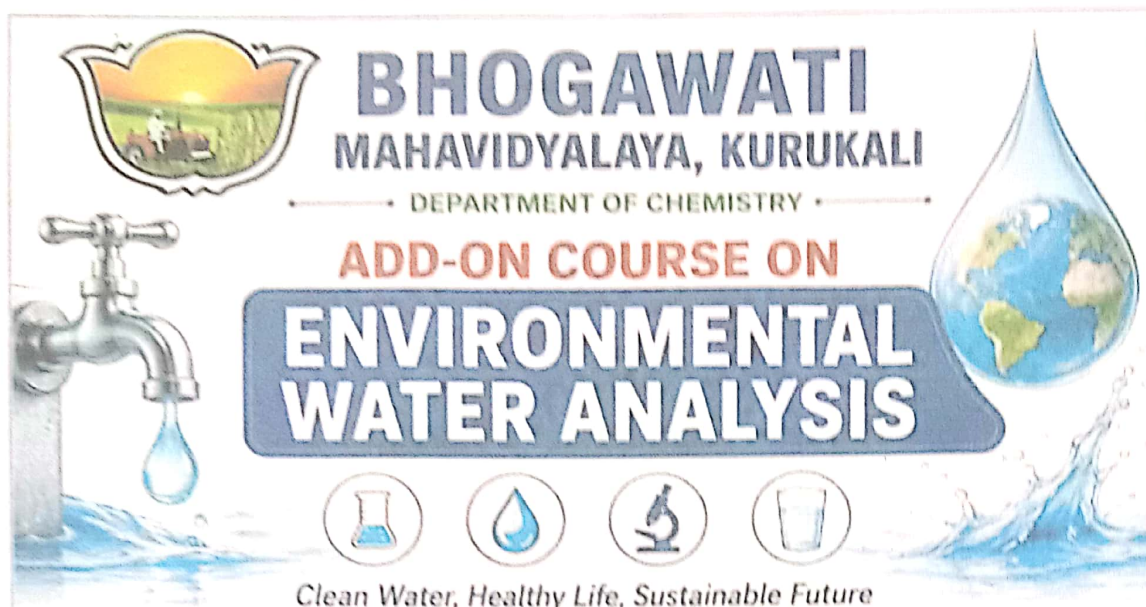


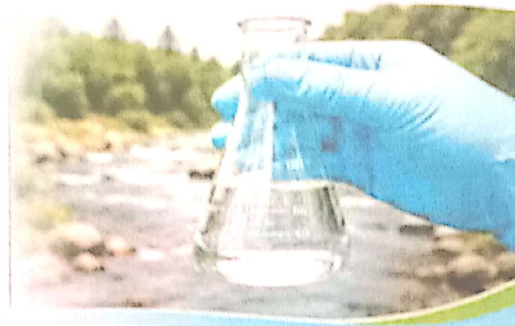
ADD ON COURSE
ENVIRONMENTAL WATER ANALYSIS



BHOGAWATI
MAHAVIDYALAYA, KURUKALI
— DEPARTMENT OF CHEMISTRY —
ADD-ON COURSE ON
ENVIRONMENTAL
WATER ANALYSIS
Clean Water, Healthy Life, Sustainable Future

ABOUT THE COURSE

This course provides a complete understanding of water, its importance in sustaining life, and its various uses in domestic, agricultural, industrial, and environmental segments. It covers the physical and chemical characteristics of water, water quality assessment, and the effects of water quality on human health. The course explains the advantages and disadvantages of chemicals present in water and their environmental impacts. It also focuses on sources of water pollution, methods of pollution control, and water treatment techniques.



COURSE DETAILS

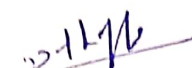
-  Course Title : Environmental Water Analysis
-  Eligibility : UG / PG Students
-  Credits : 02
-  Duration : 30 Hours (Theory)
-  Examination : End of Semester-III

COURSE HIGHLIGHTS

-  Understanding the importance of water and its role in sustaining life and ecosystems.
-  Study of different types of water and their applications in domestic, agricultural, industrial, and environmental sectors.
-  Evaluation of physical and chemical parameters used to assess water quality and safety.
-  Analysis of beneficial and harmful chemicals present in water and their effects on human health.
-  Identification of sources of water pollution and modern methods for pollution prevention and control.
-  Learning water treatment processes including clarification, coagulation, sterilization, disinfection, and softening.

