



Seval Education Society's

Seval Mahila Mahavidyalaya

NAAC RE-REACCREDITED WITH 'A' GRADE

Sakkardara Square, Umrer Road, Nagpur - 440 024 (M.S.)

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CERTIFICATE COURSE

"Aquarium Fabrication and Maintenance"

(Duration - Three Months)

Course Co-ordinator

Dr. (Mrs.) J. S. Dahegaonkar

Asst. Prof. Department of Zoology,

Seval Mahila Mahavidyalaya,

Nagpur

2023-2024



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Nagpur.

Course Title : Aquarium Fabrication and Maintenance

Duration : Three Months

Eligibility : B.Sc Zoology, Second Year Students, Sevadal Mahila Mahavidyalaya Nagpur.

Brief Description of the Course and Objectives:

Undergraduate Department Of Zoology, Sevadal Mahila Mahavidyalaya, Nagpur extends 30 hrs. Certificate Course on “**Aquarium Fabrication and Maintenance**”. This comprehensive course is designed to provide students with an in-depth understanding of aquarium fabrication and maintenance. It covers a wide range of topics, from the initial setup of aquarium systems to the ongoing care and maintenance of aquatic environments. Participants will gain practical knowledge and hands-on experience in creating and sustaining healthy, vibrant aquatic ecosystems.

Course Objectives:

1. **Comprehend Aquarium Diversity :** Gain a deep understanding of various types of aquariums, including freshwater, saltwater, and reef systems, and recognize their unique characteristics and applications.
2. **Master Aquarium Setup :** Learn to select the ideal aquarium size and location, while also becoming proficient in choosing and installing essential equipment such as filtration systems, lighting, and temperature control mechanisms.
3. **Sustain Pristine Water Quality :** Develop the skills necessary to consistently monitor and maintain optimal water quality parameters, ensuring the health and well-being of aquatic inhabitants.
4. **Proficiently Manage Aquatic Life :** Acquire the ability to carefully choose and introduce fish, invertebrates, and plants into aquarium environments, with an emphasis on compatibility, species-specific needs, and disease prevention.
5. **Craft Aesthetic Aquarium Environments :** Explore the art of aquascaping and gain the capability to create visually captivating underwater landscapes through the arrangement of substrates, driftwood, rocks, and decorations.
6. **Execute Routine Care and Maintenance :** Demonstrate expertise in essential maintenance tasks, including regular water changes, cleaning, and effective algae control methods, as well as implementing a well-rounded feeding and nutrition regimen.
7. **Diagnose and Solve Issues :** Develop the skills to identify and address common aquarium problems, from water quality issues to diseases, behavioral anomalies, and emergency situations.
8. **Undertake Advanced Aquarium Projects :** Go beyond the basics by constructing custom aquariums and stands, designing and implementing DIY filtration and lighting systems, and crafting intricate aquascapes and themed displays.



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9. **Promote Ethical Aquaristics** : Embrace ethical and sustainable practices in the hobby by advocating responsible pet ownership, sourcing aquatic life and materials responsibly, and ensuring the ethical treatment and welfare of all aquarium inhabitants.
10. **Apply Practical Skills** : Showcase hands-on skills through practical exercises involving aquarium setup, maintenance, and troubleshooting, and demonstrate proficiency in individual or group projects.
11. **Communicate Effectively** : Develop the ability to communicate your knowledge and findings clearly and effectively, both in writing and through collaborative efforts with peers on projects and presentations.
12. **Nurture Lifelong Passion** : Cultivate a lifelong passion for the art and science of aquaristics, encouraging continuous learning, exploration, and appreciation for the fascinating world of aquariums.

These descriptive objectives outline the specific skills and knowledge that students will gain throughout the course, providing a comprehensive overview of the learning journey in aquarium fabrication and maintenance.

Course Title : Aquarium Fabrication and Maintenance

Course Outline:

Module 1: Fundamentals of Aquariums (Weeks 1-4)

Module Overview : This module lays the foundation for aquarium fabrication and maintenance, introducing students to the different types of aquariums and the essential components of a successful aquatic environment.

Week 1: Introduction to Aquariums

- Types of aquariums and their applications.
- The role of aesthetics and functionality in aquarium design.
- Selecting the right aquarium size and location.

Week 2: Aquarium Equipment

- Understanding filtration systems: mechanical, biological, and chemical.
- Lighting options and their effects on aquatic life.
- Temperature control and heating solutions.

