

UNIT V: SOIL GEOGRAPHY

Set I

1. Which of the following soil orders is associated with young soils that are still in the process of development and lack distinct horizons?

- A) Aridisols
- B) Inceptisols
- C) Alfisols
- D) Andisols

Correct Answer: B) Inceptisols

2. What is the term for the layer of soil that is permanently frozen in permafrost regions?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

Correct Answer: D) C horizon

3. Which of the following is NOT a common soil-forming factor?

- A) Time
- B) Parent material
- C) Soil organisms

D) Atmospheric pressure

Correct Answer: D) Atmospheric pressure

4. The process of nutrient movement from the upper horizons to the lower horizons in the soil profile is known as:

A) Erosion

B) Leaching

C) Eluviation

D) Illuviation

Correct Answer: D) Illuviation

5. Which soil horizon contains the highest concentration of weathered minerals and clays?

A) O horizon

B) A horizon

C) B horizon

D) C horizon

Correct Answer: C) B horizon

6. Which type of soil erosion occurs as the result of the action of flowing water in well-defined channels?

A) Sheet erosion

B) Rill erosion

C) Gully erosion

D) Mass wasting

Correct Answer: C) Gully erosion

7. The term "pedogenesis" refers to:

- A) The study of soil classification
- B) The process of soil formation
- C) The analysis of soil nutrients
- D) Soil conservation practices

Correct Answer: B) The process of soil formation

8. Which soil order is characterized by the presence of a subsurface horizon with accumulated clay and iron, often found in humid regions?

- A) Andisols
- B) Ultisols
- C) Spodosols
- D) Oxisols

Correct Answer: B) Ultisols

9. What is the term for the process of soil particles being carried away by the wind?

- A) Erosion
- B) Deposition
- C) Leaching
- D) Deflation

Correct Answer: D) Deflation

10. Which soil property is related to the degree of aggregation or clumping of soil particles?

- A) Soil texture
- B) Soil structure
- C) Soil porosity
- D) Soil acidity

Correct Answer: B) Soil structure

11. The accumulation of salts in the upper soil horizons is a characteristic of:

- A) Desertification
- B) Salinization
- C) Eutrophication
- D) Weathering

Correct Answer: B) Salinization

12. Which soil order is commonly found in areas with high precipitation and is characterized by a subsurface horizon with aluminum and iron accumulations?

- A) Andisols
- B) Ultisols
- C) Spodosols
- D) Oxisols

Correct Answer: C) Spodosols

13. Soil conservation practices aim to:

- A) Promote soil erosion
- B) Deplete soil fertility
- C) Preserve and protect soil resources
- D) Increase deforestation

Correct Answer: C) Preserve and protect soil resources

14. What is the primary factor influencing the rate of chemical weathering in soils?

- A) Temperature
- B) Topography
- C) Soil texture
- D) Soil structure

Correct Answer: A) Temperature

15. Which of the following is a common method to measure soil moisture content in the field?

- A) Gravimetric method
- B) X-ray diffraction
- C) Soil pH meter
- D) Soil texture analysis

Correct Answer: A) Gravimetric method

16. Which soil horizon contains partially weathered parent material and may show the beginning of soil development?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

Correct Answer: B) A horizon

17. Soil acidity is often measured using the pH scale, with values below 7 indicating:

- A) Neutral soil
- B) Alkaline soil
- C) Acidic soil
- D) Basic soil

Correct Answer: C) Acidic soil

18. The term "solum" refers to:

- A) The entire soil profile
- B) The upper layer of soil where plant roots grow
- C) The deepest layer of soil
- D) The layer of soil with the highest organic matter content

Correct Answer: B) The upper layer of soil where plant roots grow

19. Which soil property refers to the arrangement of soil particles into aggregates or peds?

- A) Soil texture
- B) Soil structure
- C) Soil porosity
- D) Soil compaction

Correct Answer: B) Soil structure

20. Which of the following soil orders is commonly found in volcanic regions and is characterized by a high content of volcanic ash?

