

**A. Choose the correct answer:-**

1. How many types of weathering are there?

c. Three

2. What is the weathering caused by the repeated freezing and thawing of ice crystals known as?

c. Frost action

3. Which kind of weathering is also known as onion peeling?

b. Exfoliation

4. Which layer of soil consists of the parent bedrock?

a. D horizon

5. What is hydration

b. Weathering caused by the absorption of water by rocks

**B. State whether the sentences are true or false:-**

1. Limestone dissolves completely when exposed to rainwater. **(True)**

2. Chemical weathering makes rock vulnerable to physical weathering. **(True)**

3. Use of chemical fertilisers makes soil more fertile. **(False)**

4. Terrace farming is practiced in river valleys. **(False)**

5. Legumes are grown for nitrogen fixation. **(True)**

**C. Fill in the blanks:-**

1. When plant and animal remains are attacked by fungi and bacteria they form a dark brown or black product called humus.

2. Rusting is another name for oxidation.

3. Some bacteria secrete acid solutions and speed up the chemical weathering.

4. The weathering which happens when oxygen is removed from a compound is known as reduction.

5. D-horizon is basically the parent bedrock which is not weathered.

**D. Answer the following in 1-2 sentences:-**

1. Name two rocks which dissolve completely when exposed to rainwater.

Ans.1 Limestone and rock salt.

2. Which animals cause weathering?

Ans.2 Burrowing animals such as badgers and moles can break up rock underground or bring it to the surface, where it is exposed to other weathering forces.

3. Which layer of soil is known as the subsoil?

Ans.3 Subsoil is the layer of soil under the topsoil on the surface of the ground, B-horizon is subsoil which provides nutrients to the plants.

4. What is contained in the C-horizon?

Ans.4 C-rock is the infertile partly weathered rock.

5. The chemical weathering of which rock leads to the formation of caves and caverns?

Ans.5 The chemical weathering of limestone leads to the formation of cave and caverns.

**E. Answer the following in 4-5 sentences:-**

1. What is crop rotation?

Ans.1 Crop rotation is the practice of planting different crops sequentially on the same plot of land to improve soil health, optimize nutrients in the soil, and combat pest and weed pressure.

2. What is meant by biochemical weathering?

Ans.2 The roots of some plants produce chemicals which cause weathering of the rocks, it is called biochemical weathering.

3. What is carbonation?

Ans.3 Carbonation:-The carbon dioxide present in the atmosphere dissolve in rainwater and forms a weak carbonic acid which can eat away limestone very quickly.

4. What is sheet erosion?

Ans.4 Sheet erosion happens when a thin sheet of soil is washed downhill, more or less uniformly by rain.

5. How does root tension weathering occur?

Ans.5 Root tension weathering:-Roots of plants may grow into cracks and as the plant grows the roots grow too, thus making the cracks larger. Mosses and lichens are known to do this.

**F. Answer the following in 8-10 sentences:-**

1. Mention and explain any three factors affecting weathering.

Ans.1 Factors that affect weathering:-

- i. Porosity of the rock:-Some rocks are like sponges and water seeps into them very easily. When this water freezes due to extreme cold, it expands and causes the rock to crack.
- ii. Climate:-Chemical weathering takes place far more easily in a warm and humid climate than in a cold, dry and arid area where mechanical weathering is prevalent.
- iii. Plant and animal activity:-Areas which abound in plants and animals have more chances of biological weathering.

2. What are the differences between weathering and erosion?

Ans.2 Weathering is the gradual breaking down of rocks due to exposure to the atmosphere. This can be caused by changes in temperature, pressure, action of wind etc.

Erosion, however, is the wearing down, removal and transportation of the Earth's materials by natural agents like moving glaciers, avalanches, wind, hurricanes, rivers, streams, rainwater and waves.

3. What are the different methods of soil conservation?

Ans.3 Following methods are normally adopted for conserving soil:-

- i. Afforestation:-Afforestation is the establishment of a forest or stand of trees (forestation) in an area where there was no previous tree cover.
- ii. Terrace farming:-Terrace cultivation, method of growing crops on sides of hills or mountains by planting on graduated terraces built into the slope.
- iii. Basin listening:-It is a method by which basins are dug along the contours to collect the water so that its speed of flow is checked.

Contour farming, mulching, crop rotation and dry farming are also useful methods of soil conservation.

3. Describe any three types of chemical weathering.

Ans.3 i. Carbonation:-The carbon dioxide present in the atmosphere dissolve in rainwater and forms a weak carbonic acid which can eat away limestone very quickly.

ii. Hydration:-Some rock minerals absorb water. This makes them swell up and become soft thus making the rock weak. The addition of water molecules to the mineral frequently creates a new mineral compound.

iii. Reduction:-When oxygen is removed from a compound it becomes prone to further weathering. For example, ferric iron is reduced to ferrous iron, which gets weathered easily.

5. What is meant by biological weathering? Explain with examples.

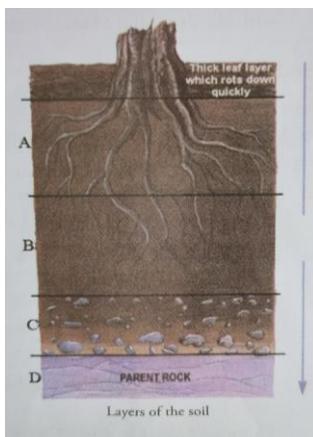
Ans.5 Biological weathering takes place as a result of the action of plants, animals and other organisms on rocks.

Weathering by plants and animals:-

- i. Root tension weathering:-Roots of plants may grow into cracks and as the plant grows the roots grow too, thus making the cracks larger. Mosses and lichens are known to do this.
- ii. Burrowing animals:-Burrowing animals such as badgers and moles can break up rock underground or bring it to the surface, where it is exposed to other weathering forces.

Acid secretion and weathering by humic acid are also examples of biological weathering.

**H. Draw and label diagram:-**



**I. Picture study:-**

1. Block disintegration. This is a kind of thermal weathering.
2. Due to high diurnal (daily) range of temperature, rocks expand during daytime and contract at night leading to the rocks breaking up into blocks.