

Long Answer Questions

Q.1. Continuously water-logged soils are disadvantageous for plant growth. Why?

[NCERT Exemplar]

Roots, although underground, possess living cells that require oxygen for respiration and production of energy. They absorb oxygen that is present in the spaces between soil particles. But in water-logged soils, water occupies the spaces between soil particles and pushes the oxygen out into the atmosphere. Thus, roots are deprived of oxygen and this affects root and plant growth.

Q.2. Why is soil erosion relatively less in dense forests as compared to barren, open fields?

[NCERT Exemplar]

Ans. In dense forests, the tree cover (canopy) prevents rain water from directly falling on the ground/soil. Also roots of the vegetation bind the soil particles and hold them together. As a result soil erosion is minimised. But in barren, open fields the soil is exposed to the falling rain. The soil particles become loose due to the impact of raindrops and the flow of water carries them away. The flowing water further erodes the soil surface aggravating erosion.

Q.3. Gardeners gently dig up the soil around the roots of garden herbs (plants) frequently. Give reasons.

[NCERT Exemplar]

Ans. (a) For enabling easy root growth;

(b) For easier percolation of water;

(c) For aerating the soil/enabling air to get into deeper layers of soil;

(d) For removing the weeds.

Q.4. In towns and cities, generally, the bore wells have to be dug very deep to get water as compared to bore wells dug in villages. Give suitable reasons.

[NCERT Exemplar]

Ans. This is so because of excessive use of water which depletes the ground water.

Towns and cities have asphalted roads and vast areas of soil are concreted. As a result, rain water cannot percolate to recharge ground water and the ground water level further decreases. Villages have larger areas of open soil surface and fewer asphalted roads and concrete surfaces. Thus, larger soil surface area is available for rain water to

percolate into the soil easily and recharge the ground water. As a result, even shallow bore wells yield water.