

31/08/19

CHAPTER:- 3

SOIL

SHORT NOTES:-

* **WEATHERING:-** The process of breakdown of huge rocks into small rock particles by the action of sun's heat, wind, rain, flowing water and climatic conditions is called weathering.

* **SOIL:-** The topmost layer of the earth's crust consisting of the mixture of rock particles and humus is called soil.

* **SOIL PROFILE:-** A vertical section through the soil showing the different layers of the soil is called soil profile.

* **PERCOLATION OF WATER:-** The process in which water passes down slowly through the soil is called percolation of water.

* **PERCOLATION OF RATE:-** The percolation rate of water in a soil is the volume of water in millilitres (ml) that passes down the soil per minute.

* Thus percolation rate of water in a soil (ml/min).

= $\frac{\text{Volume of water percolated in soil (in ml)}}{\text{Time taken for this percolation (in min)}}$

Short Answer Type-1 Questions:-

Ques-1 What is meant by weathering of rocks?

Ans:- In notes.

Ques-2 How is humus formed in the soil?

Ans:- When plants and animals die, their bodies are decomposed by microorganisms (like bacteria and fungi) present in the soil to form organic matter called humus.

Ques-3 Give three ways to prevent soil pollution.

Ans:- Three ways to prevent soil pollution:-

- ① Proper treatment of industrial waste.
- ② Proper solid waste disposal and
- ③ Reducing the use of fertilisers and pesticides.

Ques-4 What is soil?

Ans:- In notes.

Ques-5 What is meant by percolation rate?

Ans:- In notes.

Ques-6 What is the function of air present in the space between the soil particles?

Ans:- The function of air present in the space between the soil particles is that it supplies oxygen to organisms which live in the soil and allowed to breathe the root of the plant.

Short Answer Type - II Question:-

Ques-1 Give three difference between clayey and sandy soil.

Ans:- Sandy soil

1. Sand particles are quite large.

2. Sand particles have larger space between them.

3. Sandy soil is not sticky.

Clayey soil

Clayey particles are very small.

Clayey soil has a very small and tightly-packed clayey soil particles.

Clayey soil is very sticky and when it is wet.

Ques-2 What are properties of soil?

Ans:- Properties of soil are:-

1. Soil allows water to percolate.

Soil has space between its particles. When water is poured over soil, some of it gets absorbed in the soil and the



When shall we mixed in water,
it found layers.

next chapter through it

2. Soil contains water (or moisture) - the soil in ground contains water.

3. Soil can absorb water - soil in pores and has space in between its particles. Due to this, soil can absorb (or retain) water.

Ques-30 Why do we make decorative items with clay?

Ans- We make decorative items with clay because clay soil is very sticky when wet and dries very hard on drying.

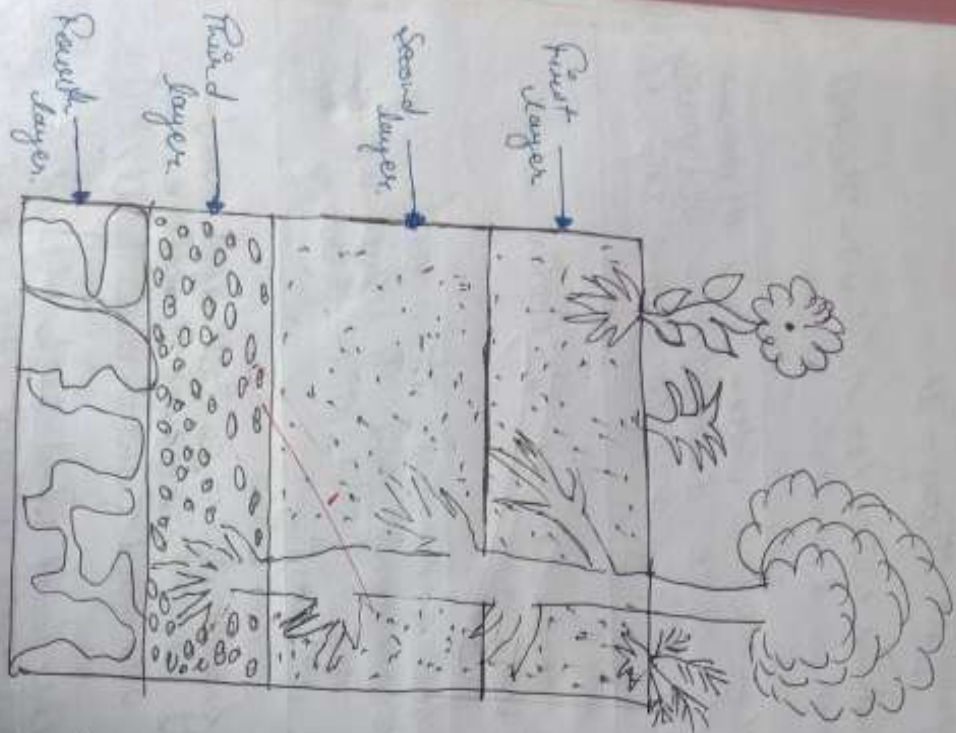
Q Why should the chemicals and wastes products be treated well before they are released into the soil?

Ans- The chemicals and waste products be treated well before they are released into the soil because they cause soil pollution & soil profile.

Ques 31 Sketch and label the different layers of soil that are found when soil is mixed in water.

Ans- On the opposite side

Ques 32 Page conducted and experiment in the



Soil profile

A-horizon
(topsoil)

B-horizon
(subsoil)

C-horizon
(substratum)

D-horizon
(bedrock or parent rock)

the field related to the rate of percolation of water soil. The first what it took 200 minutes per 100 ml of water to percolate through the soil sample. Calculate the rate of percolation.

$$\text{Rate of Percolation} = \frac{\text{Volume of percolated water}}{\text{Time taken}}$$

Time taken to percolate = 20 min
Volume of percolated water = 100 ml

$$\text{Rate of Percolation} = \frac{100 \text{ ml}}{20 \text{ min}} = 5 \text{ ml/min}$$

Long answer type questions:-

Q.1 What is meant by soil profile? draw a picture of the soil profile and label the various layers.

Ans. A vertical section through the soil showing the different layers of the soil is called soil profile. These layers are referred to as horizons. On the opposite side

Q.2 Why is long soil best for growing plants? explain.

Ans. A long soil is best for growing plants because:-

1. Loamy soil has the right water-holding capacity necessary for the growth of plants due to the presence of clay & smaller particles in it.
2. Loamy soil has adequate air space between its particles to hold sufficient air needed by the roots of plant due to the presence of sand & bigger particles in it.
3. Loamy soil contains sufficient amount of humus & particles necessary nutrients for the growing plants.
4. Loamy soil can be ploughed easily in the crop fields.

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21/10/19