



KOTTAKKAL FAROOK ARTS AND SCIENCE COLLEGE

DEPARTMENT OF BOTANY

ANNUAL REPORT

2023-24

Annual Report 2023-2024
DEPARTMENT OF BOTANY

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DEPARTMENT OF BOTANY

Department of Botany of our college offers UG course. Creating scientific temper is another major objective of this curriculum. Incorporating research components along with a sound academic foundation enables students to develop independent creative thinking. Sufficient emphasises given for training in laboratory skills and instrumentation. The curriculum is meant to inspire creativity and combine passion with critical thinking skills in students who one day will be the citizens working to convert the world to more sustainable systems.

Another major thrust given here is to develop an environmental concern in all activities of the students. 'Go green', the motto of the syllabus emphasizes the urgent need to conserve nature without destruction of natural resources.

Botany courses typically cover a wide range of topics, from the cellular and molecular biology of plants to their ecological interactions and economic importance. Students learn about plant anatomy, physiology, genetics, taxonomy, ecology, and evolution. Laboratory sessions and fieldwork often complement theoretical lectures, allowing students to gain practical experience in plant identification, experimentation, and data analysis. The students must understand scope and importance of Botany in every field especially in dealing with societal and environmental issues, agriculture, ethics and healthcare. And also Understand the and the role of plants in sustaining life on earth and the interrelationship between human beings and nature, create awareness on natural resources and their importance in sustainable development, analyse the importance of biodiversity conservation, estimate bio diversity loss and develop conservation strategies.

The Department of Botany is comprised of a dedicated team of four faculty members. The department vision is to foster a deep understanding and appreciation of plant sciences, promoting research, innovation and environmental management among students. The mission of Botany Department mainly includes:

1. To offer a comprehensive curriculum that covers the breadth of botany, including plant diversity, ecology, physiology and genetics.
2. To cultivate critical thinking, problem solving skills, and scientific curiosity through hands on learning experiences and research opportunities.



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3. To contribute to the global community of plant scientists and environmentalists through collaborations, community engagements and sustainable practices.

Botany courses include fostering an appreciation for the diversity and complexity of plant life, developing critical thinking and analytical skills, and preparing students for careers in various fields such as agriculture, environmental science, biotechnology, and conservation.

The Department offers the course with complementary courses in zoology and Chemistry, and thus provide a comprehensive curriculum that aims to develop deep understanding, innovation and environmental governance among students.

BOTANY SYLLABUS

1.	Sem. I Course 1: Angiosperm Anatomy, Reproductive. Botany & Palynology
2.	Sem. II Course 2: Microbiology, Mycology, Lichen. & Plant Pathology
3.	Sem. III Course 3: Phycology, Bryology & Pteridology
4.	Sem. IV Course 4: Methodology and Perspectives in Plant Science
5.	Sem. V Course 6: Gymnosperms, Palaeobotany, Phytogeo. & Evolution
6.	Sem. V Course 7: Angiosperm Morphology & Systematics
7.	Sem. V Course 8: Tissue culture, Horti., Economic Bot & Ethanobotany
8.	Sem. V Course 9: Cell Biology & Biochemistry
9.	Sem. VI Course 10: Genetics & Plant Breeding
10.	Sem. VI Course 11: Biotechnology, Molecular Biol. & Bioinformatics
11.	Sem. VI Course 12: Plant Physiology & Metabolism
12.	Sem. VI Course 13: Environmental Science
13.	Sem. VI Course 14: Elective - I: Genetic Engineering



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14.	Sem. VI Course 14: Elective -2: Advanced Angiosperm Systematics
15.	Sem. VI Course 14: Elective -3: Genetics & Crop Improvement
16.	Model question papers (Theory)
17.	Model question papers (Practical)
18	Sem. I Course 1: Angiosperm Anatomy & Microtechnique
19	Sem. II Course 2: Cryptogams, Gymnosperms & Plant Pathology
20	Sem. III Course 3: Morph., Syst.Bot., Econ. Bot., Pl. Breeding & Horti.
21	Sem. IV Course 4: Plant Physiology, Ecology & Genetics
22	Model question papers (Theory)
23	Model question paper (Practical)
24	Sem. V Open Course Choice 1: General Botany
25	Sem. V Open Course Choice 2: Applied Botany
26	Sem. V Open Course Choice 3: Basic Tissue Culture
27	Model question papers (Theory)

