SHIVAJI UNIVERSITY, KOLHAPUR

Established: 1962

A++ Accredited by NAAC (2021) With CGPA 3.52

Bachelor of Arts (B. A. / B. A. B. Ed. in Geography)

Under
Faculty of Science and Technology

B. A. / B. A. B. Ed. Part-III (Semester – V and VI)

Under Graduate Programme Structure for Faculty of Humanities as per NEP-2020

TO BE IMPLEMENTED FROM ACADEMIC YEAR 2024-2025 ONWARDS

Shivaji University, Kolhapur
B. A. / B. A. B. Ed.
SEC I: (Geography) as per NEP 2020

Name of the Programme	B.A. Geography
Class	B.A. Part-III
Semester	V
Name of Vertical Group	SEC
Course Code	SEC-I
Course Title	Introduction to Water Analysis
Type of course	Theory and Practical
Total Credits	02
Workload	02 periods per week

Preamble:

Water is a fundamental resource essential for sustaining life and supporting ecosystems. Its quality is a critical determinant of environment, health, human well-being, and economic stability. The analysis of water quality provides valuable insights into the presence of pollutants, the health of aquatic habitats, and the safety of water for various uses, including drinking, agriculture, industry and recreation. The study focuses on evaluating physical, chemical, and biological characteristics to understand potential risks and impacts associated with water contamination. The parameters such as pH, turbidity, dissolved oxygen, nutrients, heavy metals, organic pollutants, and microbial contaminants were analyzed.

Objectives of the Course:

1. To learn various sources of water.
2. To understand water quality parameters, the characteristics of water and the water borne diseases.
3. To study the procedures of collection of water Samples and an instruments used for water analysis.
4. To amylase the parameters of water analysis and water analysis methodology.

Course Outcome:

By the end of this course, student will be able to:

CO 1: Comprehensive understanding of various sources of water.

CO 2: The students will be understand water quality parameters and characteristics of water, which helps to usefulness for assessment of water resources.

CO 3: The students will be able to the procedures of collection of water Samples and an instruments used for water analysis.

CO 4: The students will be practically understand the parameters of water analysis and water analysis methodology.

Nature of Question Paper:

The student's examination and evaluation methods are as per the guidelines of the Shivaji University, Kolhapur.

Modules

Module No.	Module Name	Sub-module	No. of hours	Credit
1	Water as A Component of Environment	1.1 Sources of Water 1.2 Utilization of Water 1.3 Characteristics of water 1.4 Water borne diseases	15	01
2.	Water Analysis	2.1 Procedures of Collection of water Samples 2.2 Instruments used for water analysis 2.3 Parameters of water analysis 2.4 Water analysis methodology	15	01

Suggested Readings

1. Standard Methods for the Examination of Water and Wastewater - American Public Health Association, American Water Works Association, Water Environment Federation.

2. Water Quality Assessments: A Guide to the Use of Biota, Sediments and Water in Environmental Monitoring - Deborah V. Chapman (Editor).

3. Water Quality: Guidelines, Standards and Health - Lorna Fewtrell and Jamie Bartram.

4. Environmental Engineering: Water, Wastewater, Soil and Groundwater Treatment and Remediation - Nelson L. Nemerow and Franklin J. Agardy.

5. BIS 10500:2012 - Drinking Water Specification

6. BIS 2296:1982 - Specifications for Packaged Natural Mineral Water

7. BIS 3025:1983 - Methods of Sampling and Test (Physical and Chemical) for Water and Waste Water

8. BIS 3589:2001 - Methods of Sampling and Test (Physical and Chemical) for Water and Waste Water (Revision of IS 3025)

9. BIS 1622:2008 - Drinking Water - Specification 10. BIS 3025:1964 - Methods of Sampling and Test (Physical and Chemical) for Water and Waste Water