

**Savitribai Phule Pune University, Pune**  
**T.Y.B.Sc. Geography Syllabus**  
**(Credit System, 2019 Pattern)**  
**Revised Syllabus (From June-2021)**  
**Semester-V**

**Gg: 354: Geography of Soil-I**

**No. of Credits: 02**

**No. of Periods: 30**

- 1) To acquaint the students with concepts in Soil Science.
- 2) To familiarize the students with the importance of soil science in Geography.
- 3) To develop an understanding of the origin, classification, and distribution of soils and their relationship to people and food production.
- 4) To develop an understanding of the environmental impact of soil use.

No.	Topic	Sub topic	Learning Points	Periods
1	Introduction	Definition, Nature & Scope, Approaches.	A. Definition of Soil B. Definition of Soil Geography (Pedology) C. Nature & Scope of Soil geography D. Approaches to The Study of Soil Geography i. Pedagogical Approach ii. Edapological Approach E. Importance of soil studies in Geography.	07
2	Soil Formation & Soil Profile	Processes, Factors responsible and Soil Profile	A) Processes of Soil Formation i. Weathering & Pedogenesis Processes ii. Carbonation iii. Humification iv. Laterisation v. Calcification vi. Podzolisation B) Factors Responsible For Soil Formation i. Parent Rock ii. Precipitation iii. Temperature iv. Biological Factors: Plants, Animals & Micro Organisms C) Soil Profile: Meaning & Horizons.	08

3	Soil Properties	Soil Complex, Physical, Chemical, and Biological Properties	<p>A) Soil Complex meaning and Soil Complex-Components</p> <p>B) Properties of Soil:</p> <p>1) Physical Properties</p> <ul style="list-style-type: none"> <li>a) Texture and Structure</li> <li>b) Soil Moisture</li> <li>c) Temperature</li> <li>d) Color</li> <li>e) Porosity</li> <li>f) Density (Particle &amp; Bulk density)</li> <li>g) Compaction</li> <li>h) Soil water relationship</li> </ul> <p>2) Chemical Properties</p> <ul style="list-style-type: none"> <li>a) Soil PH and NPK</li> <li>b) Soil Solution</li> <li>c) Salinity</li> <li>d) Soil clays</li> <li>e) Cation exchange</li> <li>f) Humus</li> </ul> <p>3) Biological Properties</p> <ul style="list-style-type: none"> <li>a) Soil organic matter</li> <li>b) Soil organism</li> </ul>	08
4	Soil Water Relationship	Terms related to Soil Water Relationship	<p>A) Soil Water Relationship</p> <p>B) Terms related to Soil Water Relationship:</p> <ul style="list-style-type: none"> <li>a) Field Capacity</li> <li>b) Wilting point in soil</li> <li>c) Soil water or Soil moisture</li> <li>d) Irrigation efficiency</li> </ul> <p>B) Limiting Soil moisture condition</p> <p>C) Soil-Water-Air Relationship</p> <p>D) Measurement of soil moisture content</p>	07

### Reference Books:

- 1) Ecology and Environment, P.D.Sharma, Rastogi Publications, Meerut.
- 2) Watershed management, Madan Mohan Das, PHI Private LTD. New Delhi.
- 3) Soil Science Simplified, Khonke and Franzmeier, Waveland Press, Pune.
- 4) Weathering Pedology and Geo-morphological Research, Birkland P., Oxford University Press, New York.
- 5) Hydrology, Madan Mohan Das, PHI Private LTD. New Delhi.
- 6) Fundamentals of Soil Science, Foth, Henry.D., Wiley Books.
- 7) A text book of Soil Science: Biswas T.D.&Mukharji ; Tata Mc Grow Hill Mumbai
- 8) A Text Book of Soil Science: Daji J.A. ; Tata Mc Grow Hill, Mumbai
- 9) Soil Geography: Sarkar Himanshu ; ( Nikhil ) K.D. Kolkatta.
- 10) Soil Geography, Vinayak Kale, Himalayan Publ. House, Mumbai