Sl. No.	Content
1	S1. Compl. course I [Theory]: Animal Diversity and Wildlife Conservation
2	S2. Compl. course II [Theory]: Economic Zoology
3	S3. Compl. course III [Theory]: Physiology and Ethology
4	S4. Compl. course IV [Theory]: Genetics and Immunology
5	S4. Complementary course Practical-I



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Sl. No.	Content
1	Complementary Course I: General Chemistry
2	Complementary Course II: Physical Chemistry
3	Complementary Course III: Organic Chemistry
4	Complementary Course IV: Physical and Applied Chemistry
5	Complementary Course V: Chemistry Practical

In addition, the students are also offered with Audit courses in a Environmental Studies, Human Rights, Disaster Management and Gender Studies.

Sl. No.	Semester	Audit Course
1	Semester I	Environmental Studies
2	Semester II	Disaster Management
3	Semester III	Human Rights
4	Semester IV	Gender Studies

These courses are designed to provide students with a well-rounded education and a comprehensive understanding of contemporary issues. By offering these courses, the department ensures that its students are not only proficient in botany but also aware and knowledgeable about current events and global concerns.

Our department is dedicated to providing a high-quality education that equips students with the knowledge and skills necessary to succeed in the dynamic and ever-changing world of botany.

Our faculty members are committed to providing a comprehensive and challenging curriculum that prepares students for a wide range of career opportunities.



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CERTIFICATE COURSE CURRICULUM

Certificate course in Organic Farming and Certificate course in Vermiculture are specialized educational program offered by the department this academic year to provide students with the necessary skill and knowledge in these area. These courses are designed to help students improve their comprehensive knowledge and practical skills in organic farming techniques and The Certificate Course in Vermiculture provides participants with a comprehensive understanding of vermiculture techniques and their applications in organic farming and waste management

- Odd semester certificate programme: Certificate Course in Organic Farming were offered for the second year classes from August to September (*offered for the second year*)
- Even semester certificate programme: Certificate course in Vermiculture (November to March) - (*offered for the first year*)

Name of Certificate programmes Offered	Duration of hours	Number of students enrolled
Course in Organic Farming	36 hrs	21
Course in Vermiculture	36 hrs	22

CERTIFICATE COURSE IN ORGANIC FARMING:

The Certificate Course in Organic Farming provides participants with comprehensive knowledge and practical skills in organic farming techniques. The course emphasizes the conservation of natural resources, sustainable agricultural practices, and the elimination of chemical fertilizers and pesticides. Participants will learn about the principles of organic farming, methods to improve soil fertility, waste management, pest control, and integrated farming approaches.



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Course Objective:

The course aims to:

- Understand the basic goals and principles of organic farming.
- Acquire practical skills in organic farming techniques and crop management.
- Promote sustainable utilization of air, water, and soil resources in farming practices.
- Enhance awareness of the ecological balance and conservation of flora and fauna.
- Develop an understanding of integrated farming and its benefits.

Learning Outcome:

- Upon completion of the course, participants will:
- Understand the principles and goals of organic farming and their role in sustainable agriculture.
- Be equipped with practical knowledge and skills in organic crop management, soil fertility improvement, and pest control.
- Demonstrate an understanding of integrated farming and its applications in combining crops and livestock.
- Possess knowledge of organic fertilizers, seed selection, irrigation methods, and watershed management.
- Apply ecological balance principles to promote genetic diversity and conserve natural resources.

