



NAAC RE-ACCREDITED WITH 'A' GRADE

Sevalal Mahila Mahavidyalaya

Place for Higher Learning & Research

(Research Academy)

Sakkardara Sqaure, Umrer Road, Nagpur-440 024

Email: sevamahilamv@gmail.com

Website: www.sevalalmahilamahavidyalay.ac.in

Certificate Course in Water Quality Monitoring & Management

Department of Environment Science



Noble

**Off. Principal
Sevalal Mahila Mahavidyalaya
Nagpur.**

Course title: Water quality monitoring methods and analysis.

Course coordinator(s): Dr. Pravin U. Meshram

Course instructor(s): Dr. Pravin U. Meshram

Contact details: 9890432005/ pravin2668@rediffmail.com

Course type: Certificate Course

Course offered in: Semester VI

Course Duration: 3 Months

Course description: The course intends to prepare a student in acquiring skills on the art of water monitoring and quantitative analysis of critical water quality parameters. It also brings in those aspects of chemistry which are important for water quality management and pollution control.

Course objectives:

1. To enable students to understand the principles and the practical approaches and techniques required to effectively monitor the chemical, hydrological and microbiological elements of water quality.
2. To build understanding of water quality parameters and their relation to public health and environment.

Course content:

- 1 **Introduction-** sampling techniques, basic concept of quantitative techniques, instrument methods of analysis, standard solutions, water quality standards for different applications
- 2 **Acidity and Alkalinity:** Sources and nature, environmental significance, methods of measurement, Application of data
- 3 **Hardness:** General considerations; causes and source, environmental significance, methods of determination, application of data in environmental science
- 4 **Chlorides:** General considerations; causes and source, environmental significance, methods of determination, application of data in environmental science
- 5 **Dissolved oxygen:** General considerations, environmental significance of dissolved oxygen, collection of samples for determination of dissolved oxygen, methods of Determination
- 6 **BOD:** General consideration, nature of BOD reaction, method of measurement, application of data
- 7 **COD:** General consideration, methods of measurement, application of data in environmental science
- 8 **Sulphates, Nitrates and Phosphates:** General considerations; causes and source, environmental significance, methods of determination, application of data in environmental science



Handwritten signature in blue ink.

Off. Principal
Sevadai Mahila Mahavidyalaya
Nagpur.

Evaluation criteria:

- Major Practical exam
- Viva
- Field Report
- Practical Record

Learning outcomes:

1. Understand meaning of important parameters for measuring water quality;
2. Water quality criteria and standards, and their relation to public health, environment and urban water cycle;
3. Learn how to run accurate water quality tests and to determine how the parameters relate to each other;
4. Plan water quality surveillance for a given aquatic environment and to understand what a test result means in terms of the health of the ecosystem.

Teaching approach:

Classroom teaching, field work and laboratory work.

References Books:

1. Standard methods for the examination of water and wastewater published by APHA 15th ed.
2. Keith, L.H. [Ed.] 1988 Principles of Environmental Sampling. American Chemical Society

Student responsibilities:

- The course has Environmental Science laboratory experiments, and field visits.
- Opportunity to repeat laboratory experiments will be very limited and hence regular attendance is important.

Course reviewers:

1. Dr. P. R. Chaudhary
2. Dr. P. B. Deshbhratar
3. Dr. Shardha Dhadase



N. S. W. D. S.
Off. Principal
Sevalal Mahila Mahavidyalaya
Nagpur.

NAAC RE-ACCREDITED WITH 'A' GRADE

Sevadal Mahila Mahavidyalaya

Place for Higher Learning & Research (Research Academy)

Sakkardara Sqaure, Umrer Road, Nagpur-440 024

Date-01/11/2023

Notice

All the students are hereby informed that the Certificate Course in Water Quality Monitoring & Management run by Department of Environmental Science is designed to enhance on the art of water monitoring and quantitative analysis of critical water quality parameters, and also management & pollution control. Interested students should contact following teachers for admission before 30 November, 2023.

1. **Dr. P. U. Meshram**, Professor & Head, Department of Environmental Science

Principal



Noble

Off. Principal
Sevadal Mahila Mahavidyalaya
Nagpur.

