

# DEPARTMENT OF CHEMISTRY: ANNUAL REPORT 2021-22

The academic year 2021-22 of the department started with the commencement of classes for the III and V semester of the BSc programme, on 1<sup>st</sup> June 2021 via Online Mode. Offline classes were resumed from 4<sup>th</sup> October 2021.

This annual report will provide an overview of the department's activities during the past year, including academic achievements, research accomplishments, and outreach efforts. This year we organized several programmes, including seminars, invited talks, exhibitions etc. We invited scholars from other institutions to share their research and exchange ideas with our faculty and students. The department also engaged with the local community through various outreach efforts.

## I. MISSION AND VISION

To develop department as centre of excellence in all aspects of education.

To promote and inspire the fundamentals of chemistry through our UG Course.

## II. STUDENT STRENGTH

| Year         | Class          | G  | B  | General |   | OBC |   | Hindu |   | Muslim |   | Christian |   | SC | ST | Total |
|--------------|----------------|----|----|---------|---|-----|---|-------|---|--------|---|-----------|---|----|----|-------|
|              |                |    |    | G       | B | G   | B | G     | B | G      | B | G         | B |    |    |       |
| 2021<br>2022 | D3             | 25 | 10 |         |   |     |   |       |   |        |   |           |   |    |    | 35    |
|              | D2             | 25 | 16 |         |   |     |   |       |   |        |   |           |   |    |    | 41    |
|              | D1             | 27 | 2  | 2       | 1 | 22  | 1 | 6     | 1 | 18     | 1 | 0         | 0 | 0  | 3  | 29    |
|              | Total Strength |    |    |         |   |     |   |       |   |        |   |           |   |    |    | 105   |

## III. UNIVERSITY EXAMINATION RESULTS

| Programme     | No of students attended the examination | No of students passed | Pass % |
|---------------|---|-----------------------|--------|
| BSc Chemistry | 23                                      | 18                    | 78%    |

## IV. FACULTY DETAILS

| Sl. No | Name               | Designation         | Highest Qualification | Date of joining/relieving |
|--------|--------------------|---------------------|-----------------------|---------------------------|
| 1.     | Dr. Thomas Thevara | HOD                 | PhD                   | June 2019                 |
| 2.     | Sonima V           | Assistant Professor | MSc                   | June 2018                 |
| 3.     | Shahina P H        | Assistant Professor | MSc                   | January 2020              |
| 4.     | Fathima Shadin P   | Assistant Professor | MSc                   | November 2021             |
| 5.     | Binsha Basheer     | Lab Assistant       | BSc                   | February 2022             |

## V. DEPARTMENTAL ACTIVITIES

### 1. GANDHI JAYANTHI CELEBRATION

On 2<sup>nd</sup> and 3<sup>rd</sup> October our students participated in a value promotion webinar series conducted by centre for ethics and human values and research department of zoology, Seethalakshmi Ramaswami College, Trichy in collaboration with OISCA international Japan and Department of chemistry, WMO Arts and Science College, Muttill. There held a discussion on 'The quantifiers of quality life' and 'Gratitude- the uplifting value'. The session was handled by Dr. S. Usha, Head of the department of Sanskrit, SRC, Trichy.