Syllabus:

Module 1: Introduction to Organic Farming(6 Hours)

- Basic vision, goals, and principles of organic farming
- Conservation of natural genetic diversity
- Utilization of natural means for soil fertility improvement and pest control
- Climate conditions and crop rotation for optimal nutritionally valuable food production
- Ecological balance in the agro-ecosystem

Module 2: Foundations of Farming (8 Hours)

- Principles of environmental science in farming
- Interrelationships between soil fertility, food quality, and biogeochemical cycles



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- Concepts of crops, weeds, pests, diseases, fertilizers, and waste management

Module 3: Rethinking Chemicalized Farming (6 Hours)

- History and practical aspects of chemicalized farming
- Merits and demerits of chemicalized farming
- Environmental and health implications of chemical fertilizers and pesticides

Module 4: Practical Aspects of Organic Farming (10 Hours)

- Crop management techniques for vegetables, plantains, tuber crops, etc.
- Organic fertilizer mixtures and application methods
- Seed selection for organic farming and conservation
- Pest control methods in organic agriculture
- Principles of crop rotation and specific timing for different crops
- Natural means of irrigation and soil moisture conservation
- Watershed management for sustainable farming

Module 5: Integrated Farming (6 Hours)

- Basic principles of integrated farming
- Detailed methods of integrating crops such as paddy, coconut, bees, fish, ducks, fowls, and cattle

CERTIFICATE COURSE IN VERMICULTURE

The Certificate Course in Vermiculture provides participants with a comprehensive understanding of vermiculture techniques and their applications in organic farming and waste management. The course covers various aspects of vermiculture, including the biology of earthworms, different methods of vermicomposting, vermiwash production, and the commercial aspects of vermicompost. Participants will gain practical skills in establishing vermicomposting units, harvesting vermicompost, and managing pests and diseases in earthworm farming.



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Course Objective:

The course aims to:

- Introduce participants to the concept of vermiculture and its significance in organic farming and waste management.
- Provide an in-depth understanding of the biology and classification of earthworms.
- Familiarize participants with different methods of vermicomposting and their application in small-scale and large-scale setups.
- Enhance knowledge of vermiwash production and its benefits in plant nutrition.
- Develop practical skills in establishing and managing vermicomposting units, including harvesting, packaging, and storage of vermicompost. Enable
- participants to identify and manage pests and diseases in earthworm farming.

Learning Outcome:

- Upon completion of the course, participants will Understand the principles and applications of vermiculture in organic farming and waste management.
- Identify and classify different species of earthworms and their role in vermicomposting.
- Demonstrate practical skills in establishing and managing vermicomposting units using various methods.
- Produce high-quality vermicompost and vermiwash for plant nutrition.
- Implement pest and disease management strategies in earthworm farming.
- Apply commercial aspects of vermicompost production, including harvesting, packaging, and storage.

Syllabus:

Unit 1: Introduction to Vermiculture (4 Hours)

- Definition, classification, and historical background of vermiculture.
- Economic importance and value of earthworms in maintaining soil structure.
- Choosing the right species of earthworms: useful local and exotic species.
- Biology of Pheretima posthuma: taxonomy, anatomy, physiology, and reproduction.




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Unit 2: Vermicomposting Methods and Parameters(12 Hours)

- Limiting factors for vermicomposting: gases, diet, humidity, temperature, pH, light, and climatic factors.
- Physio-chemical parameters of vermicompost.
- Methods of vermicomposting: small-scale bed method, pit method, small-scale earthworm farming for home gardens, conventional commercial composting.
- Pest and disease management in earthworm farming.
- Nutritional composition of vermicompost and its comparison with other fertilizers.

Unit 3: Vermicompost Production and Harvesting (16 Hours)

- Earthworm farming and extraction techniques.
- Vermicomposting harvest and processing.
- Production and application of vermiwash.
- Harvesting, packaging, transport, and storage of vermicompost.
- Separation techniques for vermicompost.
- Practical sessions on vermicomposting unit establishment, vermiwash production, and harvest of vermicompost.
- Study of earthworm morphology, digestive system, and reproduction.
- Identification and management of pests and diseases in earthworm farming

As a Botany UG student at our college, you will have access to a range of resources and opportunities, including internships, industry visits, workshops, and seminars, which will help you gain practical experience and stay up-to-date with the latest trends and developments in the field of Botany and also extension and experiential learning's through community engagement programmes.

We also offer a range of extracurricular activities, including clubs, societies, and sports teams, which provide students with the opportunity to develop their leadership, teamwork, and communication skills while pursuing their interests outside the classroom.