Week 3: Water Chemistry

- Key water quality parameters: pH, ammonia, nitrites, nitrates, and water hardness.
- Water testing techniques and interpretation.
- The nitrogen cycle and its importance in aquariums.



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Week 4: Aquatic Life Selection

- Choosing fish, invertebrates, and plants based on compatibility and habitat preferences.
- Disease prevention and treatment basics.
- Ethical considerations in stocking aquariums.

Module 2: Creating (Weeks 5)

Module Overview: Module 2 delves into the art of crafting visually appealing aquariums and covers the day-to-day care required to keep aquatic ecosystems thriving.

Week 5: Aquarium Design and Decoration

- Aquascaping techniques and principles.
- Substrate selection and arrangement.
- Incorporating driftwood, rocks, and artificial decorations.

Module 3: Maintaining Aquariums (Weeks 6-8)

Module Overview: The final module emphasizes ethical practices in aquaristics, sustainable sourcing of aquatic life and materials, and the development of advanced skills.

Week 6: Maintenance and Routine Care

- Performing water changes and cleaning procedures.
- Managing algae growth and prevention strategies.
- Developing a balanced feeding and nutrition regimen.

Week 7: Troubleshooting Aquarium Issues

- Identifying and addressing common problems, such as water quality issues and disease outbreaks.
- Dealing with fish stress and behavioral anomalies.
- Emergency preparedness and response.

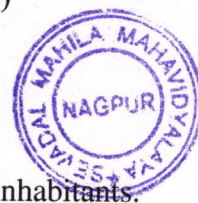
Week 8: Aquarium Projects

- Building custom aquariums and stands to suit specific requirements.
- Designing and implementing DIY filtration and lighting systems for advanced setups.
- Creating advanced aquascapes and themed aquarium displays.

Module 4 : Responsible Aquaristics and Beyond (Weeks 9-12)

Week 9: Ethical and Sustainable Practices

- Responsible pet ownership and sustainable sourcing.
- Promoting ethical treatment and welfare of all aquarium inhabitants.



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Week 10: Practical Application of Skills

- Demonstrating hands-on skills in aquarium setup, maintenance, and troubleshooting.
- Completing individual or group projects.

Week 11: Effective Communication

- Communicating knowledge and findings clearly and effectively, both in writing and through collaborative efforts with peers.
- Presenting projects and findings to the class.

Week 12: Lifelong Passion for Aquaristics

- Encouraging a lifelong passion for aquaristics, fostering continuous learning and exploration.
- Reflecting on the course journey and future endeavours in the world of aquariums.
- **Responsible Aquaristics and Beyond**

Syllabus:

In this course, you will embark on an exciting journey into the world of aquariums, learning the art and science of designing, setting up, and maintaining stunning aquatic environments. This course is divided into three comprehensive modules.

Module 1: Fundamentals of Aquariums In the initial module, we will explore the diverse types of aquariums and the critical components that make them thrive. Topics include selecting the right equipment, understanding water chemistry, and ethical considerations in choosing aquatic life.

Module 2: Creating Module 2 delves into the practical aspects of crafting visually captivating aquariums and covers routine maintenance and troubleshooting.

Module 3: Maintaining Aquariums In this module, you will gain hands-on experience in aquascaping, maintenance procedures, and advanced aquarium projects.

Module 4: Responsible Aquaristics and Beyond The final module emphasizes ethical practices in aquaristics, sustainability, effective communication, and fostering a lifelong passion for aquariums. You'll learn how to promote responsible pet ownership and contribute to the welfare of aquatic life.

Throughout the course, you will engage in discussions, hands-on activities, and projects that will enhance your understanding and practical skills in aquarium fabrication and maintenance. Our goal is to equip you with the knowledge and confidence to create and care for vibrant aquatic ecosystems responsibly.

Please refer to the course schedule and policies for specific details about assignments, grading, attendance, and more. We look forward to guiding you through this exciting exploration of aquariums and helping you develop a deep appreciation for this fascinating hobby and science.



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Teaching Methodology :

1. Lectures and Presentations:

- Begin each module with informative lectures and presentations. Cover the theoretical aspects of aquariums, including types, equipment, water chemistry, and aquatic life selection. Use multimedia, diagrams, and visuals to enhance understanding.
- Encourage questions and discussions during lectures to promote interaction.