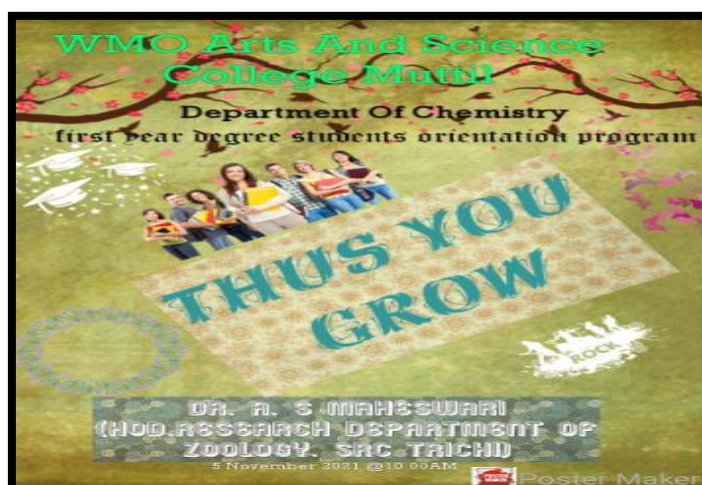
**Platform:** GoogleMeet

<https://meet.google.com/oqw-zrni-taq>

|  |   |   |
|--|---|---|
| <p>SEETHALAKSHMI RAMASWAMI COLLEGE<br/>(AUTONOMOUS)<br/>AFFILIATED TO BHARATHIDASAN UNIVERSITY<br/>TIRUCHIRAPPALLI<br/>ACCREDITED WITH A+ BY NAAC (4TH CYCLE)</p>  |   |   |
| <p><b>CENTRE FOR ETHICS &amp; HUMAN VALUES</b><br/>&amp;<br/><b>RESEARCH DEPARTMENT OF ZOOLOGY</b><br/>In Collaboration with<br/>OISCA INTERNATIONAL, JAPAN &amp;<br/><b>DEPARTMENT OF CHEMISTRY, WMO COLLEGE, MUTTIL, KERALA</b><br/>CELEBRATE<br/>GANDHI JAYANTHI 2021</p> |   |   |
| <p><b>VALUE PROMOTION WEBINAR SERIES</b></p>   |   |   |
| <p><b>PRESIDENTIAL ADDRESS</b><br/><b>DR.M. VASUKI</b><br/>PRINCIPAL<br/>Seethalakshmi Ramaswami College</p>   |   |   |
|   | <p><b>RESOURCE PERSON</b><br/><b>Dr.S.USHA</b><br/>Associate Professor &amp; Head<br/>Department of Sanskrit<br/>Coordinator<br/>Centre for Ethics &amp; Human Values<br/>Seethalakshmi Ramaswami College<br/>Tiruchirappalli</p> | <p>Day 1 - Topic : Values - The<br/>Quantifiers of Quality Life</p> <p>Day 2 -Topic : Gratitude -<br/>The Uplifting Value</p> |
| <p>Date : 2<sup>nd</sup> &amp; 3<sup>rd</sup> October @ 11.30. a.m.<br/>Google Meet Platform <a href="https://meet.google.com/oqw-zrni-taq">https://meet.google.com/oqw-zrni-taq</a><br/>All participants will get e-certificates.<br/>ALL ARE CORDIALLY INVITED</p>         |   |   |

### 2. ORIENTATION PROGRAMME

Conducted an orientation programme for first year UG students entitled 'Thus you Grow' on 5<sup>th</sup> November 2021. Resource person was Dr. A.S. Maheswari, Head of the research department of zoology, SRC, Trichy.



### 3. CHRISTMAS CELEBRATION

Conducted Christmas celebration for students on 22/12/2021.

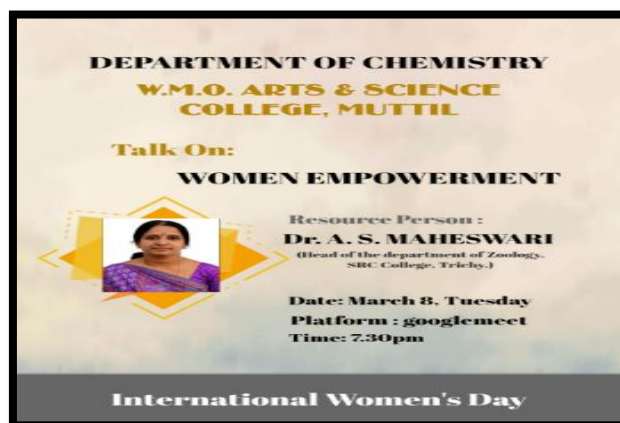


### 4. WOMENS DAY CELEBRATION

Department of chemistry organized an invited talk on 'Women Empowerment' on international women's day, 8<sup>th</sup> march 2022. Dr. A.S. Maheswari, Head of the research department of zoology, SRC, Trichy was the resource person.

**Platform:** google meet

[Meet.google.com/dci-yerb-rdo](https://meet.google.com/dci-yerb-rdo)

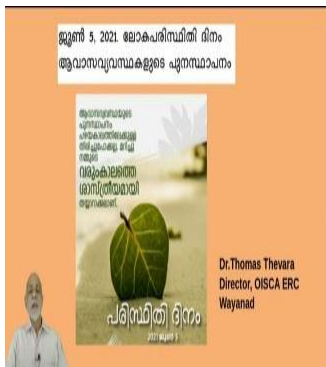


### 5. CAREER COUNSELLING

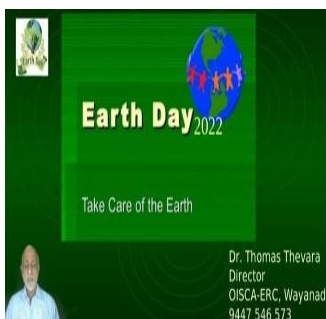
Department of chemistry participated a central university orientation programme for final year UG students by faculties from TRIZ learning app on 20<sup>th</sup> January 2022.



