

Soil Resources

1. (i) Name the Indian soil which is formed due to the weathering of basic igneous rocks.
(ii) Name two states of India where this type of soil is found.

(2019)

Answer:

- (i) Black soil
- (ii) Maharashtra and Gujarat

2. (i) An important transported soil of India.
(ii) Soil that is rich in iron oxide.

(2019)

Answer:

- (i) Alluvial soil
- (ii) Red soil

3. Give a geographical reason for each of the following : **[3]**
(i) Terrace farming is an ideal soil conservation method for hilly regions.
(ii) Dry farming is preferred in areas with red soil.
(iii) Wind is a common agent of soil erosion in arid regions.

(2019)

Answer:

(i) It is because the hill slope is cut into a number of terraces having horizontal top and steep slopes on the back and front. So terrace farming is an ideal soil conservation method for hilly regions.

(ii) It is because the soil is less fertile and is found in areas characterized by heavy rainfall.

(iii) Due to low rainfall, wind can lift the valuable topsoil from one area and deposit it in another area. So that wind is a common agent of soil.

4. Briefly answer the following : **[3]**
(i) Mention one way in which man is responsible for soil erosion.

- (ii) How can deepening of the river bed help in preventing soil erosion?
- (iii) Mention a physical characteristic of Laterite soil.

(2019)

Answer:

- (i) Deforestation
- (ii) Deepening of the river bed will prevent floods and ultimately shore and stream bank erosion.
- (iii) The soils are indefinitely durable so they provide valuable building material.

5. (i) Why does alluvial soil differ in texture? **[2]**
(ii) State two cash crops that grow well in alluvial soil.

(2018)

Answer:

- (i) It is the transported soil and in the upper course of the river it is coarse whereas in the lower course it is finely grained.
- (ii) Wheat and Rice.

6. With reference to black soil answer the following : **[2]**
(i) Name one important crop which grows in this soil.
(ii) Give one chemical property of this soil.

(2018)

Answer:

- (i) Cotton.
- (ii) Soil is rich in soil nutrients such as calcium, carbonate, potash, lime etc.

7. Give one geographical reason for each of the following : **[3]**
(i) Red soil requires irrigation.
(ii) Afforestation prevents soil from getting eroded.
(iii) Laterite soil is red in colour.

(2018)

Answer:

- (i) Soil lacks organic matter.
- (ii) Trees and plants anchor and hold the soil together.
- (iii) Due to wide diffusion.

8. What is soil erosion? Mention two causes of soil erosion in India. [3]

(2018)

Answer:

(i) Soil erosion is the removal of soil by the forces of nature, particularly wind and water.

(ii) Soil erosion mainly takes place due to man's activities such as :

(a) Deforestation

(b) Overgrazing of cattle.

9. Mention two differences between Alluvial Soil and Black Cotton Soil. [2]

(2017)

Answer:

Alluvial Soil	Black Soil
Alluvial soil is very fertile as it is rich in mineral nutrients like potash and lime.	The black soils are made of extremely fine material, i. e., clayey material.
Most of alluvial soil is derived from the sediments deposited by rivers.	The soil is well-known for its capacity to hold moisture.

10. Name an area in India in which each of the following processes take place: [2]

(i) Sheet erosion

(ii) Gully erosion

(2017)

Answer:

(i) Hilly areas of Uttarakhand and Himachal Pradesh

(ii) Madhya Pradesh

11. What is soil conservation? State a method of soil conservation in the: [3]

(i) Arid and Semi-Arid region.

(ii) River valleys are prone to flooding.

(2017)

Answer:

Soil erosion is the removal of soil by the forces of nature, particularly wind and water. Soil erosion mainly takes place due to man's activities such as deforestation, overgrazing of cattle, faulty methods of cultivation.

- (i) Afforestation, Restricting grazing of animals
- (ii) Constructing dams

12. Name the soil which: **[3]**

- (i) Is good for cultivation of sugarcane.
- (ii) is acidic in nature.
- (iii) occurs ex situ.

(2017)

Answer:

- (i) Alluvial and Black soil
- (ii) Laterite
- (iii) Alluvial

13. What is soil erosion ? Mention two steps that could be taken to prevent soil erosion.

(2016)

Answer:

Soil Erosion: The detachment of the soil particles from the uppermost portion of the earth's crust is called soil erosion.

Steps taken to prevent soil erosion are :

- (i) Contour Ploughing: The fields are ploughed and sown along the contours instead up and down the slope.
- (ii) Planting of Shelterbelts: In desert areas trees are planted on the margins of deserts perpendicular to the wind direction which prevents soil erosion.

14. Mention two similarities between red soil and laterite soil.

(2016)

Answer:

Two similarities between red soil and laterite soil are :

- (i) Both are red in colour as they are rich in iron oxide.
- (ii) Both are porous and friable.