2. Hands-On Workshops:

- Conduct regular hands-on workshops to complement theoretical knowledge. These workshops should cover skills such as aquascaping, equipment setup, water testing, and maintenance tasks.
- Provide students with opportunities to work with actual aquariums, equipment, and aquatic life.

3. Guest Speakers:

- Invite guest speakers with expertise in aquarium fabrication and maintenance to share their experiences and insights with students.
- Guest speakers can provide real-world perspectives and inspire students in the field.

4. Group Projects:

- Assign group projects that require students to design and set up aquariums based on specific criteria. These projects should encourage creativity, teamwork, and problem-solving.
- Each group can present their project to the class, explaining their choices and demonstrating their practical skills.

5. Assessments:

- Assess students through a variety of methods, including quizzes, exams, practical skills assessments, and project evaluations.
- Create rubrics for grading practical work, emphasizing attention to detail and proper procedures.

6. Ethical and Sustainable Practices:

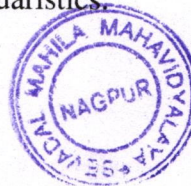
- Emphasize the importance of ethical and sustainable practices throughout the course. Encourage critical thinking about the environmental and ethical aspects of the aquarium hobby.

7. Communication Skills:

- Incorporate communication skills development by requiring students to write reports, give presentations, and engage in discussions about their findings and experiences.

8. Reflection and Self-Assessment:

- Have students reflect on their progress and learning throughout the course. Encourage self-assessment and goal-setting for personal growth in aquaristics.



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9. Practical Exams:

- Conduct practical exams where students demonstrate their skills in setting up and maintaining aquariums. These exams should assess their ability to apply theoretical knowledge to real-world situations.

By combining lectures, hands-on experience, guest speakers, and various assessment methods, this teaching methodology aims to provide students with a comprehensive understanding of aquarium fabrication and maintenance while fostering practical skills, critical thinking, and ethical responsibility in the laboratory.

Guest Lectures :

Invited Speakers

1. Dr. Milind Shinkhede

Associate Professor, D.R.B. Sindhu Mahavidyalaya, Nagpur.

2. Dr. Mrs. Kirti Paturkar

Assistant Professor, M.P.Deo Memorial Dharampeth Science College, Nagpur.

3. Mrs. Shruti Deshmukh

Lecturer, Kamla Nehru Mahavidyalaya, Nagpur.

Duration: Three Months

Total Hrs: 30 Hrs.

- Theoretical/ Hands on Training – 24 hrs.
- Assignment and Seminar – 6 hrs.

Time : 2:00 pm. to 3 pm. / Friday and Saturday

Participants will be endowed with Certificates after completion of the course successfully.

Learning Outcomes :

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

1. Identify and describe different types of aquariums and their applications.
2. Select and set up appropriate aquarium equipment and understand its functions.
3. Maintain optimal water quality by monitoring key parameters and implementing corrective measures.
4. Create visually appealing aquariums through effective aquascaping and design principles.
5. Choose and introduce fish, invertebrates, and plants based on compatibility and habitat considerations.



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6. Perform routine maintenance and care, including water changes, cleaning, and feeding.
7. Diagnose and address common aquarium issues, such as water quality problems and diseases.
8. Promote ethical aquaristics by practicing responsible pet.

J.S. Dahegaonkar

Course Co-ordinator:

Dr. (Mrs.) J. S. Dahegaonkar,
Assistant Professor, Department Of Zoology,
Sevadal Mahila Mahavidyalaya, Nagpur.



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Place for Higher learning & Research (Research Academy
Sakkadara Chowk, Umrer Road, Nagpur-440024

Date: 25.09.2023

NOTICE

All the members of the Department of Zoology are hereby informed that the meeting regarding the Certificate Course in 'Aquarium Fabrication and Maintenance' has been scheduled on 29 Sept, 2023 at 11.30 am in Hon'ble Principal's Chamber.

Hon'ble Principal Sir will chair the meeting in presence of Dr. A.P. Lambat, NAAC Coordinator.

Agenda of the meeting:

- 1) To commence the Certificate Course in 'Aquarium Fabrication and Maintenance'.
- 2) To frame the syllabus of the course.
- 3) Any other matter with the permission of the Chair.