## 6. PROGRAMMES ON ENVIRONMENTAL PROTECTION



As a part of **World Environment Day** in collaboration with OISCA held lecture on ecosystem conservation by Head of the department of chemistry Dr. Thomas Thevara on 5<sup>th</sup> June 2021. The Environmental Day Celebration successfully engaged participants in various activities and initiatives, raising awareness about environmental issues and encouraging sustainable practices. The event served as a platform for collaboration and shared commitment to creating a greener and healthier planet.



Discussion and pledge on conservation of our planet as a part of **World Mother Earth Day** on 21<sup>st</sup> April 2022. Dr. Thomas Thevara handled the lecture. The session inspired individuals to take action and make a positive impact on the environment. By fostering a sense of responsibility and encouraging sustainable behaviors, the lecture session played a vital role in promoting a greener and more sustainable future.

## 7. STUDY TOUR

Department of Chemistry organised a study tour for D3 students to Alappuzha and Munnar from 7<sup>th</sup> January 2022 to 10<sup>th</sup> January 2022. The study tour to Alappuzha and Munnar provided the D3 students with a comprehensive and enriching experience. The tour allowed them to delve into the cultural heritage of Alappuzha and witness the natural beauty of Munnar's tea gardens and wildlife. The students gained insights into the historical significance, environmental importance, and local traditions of both destinations.



## VI. EXTENSION ACTIVITIES

### 1. Extension Activity on Sanitizer Making

On 25<sup>th</sup> November 2021, the Department of Chemistry conducted extension activity on sanitizer making, led by Dr. Thomas Thevara, with the participation of 20 students and faculty members. The objective of the activity was to produce high-quality sanitizer and distribute it to all other departments and offices of the institution, to promote the importance of hand hygiene and contribute to preventing the spread of diseases. The activity included a brief lecture on hand hygiene, followed by a hands-on experience in the Chemistry laboratory, where the participants produced the sanitizer, which was tested for effectiveness and packaged in small bottles for distribution.



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### 2. Visit to Agrochemical Division of Brahmagiri Development Society in Wayanad

On 20<sup>th</sup> April 2022, a group of 30 students from department of chemistry visited the agrochemical division of Brahmagiri Development Society in Meenangadi, Wayanad. The visit included a tour of the soil analysis lab, soap and detergent production unit, and water analysis lab. The staff members of Brahmagiri, Ms. Shini KS, Mr. Jomish, and Mr. Babu, provided detailed explanations of the analysis techniques used in each of the units. The visit was a great learning experience for the students, who gained insights into various aspects of agrochemical production and analysis. This extension activity provided a hands-on experience for the students and allowed them to understand the practical application of their classroom learnings.





**VII. CERTIFICATE COURSE**

The Department of Chemistry offers two certificate courses to cater to the growing demand for specialized knowledge in the fields of Environmental Chemistry and Detergents and Hand Sanitizer Making. These courses aim to provide participants with a comprehensive understanding of the respective subjects, equipping them with practical skills and theoretical knowledge to address environmental challenges and contribute to the production of safe and effective cleaning products. Course Coordinator was Dr.Thomas Thevara.

| Sl. No | Course Title                         | No. Of Students Attended |
|--------|--------------------------------------|--------------------------|
| 1.     | Environmental Chemistry              | 25                       |
| 2.     | Detergents and Hand Sanitiser Making | 20                       |

**VIII. BRIDGE COURSE**

The Department of Chemistry offers a bridge course titled "Introduction to General Chemistry" to provide students with a solid foundation in the fundamental concepts of chemistry. This course is designed for students who wish to refresh their knowledge before pursuing advanced chemistry courses. The bridge course serves as a stepping stone, ensuring that all students have a common understanding of key principles before embarking on more specialized topics.

| Sl. No | Course Title                      | No. Of Students Attended | Course Coordinator |
|--------|-----------------------------------|--------------------------|--------------------|
| 1.     | Introduction to General Chemistry | 29                       | Shahina P H        |

**IX. BEST PRACTICES**

- Hand Sanitizer Making and Distribution
- Proper Mentoring System
- Remedial Coaching
- Career Counselling and Special Guidance
- Quality teaching and Research
- Ethical Practices