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FACULTY

Sl.no	NAME OF FACULTY	DESIGNATION	QUALIFICATION
1	Dr. CHITHRA M	HEAD OF DEPARTMENT	MSc. BOTANY, PH.D
2	JYOTHY VJ	ASSISTANT PROFESSOR	MSc. BOTANY
3	AISWARYA K	ASSISTANT PROFESSOR	MSc. CHEMISTRY
4	ANJALY JOHNSON K	ASSISTANT PROFESSOR	MSc. BOTANY
5	EBRAHIMKUTTY	ASSISTANT PROFESSOR	MSc. ZOOLOGY

•DEPARTMENT STRUCTURE:

Department of Botany consists of Five members including the Head of the Department.

Dr. Chithra M is our Head of the Department of Botany. Ms Aiswarya k is the class advisor for second year students , Mrs. Jyothy VJ is our first year class advisor, and Mrs. Anjaly Johnson k is our Third year class advisor. The department consists of total number of 58 students. Ms. Aiswarya k is our Department Coordinator and Mrs. Anjaly Johnson k is our Program Coordinator. The complimentary papers we offers are Zoology and chemistry. Zoology is handled by Ebrahimkutty and Chemistry by Aiswarya k.

Department also provide certain certificate courses for the students. Course titled Certificate course in Organic Farming particularly for second year students, coordinated by Anjaly Johnson K and Course titled Certificate course in Vermiculture particularly for first year students, coordinated by Jyothy VJ.



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DEPARTMENT COMMITTEES

There are various committees functioning under the department for effective and efficient delivering of various function. There are committees like Department Academic Committee (Board of Studies), Internal examination Committee, Grievance Cell, Experiential Learning Committee and Discipline Committee.

•FUNCTIONING OF THE COMMITTEES:

DEPARTMENT ACADEMIC COMMITTEE

DEPARTMENT ACADEMIC COMMITTEE	
Chair person	Dr. Chithra M (HOD)
Members	Aiswarya k (Assistant professor)
	Anjaly Johnson (Assistant professor)
	Jyothy VJ (Assistant professor)
Co-ordinator (II year)	Anjaly Johnson k
Co-ordinator (I year)	Jyothy VJ
Student Representatives	Nashwa Manhakandan (2022-2025 Bsc.Botany)
	Shaliha Shibili (2023-2026 Bsc.Botany)
Ex- Officio	Mohammed Faris T (Clerk, Administrative Department)
External expert	Dr.Archana k (Expert in Vermiculture)
	Dr.Manjusha Rani (Expert in Organic Farming)



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Department Academic Committee under the chairmanship of Dr. Chithra M, is working for the better delivering of curricular and co curricular activities. The committee had organized a total of eight meetings. In each meeting committee discussed a variety of problems and have taken various actions. In this academic year committee conducted Four audit course examinations for 1st semester (Environmental Studies), 2nd semester (Disaster Management) , 3rd semester (Human Rights) and 4th semester (Gender Studies). Committee have formulated brief syllabus for the certificate courses provided under the department. It was decided to provide the course titled certificate course in Organic Farming for 2nd year and Certificate course in vermiculture for first year students. Detailed guidelines were issued by the committee for the conduct of certificate courses. It also monitors the portions taken by each faculty and also direct remedial classes for slow learners. First and second internal examinations for each semester were conducted by internal examination committee under the guidance of this committee. Altogether committee have given great contribution in the holistic functioning of the department.

INTERNAL EXAMINATION COMMITTEE:

Internal Exam Committee	
Chair person	Dr. Chithra M (HOD)
Department Exam Coordinator	Aiswarya k

Department Internal Examination Committee working under Ms. Aiswarya K is a committee working for the proper commencement of internal examinations. Through its four meetings, committee conducted ten examinations. . It also co-ordinate the internal marks submission of each semester to the College Examination Committee. Internal Examination Committee is responsible for evaluating students' performance in internal assessments and projects



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TOUR COMMITTEE

TOUR/IV COMMITTEE	
Tour coordinator	Jyothy VJ
Members	Aiswarya k Dr.Chithra M Anjaly Johnson K

Tour committee is working under the Coordination of Jyothy VJ. The other members in the committee are Dr. Chithra M , Anjaly Johnson and Aiswarya k. Committee is responsible for organizing educational tours and industrial visits for students.