- A) Andisols
- B) Ultisols
- C) Spodosols
- D) Oxisols

Correct Answer: A) Andisols

21. The process of soil particles being transported and deposited by water, often in a river or stream, is called:

- A) Leaching
- B) Percolation
- C) Fluviation
- D) Sedimentation

Correct Answer: D) Sedimentation

22. Soil erosion caused by the action of wind is most common in:

- A) Desert regions

- B) Tropical rainforests
- C) Humid temperate climates
- D) Arctic tundra

Correct Answer: A) Desert regions

23. Which soil order is characterized by a high accumulation of organic matter and is commonly found in wetland areas?

- A) Gelisols
- B) Entisols
- C) Histosols
- D) Andisols

Correct Answer: C) Histosols

24. Which soil horizon is known as the "zone of accumulation" where minerals and nutrients are leached and accumulate?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

Correct Answer: C) B horizon

25. The process of converting atmospheric nitrogen gas (N_2) into ammonia (NH_3) or ammonium ions (NH_4^+) is known as:

- A) Nitrification
- B) Denitrification

C) Nitrogen fixation

D) Ammonification

Correct Answer: C) Nitrogen fixation

26. Soil moisture content is typically highest in which horizon?

A) O horizon

B) A horizon

C) B horizon

D) C horizon

Correct Answer: A) O horizon

27. Which soil horizon contains the accumulation of organic matter, such as decomposed leaves and plant material?

A) O horizon

B) A horizon

C) B horizon

D) C horizon

Correct Answer: A) O horizon

28. The process of breaking down rocks into smaller particles by physical and chemical means is called:

A) Weathering

B) Erosion

C) Leaching

D) Hydration

Correct Answer: A) Weathering

29. Which soil property refers to the ability of soil to transmit water and air?

A) Soil texture

B) Soil structure

C) Soil porosity

D) Soil pH

Correct Answer: C) Soil porosity

30. What is the term for the loss of fertile topsoil due to erosion?

A) Desertification

B) Deforestation

C) Soil degradation

D) Soil depletion

Correct Answer: C) Soil degradation

31. Soil salinity is often associated with:

A) Excessive rainfall

B) High organic matter content

C) Excessive irrigation and poor drainage

D) Low temperatures

Correct Answer: C) Excessive irrigation and poor drainage

32. Which of the following soil orders is characterized by the presence of high levels of organic matter and is commonly found in peatlands?

- A) Gelisols
- B) Entisols
- C) Histosols
- D) Andisols

Correct Answer: C) Histosols

33. Which soil horizon is known as the "parent material" horizon?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

Correct Answer: D) C horizon

34. The term "hydric soils" refers to soils that:

- A) Have a high pH
- B) Are prone to erosion
- C) Are saturated with water for a significant part of the year
- D) Are rich in organic matter

Correct Answer: C) Are saturated with water for a significant part of the year

35. Which of the following is a common nutrient deficiency symptom in plants associated with alkaline soils?

- A) Chlorosis
- B) Wilting
- C) Root rot
- D) Excessive growth

Correct Answer: A) Chlorosis

36. Which soil horizon is characterized by illuviation of minerals and organic matter from above horizons?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

Correct Answer: C) B horizon

37. The process of converting organic matter into ammonia and ammonium ions is called:

- A) Nitrification
- B) Denitrification
- C) Nitrogen fixation
- D) Ammonification

Correct Answer: D) Ammonification

38. Which soil property is often measured to determine a soil's ability to retain and supply water to plants?

- A) Soil texture
- B) Soil structure
- C) Soil porosity
- D) Soil moisture holding capacity

Correct Answer: D) Soil moisture holding capacity

39. What is the term for the loss of soil productivity due to the accumulation of salts in the soil?

- A) Desertification
- B) Salinization
- C) Eutrophication
- D) Weathering

Correct Answer: B) Salinization

40. Which soil order is characterized by a subsurface horizon with accumulated clay and iron, often found in humid regions?