## X. STUDENT PROJRCTS

| NAME               | REGISTER NUMBER | TOPIC  | GUIDE          |
|--------------------|-----------------|--|----------------|
| RISHNA RAHMAN      | WMATSCH027      | <b>PREPARATION OF ASPIRIN FROM ACETIC ANHYDRIDE AND SALICYLIC ACID</b>                             | THOMAS THEVARA |
| FATHIMA RUSHDA     | WMATSCH020      |  |                |
| ARFIDA P V         | WMATSCH016      |  |                |
| KADEEJA K T        | WMATSCH022      |  |                |
| ANSEERA SHERIN     | WMATSCH015      |  |                |
| SAHLA D            | WMATSCH001      | <b>EXTRACTION OF SILICA FROM RICE HUSK</b>   | SHAHINA PH     |
| RIFA SALU          | WMATSCH026      |  |                |
| AJITH KRISHNA N M  | WMATSCH026      |  |                |
| JAYASOORYAN K      | WMATSCH035      |  |                |
| SWARARAGH E SURESH | WMATSCH012      |  |                |
| SHAHANABANU        | WMATSCH029      | <b>BIODEGRADABLE PLASTIC PRESENTATION</b>  | SHAHINA PH     |
| MOUSHIYA SHERIN    | WMATSCH023      |  |                |
| NAHALA SADIK       | WMATSCH011      |  |                |
| AROMAL             | WMATSCH034      |  |                |
| RAMEES             | WMATSCH036      |  |                |
| NISHANA THASLIN    | WMATSCH025      | <b>QUALITATIVE ANALYSIS OF THE PRESENCE OF PESTICIDE RESIDUES IN VARIOUS FRUITS AND VEGETABLES</b> | SONIMA V       |
| NISHANANESRIN      | WMATSCH024      |  |                |
| SEHENA SHERIN U    | WMATSCH028      |  |                |
| UNAISA K           | WMATSCH032      |  |                |
| ANEESHA BAKKER U   | WMATSCH014      |  |                |
| FATHIMA JISHANA K  | WMATSCH019      | <b>STUDY OF RED CABBAGE JUICE INDICATOR</b>  | THOMAS THEVARA |
| SWATHI S           | WMATSCH031      |  |                |
| MAHA SALEEM        | WMATSCH010      |  |                |
| MOHAMMED FAYAS     | WMATSCH004      |  |                |
| INSHANA            | WMASSCH003      |  |                |
| SANA NOURIN        | WMATSCH002      | <b>ESTIMATION OF CALCIUM OXIDE IN SELECTED CEMENT SAMPLES</b>                                      | SONIMA V       |
| MUHAMMED ADHIL     | WMATSCH005      |  |                |
| DEENA JAHAN        | WMATSCH018      |  |                |
| AKHILOSH           | WMATSCH037      |  |                |
| ADITHYA PRADEEP    | WMATSCH013      |  |                |
| ATHULYAMANI C M    | WMATSCH009      | <b>BIOMEDICAL WASTE MANAGEMENT</b>   | THOMAS THEVARA |
| SNEHA CS           | WMATSCH030      |  |                |
| ANSIYA M           | WMATSCH008      |  |                |
| AYSHA MUHSINA O M  | WMATSCH017      |  |                |

## XI. ACHIEVEMENTS OF STUDENTS

- **Muhammed Sanoop** of D3 Chemistry secured 3<sup>rd</sup> place in Calicut University intercollegiate wushu championship 2021 (above 90 kg).
- **Abu Sufiyan** of D3 Chemistry secured 3<sup>rd</sup> place in Calicut University intercollegiate Fencing Championship.
- A large fraction of the students of the department are members of NSS and NCC.
- **Maha Saleem** of D3 chemistry secured NCC C certificate.
- **Muhammed E, Ameena Shirin** and **Fathimath Ameera** of D2 Chemistry passed NCC B Certificate Examination.

## XII. PAPERS/ POSTER/ INVITED TALKS BY FACULTY

- **Dr. Thomas Thevara** delivered keynote address in the inauguration of the silver jubilee celebrations of the people's campaign programme of Sulthan Bathery Municipality on 17<sup>th</sup> of August 2021.
- Invited Talk by **Dr. Thomas Thevara** in Water Literacy Seminar by Brahmagiri Development Society at Vellamunda grama panchayath on 23<sup>rd</sup> November 2021.
- **Dr. Thomas Thevara** delivered talk on OISCA Environment Award Distribution Ceremony on 5<sup>th</sup> December 2021.
- Talk by Dr. Thomas Thevara on the 60<sup>th</sup> Annual meet of OISCA held at Tagore Hall Calicut On 7<sup>th</sup> January 2022.
- **Dr. Thomas Thevara** handled a session in a seminar organized by OISCA and Sreyas Sulthan Bathery to spread the themes of world forestry day, world water day and world meteorological day on 21<sup>st</sup> march 2022.