GRIEVANCE CELL

Compliance Grievances Cell is working under the coordination of Dr. Chithra M. The committee have worked for the redressal of all the compliance raised by the students, parents as well as other teachers. There have been a lot of issues related to internal marks, attendance shortage issue, etc. In the case of attendance shortage of a student of semester with health issue, committee with the help of college office authority have resolved the problem. In the case of internal marks, committee had enquired about it and asked the concerned teacher to clarify the student about it. Compliance like regular late coming were raised against students. Strict warning and counselling were given to those students.

DISCIPLINE COMMITTEE

Department Discipline Committee is functioning under Dr. Chithra M. The committee was entrusted to manage the discipline of the department students. It has successfully maintained the discipline in the department. It had taken stringent measures against in-disciplinary activities. The late comers were also strictly punished and the committee decided to deny attendance to those who came late.



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EXPERIENTIAL LEARNING COMMITTEE

EXPERIENTIAL LEARNING	
Chairperson	Dr. Chithra M
Member	Jyothy VJ
	Anjaly Johnson K

Experiential Learning Committee

The committee was formulated to coordinate the experiential learning / supplementary projects of the students. Committee was coordinated by Dr. chithra M, Committee had entrusted the available faculties to guide the first and second year and final year students for doing minor projects. Topics of this group wise projects were determined by the committee itself. Committee also asked the faculties to conduct a presentation of what they find.

The effective recording of minutes is crucial for ensuring transparency, accountability, and continuity in decision-making processes and Botany Department keeps minutes of the Department Academic Committee, Internal Examination Committee, Grievances and Redressal Committee, Tour or IV Committee, and Experiential Learning Committees.

1) Department Academic Committee:

The Department Academic Committee is responsible for overseeing the academic programs and curricular activities. Accurate minutes of its meetings are essential to record discussions on curriculum updates, faculty feedback, examination patterns, and the implementation of academic policies. These minutes serve as a valuable resource for monitoring the progress of academic initiatives and ensuring compliance with the institution's academic standards.

2) Exam Committee:

The Exam Committee plays a critical role in overseeing the examination process and ensuring its smooth conduct. Accurate minutes are maintained during committee meetings, covering discussions on exam schedules, question paper setting, evaluation processes, and result declaration. These minutes serve as essential records to maintain the integrity and fairness of the examination system.



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The Internal Examination Committee is responsible for evaluating students' performance in internal assessments and projects. Detailed minutes are maintained to document discussions on assessment methods, grading criteria, assessment schedules, and student performance analysis. These minutes aid in maintaining consistency and quality in internal evaluations.

3)Grievances and Redressal Committee:

The Grievances and Redressal Committee deals with student grievances and ensures their timely resolution. During committee meetings, minutes are recorded to document grievances raised, actions taken, and decisions made to address student concerns. These minutes play a vital role in maintaining transparency and accountability in the grievance redressal process.

4)Tour or IV Committee:

The Tour or Industrial Visit (IV) Committee is responsible for organizing educational tours and industrial visits for students. Minutes are kept during committee meetings to outline the planning, budgeting, and execution of such tours/IVs. These minutes assist in evaluating the effectiveness of the tours/IVs and provide insights for future planning.

5) Experiential Learning Committees:

Experiential Learning Committees oversee the implementation of experiential learning programs that provide practical exposure to students. Detailed minutes are maintained during committee meetings, capturing discussions on program design, industry collaborations, student feedback, and program evaluation. These minutes aid in continuously enhancing the experiential learning initiatives.