J.S. Dahegaonkar

Asst. Prof. Dr. Mrs. J.S. Dahegaonkar

Course Coordinator

Aquarium Fabrication and Maintenance

Copy to:

Asst. Prof. Dr. A.P. Lambat, NAAC Coordinator



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Sakkadara Chowk, Umrer Road, Nagpur-440024

Minutes of the Meeting dated 29.09.2023

Certificate Course in 'Aquarium fabrication and Maintenance'

The meeting regarding the Certificate Course in '*Aquarium Fabrication and Maintenance*' was held on 29.09.2023 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 in '**Aquarium fabrication and Maintenance**'
- 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) Asso. Prof. Dr. A.P. Lambat | IQAC Coordinator |
| 3) Asst. Prof. Dr. Mrs. J.S Dahegaonkar | Course Coordinator |

Dr. Mrs. J.S Dahegaonkar, 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 'Aquarium Fabrication and Maintenance'.

Resolution: Unanimously it was decided to commence the Certificate Course in 'Aquarium Fabrication and Maintenance', 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. Mrs. J.S Dahegaonkar was asked to prepare syllabus of the Certificate Course in 'Aquarium Fabrication and Maintenance'.



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

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

Name

- 1) Hon'ble Prof. Pravin Charde
- 2) Dr. A. P. Lambat
- 3) Dr. Mrs. J.S Dahegaonkar

Signature



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Sakkadara Chowk, Umrer Road, Nagpur-440024

Date: 10.10.2023

NOTICE

All the members of the Department of Zoology are hereby informed that the meeting regarding the Certificate Course in 'Aquarium Fabrication and Maintenance' has been scheduled on 12 Oct, 2023 at 11.30 am in Hon'ble Principal's Chamber.

Hon'ble Principal Sir will chair the meeting in presence of Dr. A.P. Lambat, NAAC Coordinator.

Agenda of the meeting:

- 1) To confirm the minutes of 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.

J.S. Dahegaonkar

Asst. Prof. Dr. Mrs. J.S Dahegaonkar

Course Coordinator

Aquarium Fabrication and Maintenance

Copy to:

Asst. Prof. Dr. A.P. Lambat, NAAC Coordinator



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Minutes of the Meeting dated 12.10.2023

Certificate Course in 'Aquarium fabrication and Maintenance'

The meeting regarding the Certificate Course in '*Aquarium Fabrication and Maintenance*' was held on 12th Oct. 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 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) Prof. Pravin Charde, Principal | Chairman |
| 2) Asso. Prof. Dr. A.P. Lambat | IQAC Coordinator |
| 3) Asst. Prof. Dr. Mrs. J.S Dahegaonkar | Course Coordinator |

Dr. Mrs. J.S Dahegaonkar, 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 29.09.2023 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 'Aquarium Fabrication and Maintenance'

Resolution: Course Coordinator tabled the newly framed the syllabus of certificate course in To review the progress of framing the syllabus of 'Aquarium Fabrication and Maintenance', in the meeting. After thorough discussion it was approved unanimously.



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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

- 1) Hon'ble Prof. Pravin Charde
- 2) Dr. A. P. Lambat
- 3) DR. Mrs. J.S Dahegaonkar

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CERTIFICATE COURSE

AQUARIUM FABRICATION & MAINTENANCE

List of Students registered for the Session: 2023-2024

Sr. No.	Name of Candidate
1.	Ku. Gajiya Jakir Sheikh
2.	Ku. Sayali K. Rajurkar
3.	Ku. Vaishnavi A. Lutade
4.	Ku. Janhavi M. Khobragade
5.	Ku. Divya N. Deokar
6.	Ku. Harshada S. Adgulkar
7.	Ku. Saniya V. Admane
8.	Ku. Nikita G. Rakhade
9.	Ku. Yogita P. Choudhari
10.	Ku. Bhumika N. Daharamgodiya
11.	Ku. Tejashree J. Meshram
12.	Ku. Annapurna S. Junghare
13.	Ku. Akanksha V. Funde
14.	Ku. Anushka H. Khonde
15.	Ku. Devangi S. Thakre
16.	Ku. Prarthana P. Vywahare
17.	Ku. Triveni R. Gharpende
18.	Ku. Amraha I. Ansari
19.	Ku. Rakhi T. Dadmal
20.	Ku. Shafiya M.R. Sheikh
21.	Ku. Sheeba S. Khan
22.	Ku. Nudrat R. Pathan
23.	Ku. Sana A. Khan
24.	Ku. Vaishnavi S. Tambuskar
25.	Ku. Rubina N. Sheikh
26.	Ku. Krutadnya E. Kondalkar
27.	Ku. Smita S. Pande
28.	Ku. Aditi R. Gawande
29.	Ku. Maithili A. Lanjewar
30.	Ku. Mahelka Sheikh Sabir



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Place for Higher learning & Research (Research Academy
Sakkadara Chowk, Umrer Road, Nagpur-440024

Date : 02.04.2024

NOTICE

All the students of Certificate Course in 'Aquarium Fabrication and Maintenance' are hereby informed that the Internal Written and Practical Examination will be held on dated 24.04.2024 at 11.00 am respectively in the U.G Zoology laboratory. Students are directed to remain present for the same.