 **SAVE WATER**
SAVE LIFE

Water is Precious – Let's Protect Our Future


PRINCIPAL,
Bhogawati Mahavidyalaya Kurukali
Tal. Karveer Dist. Kolhapur



ADD ON COURSE

ENVIRONMENTAL WATER ANALYSIS

About Course

This course provides a complete understanding of water, its importance in sustaining life, and its various uses in domestic, agricultural, industrial, and environmental segments. It covers the physical and chemical characteristics of water, water quality assessment, and the effects of water quality on human health. The course explains the advantages and disadvantages of chemicals present in water and their environmental impacts. It also focuses on sources of water pollution, methods of pollution control, and water treatment techniques.

Programme Outcomes (POs)

Upon completion of the program, students will be able to:

PO1: Apply fundamental scientific and engineering principles to understand water resources, quality, and pollution-related issues.

PO2: Conduct experiments, collect data, and interpret results related to water quality assessment and pollution control.

PO3: Understand the impact of human activities on water resources and contribute to sustainable water management practices.

PO4: Demonstrate awareness of environmental ethics, public health concerns, and societal responsibilities related to water conservation and pollution prevention.

Programme Specific Outcomes (PSOs)

Upon completion of the program, students will be able to:

PSO1: Evaluate physical, chemical, and biological characteristics of water from different sources and determine its suitability for various uses.

PSO2: Identify sources of water pollution and recommend appropriate treatment, purification, and pollution control measures.

PSO3: Perform standard laboratory analyses of water pollutants and interpret results according to national and international standards such as WHO guidelines.

Course Outcomes (COs)

After successful completion of the course, students will be able to:



CO1: Explain the importance of water in sustaining life, classify different types of water, and describe various domestic, agricultural, industrial, and environmental uses of water.

CO2: Evaluate water quality from different sources by understanding physical and chemical parameters such as temperature, turbidity, pH, hardness, DO, BOD, and COD, and their effects on human health.

CO3: Analyze the advantages and disadvantages of various chemical constituents present in water, including nutrients, metals, detergents, and pesticides, and assess their impact on water quality.

CO4: Identify major sources of water pollution and explain methods for water treatment, purification, sterilization, disinfection, and pollution control.

Environmental Water Analysis

Syllabus

Unit 1. Importance of water for sustaining life

[06]

Types of Water Hard and soft water, Fresh and Dense water, Ground water, Potable water, Saline water. Uses of water - Drinking and cooking, Clearing and washing, Water for construction, Water for Plants, Water for Industry, Water for Transport, Water for Power, Water for Recreation, Water for heating homes, Water for fire – fighting, Water supply, Water Drainage, Water as a solvent

Unit 2. Quality of Water

[06]

Water quality of various sources- Rain, River, Ocean, Ground water, Effect on Human health, Physical parameters for water quality, Temperatures, Color, Odour, Turbidity, Foam and Froth, Conductivity, Chemical parameters for water quality, Dissolved oxygen, Chemical oxygen Demand, Biological oxygen Demand, p^H , Alkalinity, Acidity, Redox potential, Hardness

Unit 3. Advantages and Disadvantages of Chemicals present in water

[06]

Ammonia, Nitrates, Nitrites, Phosphorous, Sulphates, Sulphides, Chlorides, Calcium, Magnesium, Sodium, Potassium, Iron, Copper, Lead, Mercury, Selenium, Silver, Zinc
Advantages and Disadvantages of Detergents, Pesticides present in water

Unit 4. Sources of water pollution and controlling water pollution

[06]





Introduction, what is water pollution, Sources – Sewage, Farm Chemicals and Industrial waste, How to control water pollution, Sewage treatment, Protection of Drinking water, Clarification of water, Coagulation of water, Physical and chemical methods of Sterilization and disinfection of water, Softening of water

Unit 5. Chemical analysis of water pollutants

[06]

Introduction, Analysis of water pollutants, Physical and Chemical examination of water
Preservation and preconcentration methods, International standards for drinking water
(Prescribed by WHO) DO, BOD, COD

Course Details

- **Course Title:** Environmental Water Analysis
- **Eligibility:** UG / PG Students
- **Credits:** 02
- **Duration:** 30 Hours (Theory)
- **Examination:** End of Semester-III

Standard of Passing:

The standard of passing shall be as per the following table.