• ROLES AND RESPONSIBILITIES ALLOTTED TO THE FACULTY

FUNCTIONAL RESPONSIBILITY ALLOCATION	
FUNCTIONAL RESPONSIBILITY AREA	
SR.NO. RESPONSIBILITY AREA.	STAFF IN CHARGE
ACTION PLAN	DR. CHITHRA M
CERTIFICATE PROGRAMME	Dr.chithra M



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BOTANY ASSOCIATION	Aiswarya k
BOTANY LAB	Anjaly Johnson
DOCUMENTATION	Aiswarya k
COMPULSORY SOCIAL SERVICE	Anjaly Johnson
NEWSLETTER	Aiswarya k
DEPARTMENTAL CLUB	Jyothy VJ
SEMINARS, NATIONAL, ETC	Anjaly Johnson
JOURNALS, MAGAZINES	Dr.Chithra M
TEXTBOOK LIBRARY	Jyothy VJ
DIGITAL RESOURCES	Aiswarya k
ONLINE CLASSES	Dr.Chithra M
LMS ISSUES	Aiswarya k
STUDENT MENTOR-LEADER	Athulya k
PROJECT & VIVA	Dr.Chithra M
PLACEMENT AND INTERSHIP	Dr.Chithra M
QUESTION BANK	Aiswarya k
SPORTS	Jyothy VJ
FACULTY DEVELOPMENT PROGRAMMES	Dr.Chithra M
TOUR COORDINATOR	Jyothy VJ
OUTREACH ACTIVITIES	Anjaly Johnson k



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FACULTY- STUDENT RATIO

BATCH	EXISTING NUMBER OF STUDENTS
First year	22
Second year	21
Third year	15
Total strength	58

ACADEMIC ACHIEVEMENTS BY THE FACULTY MEMBERS:

• WORKSHOP, FDP, QIP, AND OTHER TRAINING PROGRAMMES ATTENDED:

Yes

Online Faculty Development Programme was conducted from 21/09/2023 to 29/09/2023 to enhance the effective teaching and research methodology using chat GPT and AI tools , organized by Marine college ,kuttikanam for the faculty members .FDP was attended by Dr. Chithra M, Aiswarya K, Anjaly Johnson K, Jyothy VJ.

Attended One day Workshop on Bioinformatics – visualization of molecular structures organized by MES valanjery on 12/09/2023.it was attended by Dr.chithra M and Jyothy VJ.

Dr.chithra M and Jyothy VJ attended a 14 day National FDP on innovative teaching strategies and tools to digital age from 11/12/2023- 24/12/2023 , organized by scrollwell in collaboration with institution innovative council.

Online FDP on Green and sustainability science , organized by SCMS school of engineering from 11/09/2023 to 15/09/2023 was attended by Dr.Chithra M, Jyothy VJ. Anjaly Johnson and Aiswarya K.



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Online FDP on National education policy -2020 organized by IQAC Markaz arts and science college from 02/03/2024- 07/03/2024 was attended by Dr.Chithra M, Jyothy VJ. Anjaly Johnson and Aiswarya K.

Dr.Chithra M has participated in the 7 day National Level online FDP on ChatGPT and AI tools for educators organized by Marine college Kuttikanam ,in association with Kerala State Higher Education Council from 14/06/2023 to 21/06/2023.

- **SEMINARS ATTENDED BY FACULTY: YES**

Dr.Chithra M, Jyothy VJ. Anjaly Johnson And Aiswarya K attended a International seminar on Harmony in Nature :climate change and medicinal plants organized by department of botany on 03/08/2023at kottakkal farook arts and science college.

Anjaly Johnson K attended a National seminar on Biodiversity Conservation and Sustainable development , organized by PG and Research Department of Botany Carmel college, Mala on 07/12/2023 and 08/12/2023

- **SEMINARS ORGANIZED BY THE DEPARTMENT : YES**

International seminar on Harmony in Nature :climate change and medicinal plants organized by department of botany on 03/08/2023.

Seminar on medicinal plants and their uses by Mahesh Kumar , Deputy Manager (Estates) at Arya Vaidya Sala, Kottakkal

- **MOOC\SWAYAM : YES**

Aiswarya k completed A SWAYAM course in student psychology.