J.S. Dahegaonkar

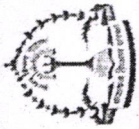
Asst. Prof. Dr. Mrs. J.S Dahegaonkar
Course Coordinator

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Prof. Dr. Mrs. N. S. Dhoble
Off. Principal
Sevadal Mahila Mv, Nagpur



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Off. Principal
Sevadal Mahila Mahavidyalaya
Nagpur.



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30+30
Class
Practicals (30 hrs)

Month of Feb. Mar. Apr.

Roll No.	NAME	Attendance for the												Total Lectures/ Practical engaged
		1	2	3	4	5	6	7	8	9	10	11	12	
1.	Ku. Gajjala Janis Sheikh	P	P	P	P	P	P	P	P	P	P	P	P	12
2.	--- Jayati K. Rajurkar	P	P	P	P	P	P	P	P	P	P	P	P	12
3.	--- Vaishnavi A. Lutade	P	P	P	P	P	P	P	P	P	P	P	P	12
4.	--- Janhavi M. Khabargade	P	P	P	P	P	P	P	P	P	P	P	P	12
5.	--- Dnyu N. Deohan	P	P	P	P	P	P	P	P	P	P	P	P	12
6.	--- Harshada S. Adgulkar	P	P	P	P	P	P	P	P	P	P	P	P	12
7.	--- Sanaya V. Admane	P	P	P	P	P	P	P	P	P	P	P	P	12
8.	--- Nikhile G. Rathade	P	P	P	P	P	P	P	P	P	P	P	P	12
9.	--- Yogita P. Chaudhari	P	P	P	P	P	P	P	P	P	P	P	P	12
10.	--- Bhavika N. Dharwadgi	P	P	P	P	P	P	P	P	P	P	P	P	12
11.	--- Tejashree J. Meshram	P	P	P	P	P	P	P	P	P	P	P	P	12
12.	--- Annapurna S. Jugthane	P	P	P	P	P	P	P	P	P	P	P	P	12
13.	--- Akantika V. Fude	P	P	P	P	P	P	P	P	P	P	P	P	12
14.	--- Anuska H. Khonde	P	P	P	P	P	P	P	P	P	P	P	P	12
15.	--- Devangi S. Thakre	P	P	P	P	P	P	P	P	P	P	P	P	12
16.	--- Preethana P. Vyasaiah	P	P	P	P	P	P	P	P	P	P	P	P	12
17.	--- Trivani R. Garpenda	P	P	P	P	P	P	P	P	P	P	P	P	12
18.	--- Anshika J. Arora	P	P	P	P	P	P	P	P	P	P	P	P	12
19.	--- Rakhi T. Dandmal	P	P	P	P	P	P	P	P	P	P	P	P	12
20.	--- Shafiq M. R. Sheikh	P	P	P	P	P	P	P	P	P	P	P	P	12
21.	--- Sheeba S. Khan	P	P	P	P	P	P	P	P	P	P	P	P	12
22.	--- Nudrat R. Pathan	P	P	P	P	P	P	P	P	P	P	P	P	12
23.	--- Jona A. Khan	P	P	P	P	P	P	P	P	P	P	P	P	12
24.	--- Vaishnavi S. Tamburkar	P	P	P	P	P	P	P	P	P	P	P	P	12
25.	--- Rubina N. Sheikh	P	P	P	P	P	P	P	P	P	P	P	P	12
26.	--- Kintadnya E. Kondalle	P	P	P	P	P	P	P	P	P	P	P	P	12
27.	--- Aniket S. Pande	P	P	P	P	P	P	P	P	P	P	P	P	12
28.	--- Aditi R. Gavande	P	P	P	P	P	P	P	P	P	P	P	P	12
29.	--- Maitika A. Sarjewan	P	P	P	P	P	P	P	P	P	P	P	P	12
30.	--- Malika Sheikh Sabir	P	P	P	P	P	P	P	P	P	P	P	P	12