### **XIII. REMEDIAL COACHING**

This program was designed to provide support and assistance to academically slow learners as well as an advance learner in order to enhance their academic performance and understanding of the subject matter. The primary objective of the Remedial Coaching program was to address the diverse learning needs of BSc Chemistry students and offer tailored guidance to both academically slow learners and advance learners. The program aimed to bridge knowledge gaps, reinforce foundational concepts, and provide additional challenges for students who were excelling in their studies. At the beginning of the program, a diagnostic assessment was conducted to identify the strengths and weaknesses of each participating student. This assessment helped in understanding the specific areas where students required remedial support or additional challenges.

### **XIV. SLOW AND ADVANCE LEARNERS PROGRAMME**

The Slow and Advanced Learners Program is a specialized educational initiative designed to cater to the diverse learning needs of students in order to maximize their academic potential. This program recognizes that students have varying learning abilities and aims to provide tailored support to both slow learners who require additional assistance and advanced learners who need more challenging educational experiences.

The Slow Learners Program aims to bridge knowledge gaps, reinforce foundational concepts, and enhance the overall academic performance of students who face difficulties in keeping pace with the regular curriculum. Key features include:

- Personalized Attention
- Remedial Instruction
- Supportive Learning Environment
- Progress Monitoring and feedback

The Advanced Learners Program caters to students who exhibit exceptional abilities and a strong grasp of the subject matter. This program provides advanced coursework, challenges, and opportunities to expand their knowledge beyond the regular curriculum. The key features of the program for advanced learners include:

- Enrichment Activities
- Accelerated Learning Opportunities
- Mentoring and Guidance

- Collaborative Learning

### XV. MENTORING SYSTEM

Mentoring System implemented by the Department of Chemistry ensures a proper mentor-mentee relationship, where mentors guide and support a specific number of students, allowing for constant monitoring, counseling, and assistance in both academic and economic matters. The primary objective of the Mentoring System is to foster a supportive environment for students, where they can receive personalized guidance and support to enhance their overall academic performance and well-being. The system aims to establish strong mentor-mentee relationships and create a platform for addressing various challenges faced by students, be it academic or economic.

| Sl. No | Name of the Mentor | No. Of Mentees |
|--------|--------------------|----------------|
| 1      | Dr. Thomas Thevara | 35             |
| 2      | Sonima V           | 35             |
| 3      | Shahina P H        | 35             |

### XVI. HYBRID MODE OF TEACHING

The Department of Chemistry has implemented a Hybrid Mode of Teaching, blending traditional classroom instruction with online learning platforms, to provide an innovative and flexible educational experience for students. This hybrid approach combines the advantages of face-to-face interaction with the convenience and accessibility of online resources, fostering a dynamic and engaging learning environment. The approach aims to enhance student engagement, promote active learning, and provide flexibility in accessing course materials and resources.

| Sl. No | Faculty            | Strategies and Techniques                    |
|--------|--------------------|--|
| 1.     | Dr. Thomas Thevara | Youtube, PPT, Google Class room, Virtual Lab |
| 2.     | Sonima V           | Google class room                            |
| 3.     | Shahina P H        | Google class room, Teachmint                 |
| 4.     | Fathima Shadin P   | Google meet (live interactive sessions), PPT |

## XVII. FEEDBACK SYSTEM

The Department of Chemistry has implemented a comprehensive Feedback System that enables students to provide valuable feedback and suggestions at the end of each semester. This system is designed to gather insights from students regarding their learning experiences, course content, teaching methodologies, and overall satisfaction with the department's offerings. The feedback system plays a crucial role in continuously improving the quality of education and addressing any concerns or areas for enhancement. The Feedback System follows a well-defined process to ensure the collection, analysis, and utilization of feedback in an efficient and effective manner. Process includes feedback collection and analysis, feedback evaluation and action planning and implementation.

## XVIII. INTERNAL EVALUATION SYSTEM

The Department of Chemistry maintains a transparent and fair approach to Continuous Internal Evaluation, ensuring that students' performance is evaluated consistently and equitably. The evaluation process incorporates multiple components, such as internal tests, seminars, vivas, overall classroom performance, attendance, and assignments, all of which are carefully recorded and considered to assign internal marks. In case of any grievances, makeup tests are conducted to provide students with an opportunity to improve their scores.

## FAREWELL

On



25<sup>th</sup> March 2022, was a vibrant affair as the D1 Chemistry students gave a grand send off party to the graduating D3 students. The event was fittingly entitled "Adieu Seniors," it was a perfect tribute from the D1 Chemistry



students  
to their  
D3  
seniors.