FACULTY DEVELOPMENT INITIATIVES DURING THE YEAR:

An online Faculty Development Programme was conducted from 21/09/2023 to 29/09/2023 to enhance the effective teaching and research methodology using chat GPT and AI tools , to enhance the effective teaching of the faculty members and also nurture digital knowledge of the faculty members. Timely updating of teaching practice and cope up



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with new technology are essential. In order to foster the qualities of teaching and effective teaching, faculty development programme have been conducted timely.

QUALITY IMPROVEMENT PROGRAMME:

Online Faculty Development Programme was conducted from 21/09/2023 to 29/09/2023 to enhance the effective teaching and research methodology using chat GPT and AI tools, organized by Marine college, Kuttikanam for the faculty members. FDP was attended by Dr. Chithra M, Aiswarya K, Anjaly Johnson K, Jyothy VJ. Dr. Chithra M and Jyothy VJ attended a 14 day National FDP on innovative teaching strategies and tools to digital age from 11/12/2023-24/12/2023.

FACULTY LEARNING FORUM

It is an internal sit-together discussion forum of faculty members scheduled casually or a casual sit-together on a particular day, or say Friday's last hour or week's last working day. This forum's objectives are to discuss aspects of daily work schedules, happenings, problems related to academics, and discipline issues. It is to explore various pedagogies in higher education, to provide a platform for professional dialogues on new developments in the realm of Botany, and to encourage and foster the research culture amongst faculty members.

Topics discussed in the Learning Circles during the year:

- Assessment tied with course goals
- How to write a journal
- Teaching mistakes in a classroom
- Sharing the best practices in teaching and learning
- Effective handling of large classes
- Service learning as a pedagogy
- How does student-teacher & student-student interaction affects learning
- Teacher student interactions
- Student mentoring
- Minor projects
- Student assessment plans
- Effective experiential learning



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- Final year projects
- Community engagement activities
- Best practices in labs
- Discussions on the newly published articles and journals in Botany
- Proper usage of NLIST

FACULTY PROFESSIONAL DEVELOPMENT PROGRAMMES

The Faculty Professional Development Programme are held on last Friday of every month and are co-ordinated and conducted by the representatives of Department of Botany and attended by all the teachers of the department. Aiswarya k, facilitates as the faculty coordinator of the department. Following topics were discussed:

- A talk on pedagogy and curriculum design delivered by Dr. Chithra M on 05/06/2023.
- New technology in teaching process delivered by Aiswarya k on 22/06/2023.
- New methods in research delivered by Dr. Chithra M on 15/08/2023.
- Orientation programme for faculty members about Master soft, LMS, TCS etc were given to all.
- Orientation programme on AI tools in Curriculum was provided to all faculty members by Jyothy VJ.
- Guidance for Final year student projects were given to faculty members by Dr. Chithra M.

STUDENTSHIP

Our department consists of students with peculiar abilities and dedicated teachers, who support the students at their bests. Students are so enthusiastic and energetic. In order to foster their abilities and skills, department introduces various Programme and with timely assessment and monitoring student's problems are fetched out easily and resolved through convenient measures. The cultural and extracurricular activities, the industrial and village visits, and extension activities were conducted.



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ACADEMIC MONITORING

Department faculties were dedicatedly Conduct the classes and the university syllabus were covered timely. All the faculties covers the portion within time limit. It was decided by department to complete the portion ten days before the end date of that semester. Two internal examination are conducted for each semester. This help the students to progress their academic qualities and teachers can help the students in their weaker points.

ACADEMIC CALENDAR FOR 2023-2024

SEMESTER	DATE OF COMMENCEMENT	DATE OF COMPLETION
1 st semester	01/08/2023	22/12/2023
2 nd semester	03/01/2024	16/07/2024
3 rd semester	03/08/2023	03/01/2024
4 th semester	04/01/2024	18/07/2024
5 th semester	01/06/2023	26/10/2023
6 th semester	27/10/2023	13/03/2024



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INTERNAL EXAMINATION CALENDER

Semester	1 st internal examination	2 nd internal examination
1 st semester	25/09/2023	01/11/2023
2 nd semester	05/06/2023 (2022-2023)	05/07/2023 (2022-2023)
	04/03/2024	05/06/2024
3 rd semester	25/09/2024	01/11/2024
4 th semester	04/03/2024	05/06/2024
5 th semester	24/07/2023	25/09/2023
6 th semester	13/12/2023	12/02/2024