	Practical Exam	Internal Exam	Total
Maximum Marks	40	10	50
Marks required for passing	14	04	18

22/12/16
PRINCIPAL,
Bhogawati Mahavidyalaya Kurukali
Tal. Karveer Dist. Kolhapur

Bhogawati Mahavidyalaya, Kurukali

Department of Chemistry

"Environmental Water Analysis"

LIST OF ADMITTED STUDENTS

Academic Year - 2023-24



Sr. No.	Name of Students
1	Bodhe Kedar Milind
2	Bugade Sanskar Suhas
3	Chougale Madhav Keraba
4	Chougale Sudhir Sadashiv
5	Dhere Prathamesh Maruti
6	<u>Halake Nikita Dattatray</u>
7	Jadhav Abhijeet Arjun
8	<u>Kamble Arati Raghunath</u>
9	Kamble Umash Shankar
10	Kesarkar Samir Nandkumar
11	Khade Sandesh Vitthal
12	Mane Laxman Satappa
13	Mane Saurabh Namdev
14	Mangale Vivek Tanaji
15	<u>Patil Aakanksha Balasaheb</u>
16	<u>Patil Manisha Rajaram</u>
17	Patil Shailesh Tanaji
18	Patil Siddhesh Shamrao
19	Patil Tejas Dinkar
20	<u>Patil Varsharani Suresh</u>
21	Shende Ashish Anil
22	<u>Teli Manasi Mahadev</u>

22/11/23

PRINCIPAL,
Bhogawati Mahavidyalaya Kurukali
Tal. Karveer Dist. Kolhapur





The Bhogawati Shikshan Prasarak Mandal's

BHOGAWATI MAHAVIDYALAYA, KURUKALI

NAAC Reaccredited 'A' Grade

ADD ON COURSE

ON

ENVIRONMENTAL WATER ANALYSIS

CERTIFICATE

This is to certify that, Mr./Miss Dhara Prathmesh Maruti of class M.Sc. II..... has successfully completed the Add On Course On **"Environmental Water Analysis"** conducted by Department of Chemistry, Bhogawati Mahavidyalaya, Kurukali during the academic year 2023-24. He / She has secured A.... grade

Dr. D. R. Chandam
Course Co-ordinator

Prof. (Dr). D. K. Dalavi
Head of Department

Prof. (Dr). D. A. Chougale
Principal



The Bhogawati Shikshan Prasarak Mandal's

BHOGAWATI MAHAVIDYALAYA, KURUKALI

NAAC Reaccredited 'A' Grade

ADD ON COURSE

ON

ENVIRONMENTAL WATER ANALYSIS

CERTIFICATE

This is to certify that, Mr./Miss Halake Nikita Dhottekar..... of class M.Sc.II..... has successfully completed the Add On Course On "**Environmental Water Analysis**" conducted by Department of Chemistry, Bhogawati Mahavidyalaya, Kurukali during the academic year 2023-24. He/ She has secured 85..... grade

Dr. D. R. Chandam
Course Co-ordinator

Prof. (Dr). D. K. Dalavi
Head of Department

Prof. (Dr). D. A. Chougale
Principal

Bhogawati Mahavidyalaya, Kurukali

Department of Chemistry

“Environmental Water Analysis”

LIST OF ADMITTED STUDENTS

Academic Year - 2024-25

Sr. No.	Name of Students
1	Barage Soham Prabhakar
2	Chavan Rutvik Tanaji
3	Chavan Siddharth Jaysing
4	Fagare Digvijay Dilip
5	Kambale Vishwajit Madhukar
6	Kenavade Yogesh Sanjay
7	<u>Lad Sanika Shivaji</u>
8	Lingade Ashok Sunil
9	Patil Abhishek Santaji
10	Patil Akash Shahaji
11	<u>Patil Amruta Daji</u>
12	Patil Avishkar Adinath
13	Patil Bhushan Shankar
14	Patil Harish Pandurang
15	Patil Harshad Sunil
16	Patil Mohit Mohan
17	Patil Rutvik Ramchandra
18	Patil Shailesh Dattatray
19	Patil Shivraj Shashikant
20	<u>Patil Vaibhavi Sanjay</u>
21	Ramane Sandip Maruti
22	<u>Wagare Snehal Dattatray</u>



[Handwritten Signature]

PRINCIPAL,
Bhogawati Mahavidyalaya Kurukali
Tal. Karveer Dist. Kolhapur





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BHOGAWATI MAHAVIDYALAYA, KURUKALI

