

DR. PATANGRAO KADAM MAHAVIDYALAYA, RAMANANDNAGAR  
(BURLI)



# Short Term Courses

1. Soil Testing and Analysis

2. Environmental Ethics



2022-2023



DEPARTMENT OF GEOGRAPHY



**Rayat Shikshan Sanstha's,  
Dr. Patangrao Kadam Mahavidyalaya, Ramanandnagar (Burli).  
Reaccredited by NAAC with 'A+' Grade**

**New Syllabus**

**Short Term Courses**

**Syllabus under the BOS of Short Term Course Committee**

**"Soil Testing and Analysis"**

**&**

**"Environmental Ethics"**

**Syllabus to be implemented from June 2022**



## Syllabus for Short Term Courses

### Preamble:

- 1) To impart the knowledge of Environmental Ethics & Importance of Soil to the pupils.
- 2) To make the pupils to use the knowledge in their daily life.
- 3) To make the pupils aware of natural resources and environment.
- 4) Application of knowledge in Agriculture & Human life.
- 5) To provide practical experiences which form a part of their learning processes.
- 6) To encourage the pupils to take Short Term Courses as a Skill Courses which is the need now a day.

### General Objectives of the Program:

1. To impart knowledge is the basic aim of education. The students are expected to acquire the knowledge of natural phenomenon, manipulation of nature & environment by man.
2. Understanding the scientific terms, concepts, facts, phenomena & their interrelationships.
3. Applications of the knowledge.



4. To develop skills in practical work, experiments & laboratory materials, instruments.
5. To develop interests in the subject & skill.

#### **Program Specific Objectives:**

1. The students are expected to understand the fundamentals, principles, concepts and recent developments in the Courses.
2. The practical course is framed in relevance with the theory courses to improve the understanding of the concepts.
3. To develop the power of appreciations, the achievements in science and role in nature and society.
4. To enhance student sense of enthusiasm for Skill Courses and to involve them in an intellectually stimulating experience of Course in a supportive environment.

#### **Program Specific Outcomes:**

1. Understand the basics of knowledge about the courses.
2. Learn and perform experiments in the labs to demonstrate the concepts, principles and theories learned in the classrooms.
3. Develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems in theoretical and experimental.



1. **Title:** Soil Testing & Analysis
2. **Year of Implementation:** The syllabus will be implemented from June, 2022 onwards.
3. **Duration:** The course shall be 90 Hours.
4. **Pattern:** Short Term Courses.
5. **Medium of Instruction:** Marathi.
6. **Fee Structure of Course:** Free
7. **Eligibility for Admission:-** 12<sup>th</sup> Pass
8. **Structure of Course:**

**100 Marks (50 Theory + 30 Practical + 20 Field Visit)**

Sr. No	Course	Teaching Scheme			Examination Scheme			
		T	P	Total	T	P	FV	Total
1	Soil Examine & Analysis	4	8	12	50	30	20	100



## Short Term Course

2022-2023

Name of Course: "Soil Testing and Analysis"

(Duration 90Hours)

Total Credits 4:-1 Credit = 15 Hours of Theory and one

1 Credit = 30 Hours of Practical

### Objectives

- 1) To provide basic knowledge of soil testing and analysis.
- 2) To provide skills education of soil testing and analysis.
- 3) To skills in soil & water testing lab maintenance.
- 4) To develop communication and management skill.

### Theory Syllabus (30Hrs. = 2 Credits)

#### Module 1. Introduction to Soil Science (15 Hours)

- 1.1. Definition of soil,
- 1.2. Formation of Soil.
- 1.3. Soil Properties
- 1.4. Soil Profile

#### Module 2. Soil Testing and Analysis (15 Hours)

- 2.1 Importance of Soil Testing and analysis.
- 2.2. Study of Instrument.
- 2.3 Soil Test Report and Fertilizer Recommendation.
- 2.4 Study of Laboratory Setup