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CERTIFICATE COURSE

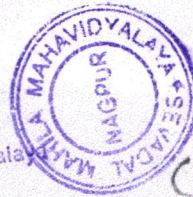
AQUARIUM FABRICATION & MAINTENANCE

List of Students registered for the Session: 2023-2024

S.No.	Name of Candidates	Signature	(20) Practical	(20) Assignment	(60) Theory	(100) Total
1.	Ku. Gajiyajakir Sheikh	Gajiyajakir	18	18	58	94
2.	Ku. Sayali K. Rajurkar	Sayalirakar	18	18	60	96
3.	Ku. Vaishnavi A. Lutade	Vaishnavi	17	17	60	94
4.	Ku. Janhavi M. Khobragade	Janhavi	17	17	58	92
5.	Ku. Divya N. Deokar	D.N. Deokar	17	17	60	94
6.	Ku. Harshada S. Adgulkar	H. Adgulkar	18	18	60	96
7.	Ku. Saniya V. Admane	S. Admane	19	19	58	96
8.	Ku. Nikita G. Rakhade	N. Rakhade	19	19	58	96
9.	Ku. Yogita P. Choudhari	Yogita	18	17	58	93
10.	Ku. Bhumika N. Daharamgodiya	Bhumika	18	18	58	94
11.	Ku. Tejashree J. Meshram	Tejashree	17	17	58	92
12.	Ku. Annapurna S. Junghare	Annapurne	17	17	58	92
13.	Ku. Akanksha V. Funde	Akanksha	18	17	60	95
14.	Ku. Anushka H. Khonde	A. Khonde	18	19	60	97
15.	Ku. Devangi S. Thakre	Devangi	18	19	60	97
16.	Ku. Prarthana P. Vyawahare	P. Vyawahare	19	19	60	98
17.	Ku. Triveni R. Gharpende	Triveni Gharpende	18	18	60	96
18.	Ku. Amraha I. Ansari	A. Ansari	20	19	58	97
19.	Ku. Rakhi T. Dadmal	R. Dadmal	19	18	58	95
20.	Ku. Shafiya M.R. Sheikh	Shafiya	20	19	58	97
21.	Ku. Sheeba S. Khan	Sheeba Khan	18	18	58	94
22.	Ku. Nudrat R. Pathan	N. Pathan	19	19	60	98
23.	Ku. Sana A. Khan	S. Khan	19	19	58	96
24.	Ku. Vaishnavi S. Tambuskar	V. Tambuskar	18	18	58	94
25.	Ku. Rubina N. Sheikh	Rubina	18	17	58	93
26.	Ku. Krutadnya E. Kondalkar	Krutadnya	19	20	58	97
27.	Ku. Smita S. Pande	S. Pande	20	19	60	99
28.	Ku. Aditi R. Gawande	A. Gawande	20	19	60	99
29.	Ku. Maithili A. Lanjewar	M. Lanjewar	20	19	58	97
30.	Ku. Mahelka Sheikh Sabir	M. Sabir	17	17	58	92

Number

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SEVADAL MAHILA MAHAVIDYALAYA

Place for Higher learning & Research (Research Academy)
Sakkadara Chowk, Umrer Road, Nagpur-440024

1. An air-pump is kept in an aquarium in order to –
 - a) provide more carbon dioxide to water plants.
 - b) allow more oxygen to dissolve in water.
 - c) enhance the beauty of the aquarium.
 - d) make water cleaner.

2. _____ is the term used for breeding of fish in specially constructed tanks and ponds.
 - a) Agriculture.
 - b) Viticulture.
 - c) Horticulture.
 - d) Pisciculture.

3. Rohu, Catla and Hilsa are varieties of _____.
 - a) Fish.
 - b) Poultry.
 - c) Parasites.
 - d) None of the above.

4. Aquarium can be made of materials like _____.
 - a) Glass.
 - b) Fiber.
 - c) Plastic.
 - d) None of the above.

5. Aquarium tank may be _____ in shape.
 - a) Square.
 - b) Rectangular.
 - c) Polygonal.
 - d) Triangular.

6. _____ is installed to operate biological filter for airlifting and aeration.
 - a) Aquatic plants.
 - b) Gravel.
 - c) Rocks.
 - d) Air pump.

