

B.Sc.(Hons.) Horticulture

Semester : III (New) [ICAR - Sixth Deans' Committee Syllabus] Acad. Year : 2025-26
Course No. : SSAC-231 Title : Fundamentals of Soil Science
Credit Hrs. : 3(2+1) Time : 10:00 to 12:00 hrs. Total Marks : 40
Day, Date : Friday, 19.12.2025

Note: Draw neat diagram wherever necessary

SECTION 'A' : Questions with Descriptive Long Answers (Any 4)

- | | Marks |
|--|--------------|
| Q.1 Define Soil. Which are the major components of soil? Explain any two components of soil. | 6 |
| Q.2 Explain the importance of soil water and give the physical classification of soil water. | 6 |
| Q.3 Define Soil air and explain the factors affecting the composition of soil air. | 6 |
| Q.4 a) Explain the effects of soil temperature on soil and plant growth. State the factors influencing soil temperature. | 3 |
| b) What are Soil colloids? Explain any four properties of soil. | 3 |
| Q.5 a) Define Soil structure and explain types of soil structures. | 3 |
| b) Explain Land capability classes. | 3 |
| Q.6 a) Define Aerial photography and give its classification. | 3 |
| b) Define Soil Biology. Give its beneficial and harmful effects on soil and plant. | 3 |

SECTION 'B' : Questions with Descriptive Short Answers (Any 4)

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|---|---|
| Q.7 Discuss the soils of Maharashtra in brief. | 2 |
| Q.8 Define Rocks. Give detail classification of rocks with one example each. | 2 |
| Q.9 Define Soil texture and explain the importance of soil texture in detail. | 2 |
| Q.10 Define Remote sensing. How it works in Agriculture? | 2 |
| Q.11 Define Soil survey. Explain the types of soil survey. | 2 |

SECTION 'C' : Objective-type Compulsory Questions

- Q.12 Define the following terms:
- | | | | |
|-------------|-----------------|-----------------|---------|
| 1) Minerals | 2) Soil profile | 3) Bulk density | 4) Clay |
|-------------|-----------------|-----------------|---------|

- Q.13 Match the pairs:

- | 'A' | 'B' |
|-----------------------|---|
| 1) Chroma | a) Limestone |
| 2) Sandy soil | b) Symbiotic bacteria |
| 3) CEC | c) Protozoa, Nematodes, Earthworms |
| 4) Sedimentary rock | d) 2 - 200 nm |
| 5) Microorganisms | e) Low water holding capacity |
| 6) Histosol | f) Relative purity or Strength of color |
| 7) Nitrogen fixation | g) cmol (P ⁺) kg ⁻¹ or m.e./100g |
| 8) Soil particle size | h) Organic soils |

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