- A) Andisols
- B) Ultisols
- C) Spodosols
- D) Oxisols

Correct Answer: B) Ultisols

41. Soil erosion control methods may include:

- A) Increasing soil compaction
- B) Promoting deforestation
- C) Planting cover crops and using terracing
- D) Encouraging overgrazing

Correct Answer: C) Planting cover crops and using terracing

42. Soil taxonomy is a hierarchical system used to classify soils into different categories. Which of the following is the highest taxonomic rank in this system?

- A) Order
- B) Suborder
- C) Great group
- D) Family

Correct Answer: C) Great group

43. Which soil order is characterized by the presence of a subsurface horizon with accumulated clay and iron, often found in humid regions?

- A) Andisols
- B) Ultisols
- C) Spodosols
- D) Oxisols

Correct Answer: B) Ultisols

44. What is the term for the process of soil particles being carried away by running water or wind?

- A) Erosion
- B) Deposition
- C) Leaching
- D) Weathering

Correct Answer: A) Erosion

45. Which of the following is NOT a major nutrient essential for plant growth?

- A) Nitrogen
- B) Phosphorus
- C) Calcium
- D) Oxygen

Correct Answer: D) Oxygen

46. Soil particles that settle out of water and accumulate at the bottom of a water body are called:

- A) Sediments
- B) Loess
- C) Aggregates
- D) Eluvium

Correct Answer: A) Sediments

47. The term "hydric soils" refers to soils that:

- A) Have a high pH
- B) Are prone to erosion
- C) Are saturated with water for a significant part of the year
- D) Are rich in organic matter

Correct Answer: C) Are saturated with water for a significant part of the year

48. Which soil order is associated with soils formed under coniferous forests and is characterized by a spodic horizon?

- A) Alfisols
- B) Spodosols
- C) Mollisols
- D) Ultisols

Correct Answer: B) Spodosols

49. The process of nutrients being leached from the soil due to excess rainfall is called:

- A) Erosion
- B) Percolation
- C) Eluviation
- D) Illuviation

Correct Answer: C) Eluviation

50. Soil conservation practices aim to:

- A) Promote soil erosion

B) Deplete soil fertility

C) Preserve and protect soil resources

D) Increase deforestation

Correct Answer: C) Preserve and protect soil resources

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Set II

1. What is the primary factor influencing soil formation?

- A) Climate
- B) Topography
- C) Parent material
- D) Time

Correct Answer: A) Climate

2. Which soil horizon is commonly referred to as the "subsoil"?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

Correct Answer: C) B horizon

3. Which soil texture has the smallest particle size?

- A) Sand
- B) Silt
- C) Clay
- D) Loam

Correct Answer: C) Clay

4. What is the term for the process of adding nutrients to the soil to improve its fertility?

- A) Soil erosion
- B) Soil conservation
- C) Soil enrichment
- D) Soil amendment

Correct Answer: D) Soil amendment

5. Which soil order is characterized by a high organic matter content and a thick, dark A horizon?

- A) Aridisols
- B) Spodosols
- C) Mollisols
- D) Ultisols

Correct Answer: C) Mollisols

6. Soil pH is a measure of:

- A) Soil texture
- B) Soil fertility
- C) Soil acidity or alkalinity
- D) Soil compaction

Correct Answer: C) Soil acidity or alkalinity

7. Which type of soil erosion occurs due to the detachment and movement of individual soil particles by raindrop impact?

- A) Sheet erosion
- B) Rill erosion
- C) Gully erosion
- D) Wind erosion

Correct Answer: A) Sheet erosion

8. Which soil layer contains accumulated organic matter, such as decomposed leaves and plant material?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

