

Soil Science Reviewer By Agriculture Review

1. Soil formation that occurs from the breakdown of parent material through weathering and the influence of environmental factors over time is termed:

- a. Soil synthesis
- b. Soil genesis
- c. Soil deposition
- d. Soil compaction

2. Which soil horizon is primarily composed of organic matter in various stages of decomposition?

- a. A horizon
- b. C horizon
- c. O horizon
- d. B horizon

3. A soil with high organic carbon content, low bulk density, and excellent water retention is most characteristic of:

- a. Organic soils
- b. Residual soils
- c. Mineral soils
- d. Saline soils

4. An edaphologist primarily focuses on soil as a:

- a. Geological material only
- b. Habitat for living organisms and plant growth
- c. Rock mineralogy
- d. Atmospheric interface

5. Soil texture refers to the relative proportion of which soil separates?

- a. Gravel, silt, clay
- b. Sand, silt, clay
- c. Humus, sand, gravel
- d. Loam, sand, clay

6. Soil structure that promotes good aeration and water infiltration is commonly described as:

- a. Massive
- b. Granular
- c. Platy
- d. Columnar

7. Bulk density of a soil is defined as the mass of dry soil per unit:

- a. Soil organic matter
- b. Unit volume
- c. Pore space
- d. Soil solution

8. In a coastal saline soil, the major limitation to crop growth is primarily due to:

- a. High organic content
- b. Excess soluble salts
- c. Low pH
- d. Excess sand content

9. Which soil horizon is typically enriched with clay, iron, or aluminum relative to overlying horizons?

- a. E horizon
- b. B horizon
- c. O horizon
- d. R horizon

10. Compared to upland soils, soils used for irrigated rice production generally require:

- a. Higher bulk density to prevent waterlogging
- b. Improved structure to resist dispersion
- c. Lower clay content
- d. Increased salinity

11. Which factor of soil formation primarily explains the development of highly weathered tropical soils such as Oxisols?

- a. Parent material
- b. Organisms
- c. Climate
- d. Topography

12. In tropical soil profiles, intense leaching commonly results in the accumulation of iron and aluminum oxides in which horizon?

- a. O horizon
- b. E horizon
- c. B horizon
- d. C horizon

13. Which statement best distinguishes mineral soils from organic soils?

- a. Mineral soils retain more water than organic soils
- b. Organic soils contain less than 5% organic matter
- c. Mineral soils are dominated by inorganic particles derived from parent material
- d. Organic soils always occur in arid climates

14. The horizon characterized by eluviation (loss of clay, iron, or organic matter) is designated as:

- a. A horizon
- b. B horizon
- c. E horizon
- d. R horizon

15. Particle density of most mineral soils commonly approximates:

- a. 1.30 g/cm³
- b. 2.65 g/cm³
- c. 0.90 g/cm³
- d. 3.80 g/cm³

16. Which soil texture class generally provides the best balance of aeration, drainage, and water-holding capacity for most upland crops?

- a. Clay
- b. Sand
- c. Silt
- d. Loam

17. A soil exhibiting high bulk density is most likely to show:

- a. Increased porosity
- b. Restricted root penetration
- c. Rapid infiltration
- d. Higher organic matter accumulation

18. Which structural type is most commonly observed in compacted subsoils and restricts vertical water movement?

- a. Granular
- b. Platy
- c. Crumb
- d. Single-grain

19. Which physical condition makes saline coastal soils unsuitable for many crops even when moisture is present?

- a. Osmotic stress reducing water uptake
- b. Excess humus accumulation
- c. Low particle density
- d. High soil aggregation

20. For puddled soils used in irrigated rice systems, which physical characteristic is intentionally increased to minimize percolation losses?

- a. Macroporosity
- b. Aggregate stability
- c. Soil compaction
- d. Sand content

21. Which process best explains the downward movement of fine clay particles from upper horizons to lower horizons in a soil profile?

- a. Podzolization
- b. Calcification
- c. Illuviation
- d. Salinization

22. Which combination of soil-forming factors is MOST responsible for shallow soil profiles on steep slopes?

- a. Climate and organisms
- b. Time and parent material
- c. Topography and erosion
- d. Vegetation and rainfall

23. Which property most directly differentiates soil texture from soil structure?

- a. Texture is permanent; structure can be modified by management
- b. Texture depends on organic matter content
- c. Structure is determined only by parent material
- d. Texture controls soil color

24. Which horizon typically represents partially weathered parent material?

- a. O
- b. A
- c. B
- d. C

25. In tropical environments, rapid organic matter decomposition is mainly attributed to:

- a. Low microbial activity
- b. Cool temperatures
- c. Warm and moist conditions
- d. High soil salinity

26. Which soil condition is MOST favorable for puddling during rice land preparation?

- a. Sandy texture
- b. High clay content
- c. Gravelly profile
- d. Single-grain structure

27. Which measurement is required to compute total soil porosity?

- a. Soil pH and EC
- b. Bulk density and particle density
- c. Texture and structure
- d. Infiltration rate