7. Aquarium tanks are usually measured as _____.
 - a) Length x Breadth x Height.
 - b) Length x Depth x Height.
 - c) Breadth x Length x Height.
 - d) Depth x Length x Height.



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8. Aquaria are of two types-
- a) Fresh water aquaria & Marine water aquaria.
 - b) Marine water aquaria & Pond water aquaria.
 - c) Lake water aquaria & Marine water aquaria.
 - d) None of the above.
9. Aquarium should be filled with clear _____ water.
- a) Hard.
 - b) Soft.
 - c) Potable.
 - d) Well.
10. Heater is used in the aquarium to keep the _____ constant.
- a) Oxygen level.
 - b) Temperature.
 - c) Carbondioxide level.
 - d) pH.
11. _____ and _____ are the excretory products through fish metabolism.
- a) Ammonia & Nitrates.
 - b) Phosphates & Ammonia.
 - c) Nitrites & Sulphates.
 - d) None of the above.
12. Temperature of aquaria water should be _____.
- a) 76° to 80° F.
 - b) 45° to 60° F.
 - c) 50° to 65° F.
 - d) 65° to 75° F.
13. Fluctuation of the water temperature in aquarium can be checked by using a _____.
- a) Incubator.
 - b) Thermometer.
 - c) Heater.
 - d) pH meter.
14. Aerator is used in the aquarium for _____.
- a) Circulating & maintaining oxygen.
 - b) Maintaining ammonia.
 - c) Circulating & maintaining carbondioxide.
 - d) None of the above.



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15. pH of the aquarium water should be between _____.
- 7.6 to 8.4
 - 5.5 to 7.0
 - 7.0 to 9.0
 - 6.5 to 8.0
16. When the water level in the aquarium falls, it is due to _____.
- Photosynthesis.
 - Evaporation.
 - Transpiration.
 - Respiration.
17. _____ device is used to add or remove water from an aquarium.
- Siphon.
 - Hydrometer.
 - Heater.
 - Filter.
18. Nitrogenous wastes in an aquarium is tested by _____.
- Ammonia.
 - Temperature.
 - Salinity.
 - pH.
19. Conversion of ammonia to nitrite to nitrate to nitrogen gas is known as the _____ cycle.
- Oxygen.
 - Nitrogen.
 - Water.
 - Carbondioxide.
20. _____ made the first aquarium.
- Jeanne Villepreux - Power.
 - Watson and Crick.
 - Jacob and Monad.
 - Charles Darwin.
21. Aquarium's water should be changed every _____.
- one or two weeks.
 - two or three weeks.
 - one or two months.
 - within a week.
22. Sealing of the aquarium glass panes is done by _____.
- Silicon.
 - Fevicol.
 - Gum.
 - Wax.



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23. _____ maintenance is a regular period planned maintenance which eliminates breakdowns and outages.
- Routine.
 - Preventive.
 - Corrective.
 - Operation.
24. Which of the following is NOT a type of maintenance of machines?
- Timely maintenance.
 - Preventive maintenance.
 - Scheduled maintenance.
 - None of the above.
25. National Fisheries Development Board is located in _____.
- Goa.
 - Hyderabad.
 - Mumbai.
 - Chennai.
26. "Blue Revolution" is related with the _____.
- Oil seed production.
 - Fish production.
 - Milk production.
 - Food grain production.
27. _____ oldest and largest aquarium in India.
- Taraporewala in Mumbai.
 - New Delhi.
 - Calcutta.
 - Bangalore.
28. _____ is the best cleaner for the inside of a fish tank.
- Hot water.
 - Cold water.
 - Lukewarm water.
 - None of the above.
29. _____ can be safely used to clean water.
- Vinegar.
 - Salt.
 - Bleaching powder.
 - Detergents.
30. _____ aquarium glass is best for aquarium.
- Tempered.
 - Toughened.
 - Laminated.
 - Coated.



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

Certificate of Completion

This certificate is awarded to

Ms. Saniya Admane

she has successfully completed the Certificate Course in

"Aquarium Fabrication & Maintenance",

conducted by the Department of Zoology.

Date : 30/04/2024



Sevalal Mahila Mahavidyalaya
Nagpur.

Nirupama S. Dhoble

Jyoti S. Dahegaonkar
Dr. (Mrs.) Jyoti S. Dahegaonkar
Course Coordinator

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