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ON

ENVIRONMENTAL WATER ANALYSIS

CERTIFICATE

This is to certify that, Mr./Miss Chavan Rutvik Tanaji of class has successfully completed the Add On Course On "**Environmental Water Analysis**" conducted by Department of Chemistry, Bhogawati Mahavidyalaya, Kurukali during the academic year 2024-25. He / She has secured grade

Dr. D. R. Chandam
Course Co-ordinator

Prof.(Dr). D. K. Dalavi
Head of Department

Prof.(Dr). D. A. Chougale
Principal



The Bhogawati Shikshan Prasarak Mandal's

BHOGAWATI MAHAVIDYALAYA, KURUKALI

NAAC Reaccredited 'A' Grade

ADD ON COURSE

ON

ENVIRONMENTAL WATER ANALYSIS

CERTIFICATE

This is to certify that, Mr./Miss ...*Ramane Sandip Maruti*..... of class*M.Sc. II*..... has successfully completed the Add On Course On "**Environmental Water Analysis**" conducted by Department of Chemistry, Bhogawati Mahavidyalaya, Kurukali during the academic year 2024-25. He / She has secured ...*A*..... grade

Dr. D. R. Chandam
Course Co-ordinator

Prof. (Dr). D. K. Dalavi
Head of Department

Prof. (Dr). D. A. Chougale
Principal

Bhogawati Mahavidyalaya, Kurukali

Department of Chemistry

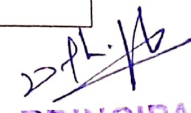
"Environmental Water Analysis"

LIST OF ADMITTED STUDENTS

Academic Year - 2025-26



Sr. No.	Name of Students
1	Bugade Aniket Ashok
2	<u>Devkar Vaishanavi sunil</u>
3	<u>Dhere Sanika Maruti</u>
4	Godase Ritesh Rajendra
5	Katre Vishal Ekanath
6	<u>Kumbhar Tejaswi Pandit</u>
7	<u>Kude Digambar Dattatray</u>
8	Mankar Samarth Anil
9	Patil Akash Krushanat
10	Patil Aniket Rangrao
11	Patil Avadhut Sopan
12	<u>Patil Nilam Ananda</u>
13	Patil Nitin Raghunath
14	<u>Patil Pranita Chandrakant</u>
15	Patil Ritesh Chandrakant
16	Patil Rohan Dattatray
17	<u>Patil Sanika Mahadev</u>
18	Patil Sanket Sunil
19	Patil Shreyash Maruti
20	<u>Sale Vaishanvi Balu</u>
21	Wadakar Harshvardhan Rajendra
22	Waghurdekar Marleshwar sunil


PRINCIPAL,
Bhogawati Mahavidyalaya Kurukali
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The Bhogawati Shikshan Prasarak Mandal's

BHOGAWATI MAHAVIDYALAYA, KURUKALI

NAAC Reaccredited 'A' Grade

ADD ON COURSE

ON

ENVIRONMENTAL WATER ANALYSIS

CERTIFICATE

This is to certify that, Mr./MissProf. Avadhut Sapre..... of
class M.Sc. II..... has successfully completed the Add On Course On "**Environmental
Water Analysis**" conducted by Department of Chemistry, Bhogawati Mahavidyalaya,
Kurukali during the academic year 2025-26. He / She has secured A..... grade

Dr. D. R. Chandam
Course Co-ordinator

Prof.(Dr). D. K. Dalavi
Head of Department

Prof.(Dr). D. A. Chougale
Principal



The Bhogawati Shikshan Prasarak Mandal's

BHOGAWATI MAHAVIDYALAYA, KURUKALI

NAAC Reaccredited 'A' Grade

ADD ON COURSE

ON

ENVIRONMENTAL WATER ANALYSIS

CERTIFICATE

This is to certify that, Mr./Miss ...Patil Sanika Mahadev..... of
class M.Sc.II..... has successfully completed the Add On Course On **"Environmental
Water Analysis"** conducted by Department of Chemistry, Bhogawati Mahavidyalaya,
Kurukali during the academic year 2025-26. He / She has secured A..... grade

Dr. D. R. Chandam
Course Co-ordinator

Prof. (Dr). D. K. Dalavi
Head of Department

Prof. (Dr). D. A. Chougale
Principal