Minutes of the Meeting dated 30/04/2024

Certificate Course in “Water Quality Monitoring & Management”

The meeting regarding the Certificate Course in “Water Quality Monitoring & Management” was held on 30th April 2024 at 11.30 am in the Hon'ble Principal's Chamber. Hon'ble Principal Sir presided over the meeting.

Agenda of the meeting:

- 1) To confirm the minutes of the last meeting.
- 2) To review the progress of framing the syllabus of ‘ Aquarium Fabrication and Maintenance’
- 3) Any other matter with the permission of the Chair.

Following Members were present.

- | | |
|--------------------------------------|--------------------|
| 1) Dr. (Mrs.) N.S. Dhoble, Principal | Chairman |
| 2) Dr. Ashish Lambat | IQAC Coordinator |
| 3) Dr. Pravin U. Meshram | Course Coordinator |
| 4) Dr. (Mrs.) Bharati S. Tapase | Member |

Pravin U. Meshram
B. Tapase

Dr. Pravin U. Meshram, Course Coordinator acted as secretary in the meeting. The Coordinator welcomed the Chairperson, Hon'ble Principal and called the meeting in order with the permission of chairperson. The Coordinator read out the agenda of the meeting and subsequently discussed the matter.

4) **Item No.1:** To confirm the minutes of the last meeting.

Resolution: The minutes of the last meeting held on 30.04.2024 were read by Course Coordinator and subsequently the minutes were unanimously approved.

2) **Item No.2:** To review the progress of framing the syllabus of To review the progress of framing the syllabus of “Water Quality Monitoring & Management”

Resolution: Course Coordinator tabled the newly framed the syllabus of certificate course in To review the progress of framing the syllabus of “Water Quality Monitoring & Management”, in the meeting. After thorough discussion it was approved unanimously.

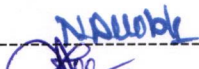
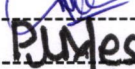
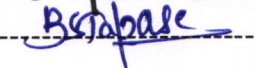



N. Dhoble
Off. Principal
Sevadale Mahila Mahavidyalaya
Nagpur.

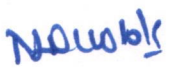
3) **Item No. 3** Any other matter with the permission of Chair.

Resolution: Hon'ble Principal directed the Coordinator to start admissions for the students after Diwali vacation.

As there was no other matter to discuss, the meeting was concluded with vote of thanks by the Cordinator of the course.

Name	Signature
1) Dr. (Mrs.) N.S. Dhoble	
2) Dr. Ashish Lambat	
3) Dr. Pravin U. Meshram	
4) Dr. (Mrs.) Bharati S. Tapase	




Off. Principal
Sevadal Mahila Mahavidyalaya
Nagpur.

Sevadal Mahila Mahavidyalaya, Nagpur
Department of Environmental Science

Certificate Course in
“Water quality monitoring and management”

Academic session 2023-24

List of Students Enrolled in the Certificate Course

Sr. No.	Name of the Students
1	Shikha S. Gupta
2	Riya S. Meshram
3	Sejal R. Lokhande
4	Laxmi D. Deshmukh
5	Nikita N. Dhongede
6	Nandini Kelzarkar
7	Nikita H. Tembhekar
8	Tanushree N. Atkare
9	Krishna D. Gadhawe
10	Sayali S. Warhade
11	Urvashi N. Shende
12	Palak N. Bhagat
13	Srushti V. Songhare
14	Sakshi S. Nanaware

P. U. Meshram

Dr. P. U. Meshram
Course Co-ordinator



N.S. Dhoble

Off. Principal
Sevadal Mahila Mahavidyalaya
Nagpur.

N.S. Dhoble

Prof. (Mrs.) N.S. Dhoble
Principal
Sevadal Mahila Mahavidyalaya

NAAC RE-ACCREDITED WITH 'A' GRADE
Sevadal Mahila Mahavidyalaya
Place for Higher Learning & Research (Research Academy)
Sakkardara Sqaure, Umrer Road, Nagpur-440 024

Date-05/04/2024

Notice

All the students of Certificate Course in Water Quality Monitoring & Management are hereby informed that the Theory test and Practical Examination will be held on dated 26/04/2023 and 27/04/2023 respectively at 11.00 am in UG Laboratory Department of Environmental Science of college. Students are directed to remain present.

