

# NCERT SOLUTIONS

## CLASS-VII SCIENCE

### CHAPTER-10 RESPIRATION IN ORGANISMS

**Q1.** Along with rock particles, the soil consists of

- (i) Water and air                      (ii) minerals, air, water and organic matter  
(iii) Water and animals            (iv) air, plants and water.

**ANSWER:** (ii)

**Q2.**        can hold the most amount of water.

- (i) Clayey soil (ii) loamy soil (iii) desert soil (iv) iron rich soil

**ANSWER:** (ii)

**Q3.** Match the following columns:

Column 1

(a) Alcohol

(b) Toad

(c) Leaves

(d) Diaphragm

(e) Skin

Column 2

(i) Chest

(ii) Sense organ

(iii) Yeast

(iv) Stomata

(v) gills

**ANSWER:** (a) – (iii)

(b) – (v)

(c) – (iv)

(d) – (i)

(e) – (ii)

**Q4.** How does soil formation take place?

**ANSWER:** Soil is formed through the following processes:

- (i) Large rocks that are broken into smaller pieces come up to the surface of the earth.
- (ii) These smaller rocks are further broken down into smaller pieces by the action of rain, air and water. This phenomenon is known as weathering.
- (iii) The smaller pieces of rocks formed from weathering is subjected to further breakdown upon long exposure to moisture and sunlight.
- (iv) Now these fine pieces of rocks obtained from the above processes get mixed with decaying organic matter. This in totality forms soil.

**Q5.** In what way is clayey soil useful to crops?

**ANSWER:** Clayey soil are very rich in humus and have high water retaining capacity , thus making it ideal for growing crops like rice and wheat.

**Q6. Differentiate between clayey and sandy soil.**

**ANSWER:**

Clayey Soil	Sandy soil
They are very dense	They are loose.
Water retaining capacity is very high.	Water is lost/drained/evaporated very easily.
The amount of air trapped in it is less.	The amount of air trapped is more.
It has larger portions of fine particles.	It has higher portions of large particles.
Humus content is high.	Humus content is low.

**Q7. Reuben did an experiment on the rate of water percolation through soil. According to her observations, it took 20min for 400ml of water to percolate through the soil sample. What is the rate of percolation?**

**ANSWER:** Given,

Amount of water = 400ml

Time taken = 20 min.

Rate of percolation ( mL/min) = amount of water / time taken

= 400 mL/20 min = 20 mL/min

**Q9. Mention ways to mitigate soil pollution and soil erosion.**

**ANSWER:** Mitigation of soil pollution.

- (i) Chemicals and waste products, especially from industries should be treated before they are released into the soil.
- (ii) Chemical pesticides and fertilizers should be used as less as possible.
- (iii) Polythene bags and plastics should be used as less as possible, better still they should be totally banned.

Mitigation of soil erosion.

- (i) Avoid or lessen the rate of deforestation.
- (ii) Grow more trees.
- (iii) Build retaining walls, to prevent soil erosion on hill sides.
- (iv) Have a proper drainage system; let not water run over soil.