28. Which soil horizon is usually darkest in color due to accumulated organic matter?

- a. A horizon
- b. C horizon
- c. R horizon
- d. E horizon

29. Which physical limitation is MOST common in compacted agricultural soils?

- a. Excess drainage
- b. Reduced aeration
- c. Increased macropores
- d. Higher infiltration

30. Which soil-forming process results in accumulation of salts near the surface in arid and semi-arid regions?

- a. Laterization
- b. Gleization
- c. Salinization
- d. Podzolization

31. Which soil-forming factor MOST directly controls the rate of chemical weathering in tropical regions?

- a. Time
- b. Climate
- c. Parent material
- d. Topography

32. Which soil physical property MOST influences root penetration resistance?

- a. Soil color
- b. Bulk density
- c. Particle density
- d. Texture class name

33. A soil profile showing distinct A, E, and B horizons most likely formed under which condition?

- a. Minimal leaching
- b. Strong eluviation–illuviation processes
- c. Frequent sediment deposition
- d. Permanent waterlogging

34. Which soil structure is typically associated with surface horizons rich in organic matter?

- a. Blocky
- b. Granular
- c. Prismatic
- d. Massive

35. Which physical condition BEST explains why clay soils retain more water than sandy soils?

- a. Higher macropore volume
- b. Larger particle size
- c. Greater microporosity
- d. Lower surface area

36. Which horizon is absent in many young soils due to insufficient time for profile development?

- a. B horizon
- b. C horizon
- c. R horizon
- d. O horizon

37. Which soil condition MOST limits oxygen diffusion to plant roots?

- a. High macroporosity
- b. Water saturation
- c. Granular structure
- d. Low bulk density

38. Which process dominates soil profile development in permanently flooded lowland rice fields?

- a. Gleization
- b. Laterization
- c. Podzolization
- d. Calcification

39. Which physical change usually results from repeated puddling of rice soils?

- a. Increased macropores
- b. Reduced permeability
- c. Lower bulk density
- d. Higher particle density

40. Which soil characteristic MOST indicates advanced weathering in tropical soils?

- a. Presence of primary minerals
- b. High silt content
- c. Dominance of iron and aluminum oxides
- d. Shallow soil depth

41. Which soil-forming process is characterized by intense leaching of bases and silica, leaving behind iron and aluminum oxides in humid tropical climates?

- a. Calcification
- b. Laterization
- c. Salinization
- d. Podzolization

42. Which physical soil property MOST directly controls the rate of water infiltration?

- a. Soil color
- b. Soil structure
- c. Particle density
- d. Soil temperature

43. Which horizon typically shows the greatest biological activity?

- a. B horizon
- b. C horizon
- c. A horizon
- d. R horizon

44. Which condition MOST favors the formation of platy soil structure?

- a. High organic matter
- b. Freeze-thaw cycles or compaction
- c. Earthworm activity
- d. Root proliferation

45. Which property explains why sandy soils warm faster than clay soils?

- a. Lower specific heat due to low water content
- b. Higher organic matter
- c. Greater microporosity
- d. Higher particle density

46. Which soil horizon directly overlies bedrock?

- a. B horizon
- b. O horizon
- c. C horizon
- d. A horizon

47. Which condition is MOST indicative of organic soils?

- a. Bulk density above 1.6 g/cm^3
- b. Dominance of quartz minerals
- c. Organic matter content exceeding 20%
- d. High sand fraction

48. Which physical limitation is MOST likely in reclaimed coastal soils?

- a. Excess macroporosity
- b. Salt-induced dispersion and poor structure
- c. High organic accumulation
- d. Deep rooting zone

49. Which property remains essentially constant regardless of soil compaction?

- a. Bulk density
- b. Porosity
- c. Particle density
- d. Soil structure

50. Which feature BEST distinguishes pedology from edaphology?

- a. Pedology studies soil as a natural body; edaphology focuses on soil–plant relationships
- b. Pedology emphasizes fertilizers
- c. Edaphology studies soil classification
- d. Both terms mean the same thing

Answer Key

Q1. b)	Q14. c)	Q27. b)	Q40. c)
Q2. c)	Q15. b)	Q28. a)	Q41. b)
Q3. a)	Q16. d)	Q29. b)	Q42. b)
Q4. b)	Q17. b)	Q30. c)	Q43. c)
Q5. b)	Q18. b)	Q31. b)	Q44. b)
Q6. b)	Q19. a)	Q32. b)	Q45. a)
Q7. b)	Q20. c)	Q33. b)	Q46. c)
Q8. b)	Q21. c)	Q34. b)	Q47. c)
Q9. b)	Q22. c)	Q35. c)	Q48. b)
Q10. b)	Q23. a)	Q36. a)	Q49. c)
Q11. c)	Q24. d)	Q37. b)	Q50. a)
Q12. c)	Q25. c)	Q38. a)	
Q13. c)	Q26. b)	Q39. b)	