P. U. Meshram

Dr. P. U. Meshram

Course Co-ordinator

N.S. Dhoble

Dr.(Mrs.) N.S. Dhoble

Principal



N.S. Dhoble

Off. Principal
Sevadal Mahila Mahavidyalaya
Nagpur.

Sevadal Mahila Mahavidyalaya, Nagpur
Department of Environmental Science
Certificate Course in
“Water Quality Monitoring & Management”
Academic session 2023-24

Full Marks: 40

Time:120 Min.

Practical

Q.1. To Determine the chloride ions in given sample. **(10 M)**

Q.2. Estimation of hardness of water & waste water sample by complexometric method.

(10 M)

Theory

Question: (Solve any 5)

(1 X 4M=20M)

1. What are the main objectives of water sampling?
2. Discuss the different source of water pollution affecting the water quality.
3. Discuss the physical parameter for the assessment of water analysis.
4. Define the Classification of water bodies *w.r.t.* specific parameter such as chlorides and the hardness.
5. What is dissolve oxygen? How it is measure in water sample and add a note on its significance.
6. What is difference between TDS and TSS? How are they measured?
7. How do you select lake water sampling locations?
8. What are the different type of the water sample?
9. Name the equipment which are used for the collection of the water sample.
10. What are the Conventional method of water treatment plant, explain them.

P. U. Meshram

Dr. P. U. Meshram
Course Co-ordinator



N. Hobli
Off. Principal
Sevadal Mahila Mahavidyalaya
Nagpur.

Sevadal Mahila Mahavidyalaya, Nagpur

Department of Environmental Science

Name of the Centre : **Sevadal Mahila Mahavidyalaya, Nagpur**Name of the Examination : **Certificate Course in Water Quality Monitoring & Management**Subject : **Environmental Science**

Max. Marks : 100

No. of Students Present : 14

No. of Students Absent : 00

Total No. of Admitted students: 14

Sr. No.	Name of student	Signature of students	Total Marks Obtained	
			Figure	Words
1.	Shikha S. Gupta	Shikha Gupta	85	Eighty Five
2.	Riya S. Meshram	R Meshram.	80	Eighty only
3.	Sejal R. Lokhande	sejallokhande	80	Eighty only
4.	Laxmi D. Deshmukh	Laxmi	85	Eighty Five
5.	Nandini Kelzarkar	Nandini	81	Eighty One
6.	Nikita H. Tembhekar	N Tembhekar	83	Eighty Three
7.	Tanushree N. Atkare	Tanushree A.	86	Eighty Six
8.	Krishna D. Gadhawe	Krishna	83	Eighty Three
9.	Sayali S. Warhade	Sayali Warhade	82	Eighty Two
10.	Urvashi N. Shende	Urvashi	80	Eighty only
11.	Palak N. Bhagat	palak.B	77	Seventy Seven
12.	Sakshi S. Nanaware	S.S. Nanaware	84	Eighty Four
13.	Sanika J. Kadu	Sanika	78	Seventy Eight
14.	Kalyani Khedkar	Kalyani k.	85	Eighty Five

Date : 30/4/24

B. S. Ghose

External

P. U. Deshmukh

Internal

Signature :



N. N. N. N.

Off. Principal
Sevadal Mahila Mahavidyalaya
Nagpur.

Sevadal Mahila Mahavidyalaya, Nagpur
Place for Higher Learning and Research
Sakkardhara Sqaure, Umrer Road, Nagpur-440024

Department of Environmental Science
Certificate Course in Water Quality Monitoring & Management
Academic Session 2023-24