**Practical Syllabus (60Hrs. - 2 Credit)**

**List of 15 Practical**

**Module 1. Field Visit & Report Writing (16 Hours)**

- 1.1. Visit to Soil Testing Laboratory
- 1.2. Report writing.
- 1.3. Visit to farmers fields for collection of soil samples.
- 1.4. Identification of nutrient deficiency Symptoms in Crop

**Module 2. Soil Testing and Analysis (28 Hours)**

- 2.1. Preparation of Chemical required for soil testing.
- 2.2. Processing of Soil Sampling for analysis.
- 2.3. Determination of PH of soil sample using pH meter.
- 2.4. Determination of Electrical Conductivity of soil sample using Electrical Conductivity meter.
- 2.5. Determination of available Nitrogen from soil sample.
- 2.6. Determination of available Phosphorus from soil sample.
- 2.7. Determination of available Potassium from soil sample.

**Module 3. Preparation of soil test summaries (12 Hours)**

- 3.1. Preparation of soil test report.
- 3.2. Interpretation of result.
- 3.3. Fertilizer recommendation.

**Module 4. Preparation of soil Health Card (04 Hours)**



### Learning Outcomes:

1. To understand of definitions and concept of soil science
2. To understanding the application.
3. Identify the importance of soil and soil related problem.
4. Students get skills of soil sample collection, analysis and interpretation of soil sample.
5. To create report and Fertilizer recommendation to farmer.

### Reference Books:

1. Soil Science - Dr. Satish Bhagwantrao Aher & Dr. Dharmendra Singh
2. Soil Testing :- K. V. S. Apparao
3. Soil Analysis :- An Interpretational Manual:- S. S. Jatav & E. Sathyanarayan
4. Laboratory Manual for Soil Testing :- Dr. D.K. Maharaj & S.K. Kataria
5. Soil Geography मृदा भूगोल-A.K. Khatib

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1. **Title:** Environmental Ethics

2. **Year of Implementation:** The syllabus will be implemented from June, 2022 onwards.

3. **Duration:** The course shall be a 30 Hours.

4. **Pattern:** Short Term Courses.

5. **Medium of Instruction:** Marathi.

6. **Fee Structure of Course:** Free

7. **Eligibility for Admission:-** 12<sup>th</sup> Pass

8. **Structure of Course:**

**50 Marks (50 Theory)**

Sr. No	Course	Teaching Scheme			Examination Scheme			
		T	P	Total	T	P	FV	Total
1	Environmental Ethics	08	--	08	50	--	--	50

**Short Term Course**  
**2022-2023**  
**Department of Geography**

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**Name of Course: "Environmental Ethics"**  
**(Duration 30Hours) Total Credits 2:**

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Total Credits 2:-1 Credit = 15 Hours of Theory

**Objectives**

- 1) To develop Environmental Ethics.
- 2) To Focuses on the relationship between humans and their natural environment.
- 3) Gain knowledge about environment.
- 4) To develop communication and management skill.

**Theory Syllabus (30Hrs. = 2 Credits)**

**Module 1. Introduction to Environmental Ethics (15 Hours)**

- 1.1. Environmental Ethics
- 1.2. Types of Environmental Ethics
  - 1.2.1. Libertarian Extension
  - 1.2.2. Ecological Extension

### 1.2.3. Conservation Ethics

### 1.3. Importance of Environmental Ethics

## **Module 2. Principles of Environmental Ethics**

**(15 Hours)**

### 2.1. Principles of Environmental Ethics

### 2.2. Environmental Ethics and Religion

#### **Learning Outcomes:**

1. To understand of definitions and concept of Environmental Ethics.
2. Encourage us to respect the environment and our fellow human beings.
3. It promotes sustainable practices and encourages people to become more aware of the impact their actions have on the environment.
4. Identify the importance of Environmental Ethics.
5. To Respect the every religion.

#### **Reference Books:**

1. Environmental Studies - Dr. Balbhim Chavan
2. Environmental Education:- Dr. D.N. Khairnar
3. Environmental Studies - Dr. Nalini Pawar
4. Environmental Studies - Dr. Rout & Dr. Pawar
5. Ecology & Environmental:- Shrikant Ghokhale

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