Correct Answer: A) O horizon

9. Which soil property refers to the ability of soil to transmit water and air?

- A) Soil texture
- B) Soil structure
- C) Soil porosity
- D) Soil pH

Correct Answer: C) Soil porosity

10. What is the primary component of soil organic matter?

- A) Minerals

- B) Water
- C) Organic carbon
- D) Air

Correct Answer: C) Organic carbon

11. Which of the following is not a primary soil-forming factor?

- A) Parent material
- B) Climate
- C) Biota
- D) Soil texture

Correct Answer: D) Soil texture

12. In which soil order would you typically find the accumulation of aluminum and iron oxides?

- A) Inceptisols
- B) Spodosols
- C) Aridisols
- D) Oxisols

Correct Answer: D) Oxisols

13. Soil erosion can be classified into which two main categories?

- A) Sheet and gully erosion
- B) Chemical and physical erosion
- C) Wind and water erosion

D) Weathering and deposition

Correct Answer: C) Wind and water erosion

14. Which soil order is commonly found in arid regions and is characterized by the presence of calcium carbonate accumulations?

A) Alfisols

B) Aridisols

C) Mollisols

D) Ultisols

Correct Answer: B) Aridisols

15. What is the term for the gradual movement of clay particles downward in the soil profile?

A) Leaching

B) Eluviation

C) Illuviation

D) Hydration

Correct Answer: C) Illuviation

16. Soil salinity is often associated with:

A) Excessive rainfall

B) High organic matter content

C) Excessive irrigation and poor drainage

D) Low temperatures

Correct Answer: C) Excessive irrigation and poor drainage

17. Which soil horizon is known as the "parent material" horizon?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

Correct Answer: D) C horizon

18. The process of breaking down rocks into smaller particles by physical and chemical means is called:

- A) Weathering
- B) Erosion
- C) Leaching
- D) Hydration

Correct Answer: A) Weathering

19. Soil compaction can negatively impact:

- A) Soil fertility
- B) Soil erosion
- C) Soil pH
- D) Soil structure

Correct Answer: D) Soil structure

20. Which soil order is characterized by the presence of an argillic horizon and is often found in humid tropical regions?

- A) Andisols
- B) Ultisols
- C) Spodosols
- D) Oxisols

Correct Answer: D) Oxisols

21. The texture of a loam soil is:

- A) Mostly sand
- B) Mostly silt
- C) Mostly clay
- D) A balanced mixture of sand, silt, and clay

Correct Answer: D) A balanced mixture of sand, silt, and clay

22. Which type of soil erosion occurs in small channels or grooves on the soil surface?

- A) Sheet erosion
- B) Rill erosion
- C) Gully erosion
- D) Mass wasting

Correct Answer: B) Rill erosion

23. Soil moisture content is expressed as a percentage of:

- A) Air volume
- B) Water volume
- C) Soil volume
- D) Organic matter content

Correct Answer: B) Water volume

24. What is the term for the gradual movement of soil particles from one horizon to another within the soil profile?

- A) Erosion
- B) Weathering
- C) Leaching
- D) Translocation

Correct Answer: D) Translocation

25. Which soil order is typically found in regions with cold temperatures and permafrost?

- A) Gelisols
- B) Entisols
- C) Histosols
- D) Andisols

Correct Answer: A) Gelisols

26. The process of converting atmospheric nitrogen into a form that plants can use is known as:

- A) Nitrification

- B) Denitrification
- C) Nitrogen fixation
- D) Ammonification

Correct Answer: C) Nitrogen fixation

27. Soil pH is measured on a scale from:

- A) 0 to 14
- B) 1 to 10
- C) -1 to 1
- D) 0 to 100

Correct Answer: A) 0 to 14

28. Which soil property refers to the arrangement of soil particles into aggregates or clumps?

- A) Soil texture
- B) Soil structure
- C) Soil porosity
- D) Soil compaction

Correct Answer: B)