MARK SHEET

Sr. No.	Name of the Students	Marks Obtained			In Words	Grade
		Theory + Practical	Internal Assessment	Total		
1	Shikha S. Gupta	35	50	85	Eighty Five	A
2	Riya S. Meshram	31	49	80	Eighty only	A
3	Sejal R. Lokhande	34	46	80	Eighty only	A
4	Laxmi D. Deshmukh	33	52	85	Eighty Five	A
5	Nandini Kelzarkar	30	51	81	Eighty One	A
6	Nikita H. Tembhekar	35	48	83	Eighty Three	A
7	Tanushree N. Atkare	36	50	86	Eighty Six	A
8	Krishna D. Gadhawe	35	48	83	Eighty Three	A
9	Sayali S. Warhade	33	49	82	Eighty Two	A
10	Urvashi N. Shende	30	50	80	Eighty only	A
11	Palak N. Bhagat	30	47	77	Seventy Seven	A
12	Sakshi S. Nanaware	35	49	84	Eighty Four	A
13	Sanika J. Kadu	30	48	78	Seventy Eight	A
14	Kalyani Khedkar	34	51	85	Eighty Five	A

Rudeshman.

Dr. P. U. Meshram
Course Co-ordinator



Nauoble

Off. Principal
Sevadal Mahila Mahavidyalaya
Nagpur.

Nauoble

Dr. (Mrs.) N. S. Dhoble
Off. Principal

Minutes of the Meeting dated 16.10.2023




Certificate Course in “Water Quality Monitoring & Management”

The meeting regarding the Certificate Course in “Water Quality Monitoring & Management” was held on 16.10.2023 at 11.30 am in the Hon'ble Principal's Chamber. Hon'ble Principal Sir presided over the meeting.

Agenda of the meeting:

- 1) To commence the Certificate Course in “Water Quality Monitoring & Management”
- 2) To frame the syllabus of the course.
- 3) Any other matter with the permission of the Chair.

Following Members were present.

- | | | |
|-----------------------------------|--------------------|---|
| 1) Prof. Pravin Charde, Principal | Chairman |  |
| 2) Dr. Ashish Lambat | IQAC Coordinator | |
| 3) Dr. Pravin U. Meshram | Course Coordinator |  |
| 4) Dr. (Mrs.) Bharati S. Tapase | Member |  |

Dr. Pravin U. Meshram, Course Coordinator acted as secretary in the meeting. The Coordinator welcomed the Chairperson, Hon'ble Principal and called the meeting in order with the permission of chairperson. The Coordinator read out the agenda of the meeting and subsequently discussed the matter.

4) **Item No.1:** To commence the Certificate Course in “Water Quality Monitoring & Management”.

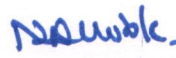
Resolution: Unanimously it was decided to commence the Certificate Course in “Water Quality Monitoring & Management”, from the session 2023-24.

2) **Item No.2:** To frame the syllabus of the course.


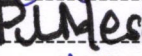


Resolution: Hon'ble Principal expressed his views regarding the framing of course syllabus, Dr. Pravin U. Meshram was asked to prepare syllabus of the Certificate Course in “Water Quality Monitoring & Management”.

3) **Item No. 3** Any other matter with the permission of Chair.




Off. Principal
Sevalal Mahila Mahavidyalaya
Nagpur.

Resolution: As there was no other matter to discuss, the Coordinator ended the meeting by vote of thanks.

- | Name | Signature |
|---------------------------------|---|
| 1) Hon'ble Prof. Pravin Charde |  |
| 2) Dr. Ashish Lambat |  |
| 3) Dr. Pravin U. Meshram |  |
| 4) Dr. (Mrs.) Bharati S. Tapase |  |



Resub



Sevalal Shikshan Sanstha's
NAAC RE-ACCREDITED WITH 'A' GRADE

Sevalal Mahila Mahavidyalaya

Place for Higher Learning and Research (Research Academy)
Sakkardara Square, Umrer Road, Nagpur-440024

Certificate of Completion

This certificate is awarded to

Ms. Shikha S. Gupta

she has successfully completed the Certificate Course in
"Water Quality Monitoring and Management"
conducted by the Department of Environmental Science.

Date : 30/04/2024

Dr. Pravin Meshram

Dr. Pravin Meshram
Course Coordinator

Nirupama S. Dhoble

Prof. (Mrs.) Nirupama S. Dhoble
Off. Principal
Sevalal Mahila Mahavidyalaya, Nagpur



Off. Principal
Sevalal Mahila Mahavidyalaya
Nagpur.

Nirupama S. Dhoble