

Add on Programme
on
SOIL ANALYSIS
2019-20

Duration 30 Hours



DEPARTMENT OF CHEMISTRY
JAYSINGPUR COLLEGE, JAYSINGPUR

- Affiliated to Shivaji University, Kolhapur
- Reaccredited at 'A' Grade (NAAC)
- Jain Minority College
- DST - FIST [Level - I] Sponsored

Soil Analysis

1. Objectives:

1. To impart knowledge of laboratory setting
2. To expertise in soil analysis
3. To expertise the students to deal with local agricultural problems
4. To improve skill in industrial applications

2. Opportunities:

1. Self employment

1. Can set up soil analytical laboratory
2. Can establish consultancy centre for laboratory setup

2. Job

1. Can work in government and private industries
2. Can consult the agri-based problems
3. Can work on projects sponsored by state or central government

3. Course duration

:- 30 lectures

4. Intake capacity

:- 25 students per batch

5. Course fee

:- 500 rupees

6. Medium

:- English

Syllabus - Theory

1. Types of Soil- Importance, Composition, Fertility of Soil. (1)
2. Sampling of Soil, Sampling Tools. (1)
3. Physico-chemical properties of soil- pH,
Electrical conductivity (E.C.), Organic carbon (O.C.), Salinity,
Micronutrients (N, P, K, B, S etc.) (2)
4. Fertilizers- Types of fertilizers, macro and micro nutrients,
organic fertilizers and their need. (2)
5. Analytical methods for determination of physico-chemical
parameters (pH, E.C., O.C., salinity, N, P, K, B, S nutrients). (2)

6. Introduction to Laboratory Instruments- pH meter, conductivity meter, atomic absorption spectroscopy (AAS), flame photometer, spectrophotometer, Kjeldahls apparatus, soxhlet apparatus, muffle furnace, hot air oven, BOD incubator, centrifuge, etc. (2)

Syllabus- Practical

(20 Hours)

1. Collection and preservation of samples from general field, horticultural field and green house.
2. Determination of pH and electrical conductivity of soil.
3. Determination of water holding capacity of soil.
4. Determination of nitrogen (N) by Kjeldahl's method
5. Determination of phosphorous (P) spectrophotometrically.
6. Determination of Sodium (Na) Flame photometrically
7. Determination of potassium (K) Flame photometrically.
8. Determination of organic carbon (O.C.) spectrophotometrically.
9. Determination of micronutrients (Fe, Cu, Mn, Zn) using AAS

Board of Studies:

Mr. R. D. Tasgaonkar	:	Chairman
Dr. B. M. Sargar	:	Member
Dr. S. R. Sabale	:	Member
Mr. G. H. Nikam	:	Member
Dr. V. V. Jadhav	:	Industry expert

Exam Pattern:

Theory	:	50 Marks
Practical	:	50 Marks

Question paper nature:

- Q.1. Multiple choice (10 Marks)
Q.2. Long answer, 2 out of 3 (20 Marks)
Q.3. Short answer, 4 out of 6 (20 Marks)

Practical exam nature:

Experiment 1	:	20 Marks
Experiment 2	:	20 Marks
Oral	:	5 Marks
Journal	:	5 Marks