

**Question 2**

The water holding capacity is the highest in
(i) sandy soil
(ii) clayey soil
(iii) loamy soil
(iv) mixture of sand and loam

**Answer**
(ii) clayey soil

**Question 3**

Match the items in Column I with those in Column II:

| Column I | Column II |
|---|---|
| (i) A home for living organisms | (a) Large particles |
| (ii) Upper layer of the soil | (b) All kinds of soil |
| (iii) Sandy soil | (c) Dark in colour |
| (iv) Middle layer of the soil | (d) Small particles and packed tight |
| (v) Clayey soil | (e) Lesser amount of humus |

**Answer**

| Column I | Column II |
|---|---|
| (i) A home for living organisms | (b) All kinds of soil |
| (ii) Upper layer of the soil | (c) Dark in colour |
| (iii) Sandy soil | (a) Large particles |
| (iv) Middle layer of the soil | (e) Lesser amount of humus |
| (v) Clayey soil | (d) Small particles and packed tight |

**Question 4**

Explain how soil is formed.

**Answer**

The soil is formed by the process of weathering. Weathering is the process of physical breakdown and chemical decomposition of the rocks and minerals at the surface of the earth. It happened by the action of wind, water and climate. It is a very slow process and big rocks get converted into soil.

**Question 5**

How is clayey soil useful for crops?

**Answer**

Clayey soil is very useful for crops because:
(i) It has very good water retaining capacity due to very small size particle which are packed tightly
(ii) This soil is rich in humus and is very fertile.
(iii) It contains useful organic minerals.
These properties of clayey soil are very suitable for growing crops like wheat, paddy, gram etc.

**Question 6**

List the differences between clayey soil and sandy soil.

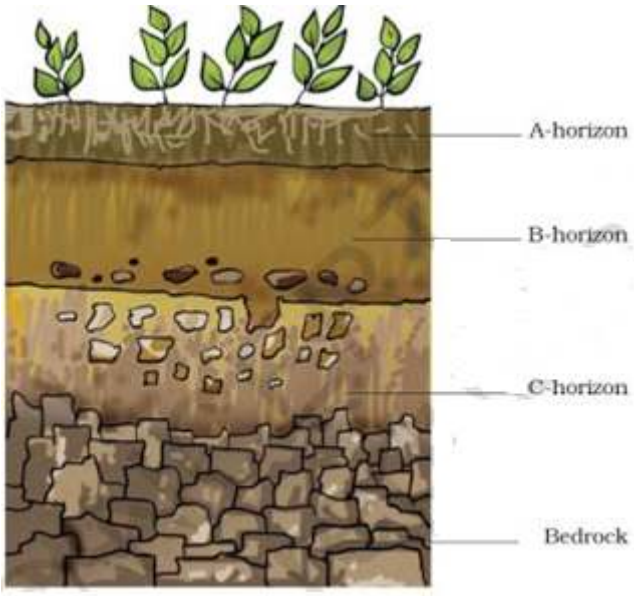
**Answer**

| Clayey Soil | Sandy Soil |
|---|---|
| **(i) It has much smaller particles.** | (i) It has much larger particles. |
| **(ii) It can retain good amount of water.** | (ii) It cannot retain water. |
| **(iii) It is fertile and rich in humus** | (iii) It is not fertile. |
| **(iv) less air is trapped in it** | (iv) Air get trapped between the particles. |
| **(iv) Particles are tightly packed** | (iv) Particles are loosely packed |
| **(iv) Good for growing various crops.** | (iv) Not suitable for growing crops. |

**Question 7**

Sketch the cross section of soil and label the various layers.

**Answer**




**Question 8**

Razia conducted an experiment in the field related to the rate of percolation. She observed that it took 40 min for 200 mL of water to percolate through the soil sample. Calculate the rate of percolation.

**Answer**

Amount of water taken = 200 mL
Time taken by water to percolate = 40 min
So Rate of percolation = Amount of water taken/Time taken by water to percolate

= 200 mL/40 min = 5 mL/min

**Question 9**

Explain how soil pollution and soil erosion could be prevented.

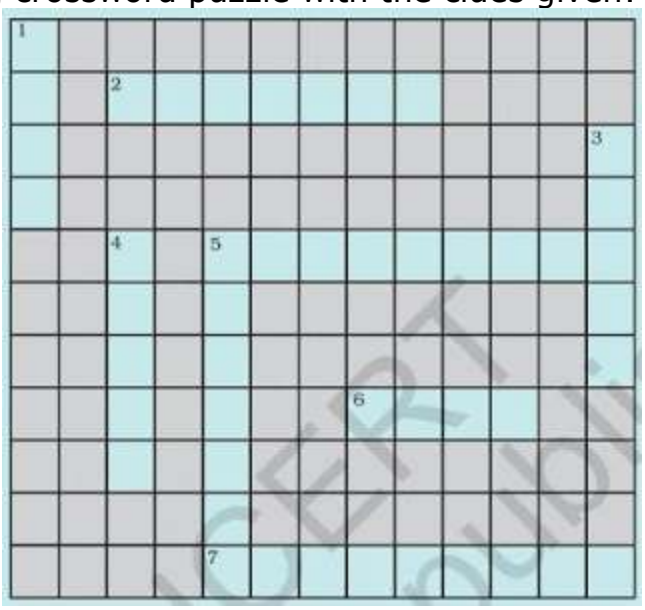
**Answer**

Soil Pollution is the persistent buildup pf toxic substance in the soil
Steps for preventing soil pollution:
i) Plastic bags should be banned and it doesn't decompose and destroy the fertility of the soil and gives rise to soil pollution. It should be should properly and disposed correctly
ii) Use of organic fertilizers and manure instead of synthetic.
iii) Pesticides and insecticides should be used in limited quantity and find natural way to prevent it.
(vi)Industrial waste shouldn't be dumped directly as it kills necessary microorganisms of soil. It should be treated to make it harmless before dumping.

Soil Erosion is the removal of top layer of soil by strong wind and running water
Steps for preventing soil Erosion:
(i) Plantation should be encouraged because plant roots firmly bind the soil and help in preventing erosion.
ii) proper drainage should be present

**Question 10**

Solve the following crossword puzzle with the clues given:



Across

2. Plantation prevents it.
5. Use should be banned to avoid soil pollution.
6. Type of soil used for making pottery.
7. Living organism in the soil.

Down

1. In desert soil erosion occurs through.
3. Clay and loam are suitable for cereals like.
4. This type of soil can hold very little water.
5. Collective name for layers of soil.

**Answer**

Across

2. Erosion
5. Polythene
6. Clay
7. Earthworm

Down

1. Wind
3. Wheat

4. Sandy
5. Profiled to the ocean.