Soil structure

29. Which soil order is characterized by a high accumulation of organic matter and is commonly found in wetland areas?

- A) Gelisols
- B) Entisols
- C) Histosols
- D) Andisols

Correct Answer: C) Histosols

30. What is the term for the process of soil particles being carried away by running water or wind?

- A) Erosion
- B) Deposition
- C) Leaching
- D) Weathering

Correct Answer: A) Erosion

31. Which of the following is a common nutrient deficiency symptom in plants associated with acidic soils?

- A) Chlorosis
- B) Wilting
- C) Root rot
- D) Excessive growth

Correct Answer: A) Chlorosis

32. Which soil horizon contains the highest concentration of organic matter?

- A) O horizon

B) A horizon

C) B horizon

D) C horizon

Correct Answer: A) O horizon

33. Which soil order is associated with young soils that are still in the process of development and lack distinct horizons?

A) Aridisols

B) Inceptisols

C) Alfisols

D) Andisols

Correct Answer: B) Inceptisols

34. The process of soil particles settling out of suspension in water is called:

A) Leaching

B) Percolation

C) Sedimentation

D) Aggregation

Correct Answer: C) Sedimentation

35. Which of the following soil orders is commonly found in volcanic regions?

A) Andisols

B) Spodosols

C) Ultisols

D) Oxisols

Correct Answer: A) Andisols

36. The soil horizon labeled as "E" is characterized by:

A) Accumulated organic matter

B) Illuviation of minerals

C) Eluviation of minerals

D) Parent material

Correct Answer: C) Eluviation of minerals

37. Soil erosion caused by the action of wind is most common in:

A) Desert regions

B) Tropical rainforests

C) Humid temperate climates

D) Arctic tundra

Correct Answer: A) Desert regions

38. Which of the following is not a major nutrient essential for plant growth?

A) Nitrogen

B) Phosphorus

C) Calcium

D) Oxygen

Correct Answer: D) Oxygen

39. Soil particles that settle out of water and accumulate at the bottom of a water body are called:

- A) Sediments
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Correct Answer: A) Sediments

40. The term "hydric soils" refers to soils that:

- A) Have a high pH
- B) Are prone to erosion
- C) Are saturated with water for a significant part of the year
- D) Are rich in organic matter

Correct Answer: C) Are saturated with water for a significant part of the year

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- D) Illuviation

Correct Answer: C) Eluviation

43. Soil conservation practices aim to:

- A) Increase soil erosion
- B) Deplete soil fertility
- C) Preserve and protect soil resources
- D) Promote soil degradation

Correct Answer: C) Preserve and protect soil resources

44. Which soil horizon contains minerals and nutrients leached from the above horizons?

- A) O horizon
- B) A horizon
- C) B horizon
- D) C horizon

Correct Answer: C) B horizon

45. The process of converting organic matter into ammonia and ammonium ions is called:

- A) Nitrification
- B) Denitrification
- C) Nitrogen fixation
- D) Ammonification

Correct Answer: D) Ammonification

46. Which soil property is often measured to determine a soil's ability to retain and supply water to plants?

- A) Soil texture
- B) Soil structure
- C) Soil porosity
- D) Soil moisture holding capacity

Correct Answer: D) Soil moisture holding capacity

47. What is the term for the loss of soil productivity due to the accumulation of salts in the soil?

- A) Desertification
- B) Salinization
- C) Eutrophication
- D) Weathering

Correct Answer: B) Salinization

48. Which soil order is characterized by a subsurface horizon with accumulated clay and iron, often found in humid regions?

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- B) Ultisols
- C) Spodosols
- D) Oxisols

Correct Answer: B) Ultisols

49. Soil erosion control methods may include:

- A) Increasing soil compaction
- B) Promoting deforestation
- C) Planting cover crops and using terracing
- D) Encouraging overgrazing

Correct Answer: C) Planting cover crops and using terracing

50. Soil taxonomy is a hierarchical system used to classify soils into different categories. Which of the following is the highest taxonomic rank in this system?

- A) Order
- B) Suborder
- C) Great group
- D) Family

Correct Answer: C) Great group