15. Give a geographical reason for each of the following:

- (i) Alluvial soil differs in texture.
- (ii) Black soil does not get leached.
- (iii) Khadar is more fertile than bhangar

(2016)

Answer:

- (i) Alluvial soil differs in texture because it is a transported soil deposited by rivers.
- (ii) Black soil does not get leached because it is moisture retentive.
- (iii) Khadar is new alluvium deposited by the rivers in their floodplains which is replenished every year. Bangar is older alluvium found in upland areas above the flood plains, Bangar is older alluvium which is not renewed by the floods.

16. Define the following:

- (i) Sheet erosion
- (ii) Soil conservation
- (iii) In situ soil

(2016)

Answer:

- (i) Sheet Erosion: When the vegetation cover of an area is removed, the rainwater instead of seeping into the ground, washes down the slope. A complete layer is carried along with water in a larger area. It is called sheet erosion.
- (ii) Soil Conservation: It refers to the steps taken to protect the soil from erosion. It aims at prevention as well as reclamation of soil that has been damaged by natural phenomenon or due to exploitation and impoverishment over centuries.
- (iii) In Situ Soil: When the soil remains at the place of its formation it is called in situ soil. e.g. Black Soil.

17. State the characteristic of each of the soils named below that makes them most suitable for crop cultivation :

- (i) Black soil.
- (ii) Red soil. **[2]**

(2015)

Answer:

- (i) Characteristic of black soil : It is able to retain moisture.
- (ii) Characteristic of red soil : It is rich in potash and becomes fertile with proper use of fertilisers and irrigation.

18. State the geographic term for each of the following processes :

- (i) The process by which soluble minerals dissolve in rain water and percolate to the bottom, leaving the top soil infertile.
- (ii) The process by which rainwater, flowing in definite paths, removes the top soil, thus causing deep cuts to the surface of the land. **[2]**

(2015)

Answer:

Geographic terms are :

- (i) Leaching
- (ii) Gully erosion.

19. Define the following :

- (i) Pedogenesis.
- (ii) Humus.
- (iii) Bhangar. **[3]**

(2015)

Answer:

- (i) Pedogenesis: Process of soil formation is called pedogenesis.
- (ii) Humus: Decayed remains of plants, animal manures and dead animals is called Humus. It is an essential element in determining the fertility of soil.
- (iii) Bhangar: Older alluvium soil found about 30 m above sea level in river terraces, light grey in colour and calcareous clay is called humus.

20. Give a geographic reason for each of the following :

- (i) Alluvial soil is extremely fertile.
- (ii) Need for soil conservation.
- (iii) Reafforestation should be practised extensively. **[3]**

(2015)

Answer:

- (i) Alluvial soil is extremely fertile because it is found to a depth of 500 m and rich in humus, lime and potash.
- (ii) There is a need for soil conservation because topsoil that is eroded is the main feeding zone. With the increase in population the demand for crops is also increasing.

(iii) Reafforestation should be practised extensively because the area under forest cover is shrinking day by day due to urbanisation etc.

21. State any two methods of controlling soil erosion.

(2014)

Answer:

Two methods of controlling soil erosion are :

- (i) Planting trees and indiscriminate felling of trees must stop.
- (ii) Terraced farming checks erosion.

22. Mention two differences between alluvial soil and red soil.

(2014)

Answer:

Differences between alluvial soil and red soil are :

- (i) Alluvial soil is more fertile and deep whereas red soil is not water retentive and less fertile.
- (ii) Alluvial soil is yellow in colour and red soil is red in colour.

23. Give a geographical reason for :

- (i) different regions in India having different kinds of soil.
- (ii) black soil being suitable for the growth of cotton.
- (iii) the conservation of soil as a natural resource.

(2014)

Answer:-

- (i) Different regions in India have different kinds of soil because different regions have different parent material and climatic conditions.
- (ii) Black soil is suitable for growth of cotton because it is moisture retentive and it is rich in iron, potash, lime, calcium, alumina humus etc.
- (iii) Afforestation or planting of trees saves the soil from erosion.

24. Name the soil which :

- (i) is good for the cultivation of cashew nuts.
- (ii) covers almost all of West Bengal.
- (iii) is a result of leaching.

(2014)

Answer:

- (i) Laterite soil.
- (ii) Alluvial soil.
- (iii) Laterite soil.

25. Differentiate between Transported soil and In situ soil, quoting a suitable example for each.

(2013)

Answer:

Transported Soil—If a soil is carried elsewhere at the place of rest by the agents of gradation, it is transported soil e.g. Alluvial Soil.

In situ Soil—If the soil remains at the place of its origin it is called in situ soil. e.g. Black Soil.

26. State two differences between Bhangar and Khadar.

(2013)

Answer:

Bhangar	Khadar
It belongs to Old alluvium.	It belongs to New alluvium.
It is less fertile.	It is more fertile.
It is non porous, claying and loamy.	It is calcareous clay.
It is found in the lower areas of the valley bottom.	They are found 30 m above flood level of the rivers.

27. Name the process by which Laterite soil is formed. Mention one disadvantage of this soil

(2013)

Answer:

Laterite Soil is formed by leaching in the regions of alternate wet and dry spells.

Disadvantage—It is acidic in nature and cannot retain moisture.

28. With reference to Red soils in India, answer the following questions :

- (i) Name two states where it is found.
- (ii) State two advantages of this type of soil.
- (iii) Mention two important crops grown in this soil.

