

TD N° 1 : Introduction to soil and water in agronomy**Q1: What are the main components of soil?**

- Sand and clay
- Mineral materials, organic materials, air, and water
- Water, fertilizer, and plants
- Air, roots, and leaves

Q2: Which factors influence soil formation over time?

- Climate, topography, parent material, and living organisms
- Rainfall, sunlight, and irrigation
- Human activities only
- Rocks, animals, and pesticides

Q3: Which of the following is NOT a function of soil in agronomy?

- Nutrient cycling
- Water storage and filtration
- Providing structural support for plants
- Protecting plants from pathology agents

Q4: Define soil in one sentence.

Soil is a dynamic, natural body composed of mineral and organic materials, air, and water, serving as a medium for plant growth.

Q5: Name two properties of soil that impact agricultural productivity.

Texture and pH are two properties that impact agricultural productivity.

Q6: What role does organic matter play in soil?

Organic matter contributes to nutrient cycling, improves soil structure, and enhances water retention.

Q7: How do climate and topography influence soil formation?

Climate affects temperature and moisture levels, while topography influences drainage and erosion, both of which impact soil formation.

Q8: Which of the following are roles of water in soil systems?

- Regulating soil processes
- Acting as a solvent and transport medium
- Providing structural support for plants
- Facilitating nutrient and mineral movement

Q9: What properties govern the availability and movement of water within the soil?

- Soil color
- Porosity
- Permeability
- Soil compaction

Q10: How does water influence soil characteristics?

- It regulates soil temperature
- It decreases soil aeration in all conditions
- It affects soil structure
- It reduces nutrient movement

Q11: Why is understanding soil water dynamics important?

- To optimize irrigation
- To improve atmospheric circulation
- To prevent soil degradation
- To enhance fossil fuel extraction

Q12: How does water impact agricultural productivity?

Water availability and movement affect nutrient transport, plant hydration, and soil health, directly impacting agricultural productivity.

Q13: What critical functions does water serve in maintaining ecosystem health?

Water sustains plant life, regulates soil processes, and maintains ecosystem health.