(2013)

Answer:

With reference to Red Soil:

- (i) Tamil Nadu and Karnataka.
- (ii) Two advantages of Red Soil:
 - (i) It has high iron oxide content and is rich in potash.
 - (ii) It becomes productive with fertilisers.
- (iii) Important crops grown are rice, millets, sugarcane.

29. State two methods of controlling the erosion of soil caused by running water.

(2012)

Answer:

Soil erosion caused by running water can be controlled by following methods :

- (i) By planting trees.
- (ii) Terrace farming.

30. Mention two differences in the alluvial soil of the northern plains and the alluvial soil on the coastal plains of India

(2012)

Answer:

Alluvial soil of the northern plains are coarse in texture and light in colour whereas the alluvial soil on the coastal plains are dark and fine in texture.

31. Mention any three characteristics of black soil which makes the soil fertile.

(2012)

Answer:

Three characteristics of black soil which make the soil fertile are :

- (i) It is rich in iron, potash, lime, calcium, alumina, magnesium, carbonates and humus.
- (ii) It is moisture retentive.
- (iii) It is fine grained in texture

32. Give geographical reasons for the following:
- (i) Laterite soil is not suitable for cultivation.
 - (ii) Red soil is red in colour.
 - (iii) Khadar soils are preferred to Bangar soils.

(2012)

Answer:

Geographical reasons:

- (i) Laterite soil is not suitable for cultivation because it is acidic in nature and does not retain moisture.
- (ii) Red soil is red in colour because it is rich in iron.
- (iii) Khadar soil is preferred to Bangar because it is more fertile as it is replenished every year by floods.

33. Name two states in India where Regur soil is found. In what way does Regur soil help agriculture? **[2]**

(2011)

Answer:

Regur soil is found in Gujarat and Maharashtra.

It helps agriculture because it is moisture retentive and rich in iron, potash, lime, calcium, magnesium and humus.

34. Mention two main characteristics of Laterite soil. **[2]**

(2011)

Answer:

Two main characteristics of laterite soil are :

- 1. It is red in colour with high content of iron oxides.
- 2. High content of acidity and inability to retain moisture.

35. State the difference between Alluvial soils found in the lower courses and the upper courses of rivers. **[3]**

(2011)

Answer:

Alluvial soil found in the upper course is coarse in texture, light in colour and less fertile whereas Alluvial soil found in the lower course is fine textured, dark in colour and more fertile.

36. Name two important agents of erosion. For each, state one method of controlling the erosion caused. **[3]**

(2011)

Answer:

Two important agents of erosion are :

1. Wind and
2. Running water.

Erosion by wind can be controlled by planting shelterbelts perpendicular to the wind direction.

Erosion by running water can be controlled by planting trees, making dams across the river etc.

37. Name the soil which:

- (i) covers the summits of the Eastern ghats.
- (ii) makes up the delta of the river Ganga.
- (iii) is the most suitable for the cultivation of cotton.
- (iv) is sticky when wet and cracks when dry. **[2]**

(2010)

Answer:

- (i) Laterite soil
- (ii) Alluvial soil
- (iii) Black or Regur soil
- (iv) Black or Regur soil

38. What is soil conservation ? How does afforestation help in soil conservation ? **[2]**

(2010)

Answer:

An effort made by man to prevent or reduce the rate of destructive erosion of soil by taking preventive measures is called 'Soil conservation'.

Soil conservation is a must to maintain the productivity of land. Reafforestation is planting of two saplings in place of one tree, in a place of deforested area, saves the soil from erosion caused by both water and wind.

39. Name the process by which laterite soil is formed. What climatic conditions are responsible for its formation ? **[3]**

(2010)

Answer:

Laterite soils are formed by 'Leaching'. Leaching is a process in which the nutrients of the soil get percolated down below the soil due to heavy rainfall, leaving behind the top soil infertile. Laterite soils are 'In situ' and the climatic condition responsible for it is high temperature and heavy rainfall with alternate dry and wet periods.

40. Give reasons for:

- (i) Black soil is largely found in the Deccan Trap region.
- (ii) Khadar is more fertile than Bhangar.
- (iii) Soil erosion by wind is common in arid regions. **[3]**

(2010)

Answer:

(i) Black soil is largely found in the Deccan Trap region because it is 'In situ' and is formed by the weathering of solidified lava spread over large areas of Deccan Trap during volcanic activity.

(ii) Khadar soil is more fertile than Bangar soil because :

1. Khadar is new alluvium deposited by the rivers in their floodplains. Bangar is older alluvium found in upland areas above the flood plains, Bangar is older alluvium which is not renewed by the floods.
2. Khadar has fine particles of clay whereas Bangar is coarse and it contains 'Kankar' nodules.

(iii) Soil erosion by wind is common in arid regions because the arid regions receive no rainfall or have very scanty rainfall, so it is devoid of vegetation cover. Roots of plants hold the soil firmly in its place. In the absence of vegetation cover, soil becomes loose particles easy to be moved by high velocity winds.