- **Result analysis:**

University external examination results are proud moments for our department. It reveals the excellence of the students and hard work of the faculties. All the faculties of the department complete their syllabus as per the semester plan within the time limit. Study materials were given properly by each faculty immediately after the classes. Each faculty conduct seminar by providing topics to each student. After completion of all these things a doubt clearance session has conducted by each faculty. The slow learners were given special care and special sessions are conducted to nurture the learning skills and abilities of the slow learners. Whenever a faculty member is on leave, students will engage themselves with group discussion and supplemental learning. Internal examinations are regularly conducted twice in a semester and results are analysed and monitored and updated in LMS.

For organizing supplemental learning, 4 peer leaders have been selected by Head of the Department for each class. Peer leaders help other students to clear their doubts. By discussions and through



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friendly talk's students enhance their knowledge easily. Faculty members will also guide the students to improve their team activity.

PEER LEADERS

1 ST YEAR BOTANY	2 ND YEAR BOTANY	3 rd YEAR BOTANY
Ayisha Shimli	Nashwa	Nafeesa Bhayan
Suhana Rosni KK	Fahmi	Ayisha Hiba
Jamsheena KP	Ayisha simsima	Fathima shafna MN

Students attendance monitoring:

Department follows a strict attendance system. Attendance are taken through Master soft Cloud and TCS. Each month department analyse the attendance of each class and enquired about the shortage in attendance. In the case of regular missing of classes strict actions were taken. Messages were forwarded to the parents regarding the absence of student in the class immediately. All these make students more punctual.

Mentoring by class teacher:

Class teacher for each semester acts a mentor and guide to the students. Last hour of every Thursday acts a mentoring session for every classes. Class advisors guide and advice the students to resolve the problems in their personal and student life. Apart from this, mentor meets their mentees individually and try to bring out their worries. Mentor try to resolve the issues that students faced through convenient ways




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LEARNING CENTRIC INITIATIVES

ADVISORY SYSTEM :

All the three classes of the department have kept under a class advisor in order to guide the students and pave them to better path. Apart from academic duties handled, advisor take care of their student's all activities in the college.

Class	Name of the advisor
1 st Semester	Jyothy VJ
2 nd semester	
3 rd semester	Aiswarya K
4 th semester	
5 th semester	Anjaly Johnson K
6 th semester	

Slow learner – centric classes:

In every year slow learners were detected in the beginning of first semester for providing them additional sessions. In this academic year first year classes were started from 01/08/2023 onwards. Slow learners from the first-year students were detected through an Offline examination conducted on 18/11/2023. The examination was related to the topics covered during induction programme

After the assessment process students with marks below thirty were decided as slow learners. These students were given special evening sessions from 04. 00 pm. Regular assessment tests were conducted and special notes were given to them. Week end sessions were given to students and also



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question paper discussions were conducted in a regular manner. Botany sessions were taken by Dr. Chithra M and Jyothy VJ.

Advanced Learner – centric activities:

At the beginning of the first-year classes with the assessment process of slow learners, advanced learners were decided. Students scored above 70 marks were decided as advanced learners. Advanced learners with highly skilled and having special capabilities have to be properly guided. These students were encouraged and various Programme were conducted to promote their abilities. These students were made as peer leaders to enhance their qualities. Various responsibilities were given to them in order to nurture the leadership qualities of them.

LIST OF SLOW/ADVANCED LEARNERS

Slow learners	Advanced learners
Fathima Sifana P	Ayisha shimili
Fathima Suhaira	Fidha k
Hashifa Nasrin	Hiba
Juhaina Jasmin	Jamsheena KP
Saliya T	Rasha Mohammed
Sayid Aflah	Ridha Abdul Azeez
	Shaliha Shibili



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SUPPLIMENTRY LEARNING GROUPS:

Class	Supplemental learning groups	Leader
3 rd year Bsc. Botany	Femina Chekkath	Ayisha hiba
	Shafna Nazar	
	Shahana Sherin	
	Safna A	
	Fathima shabeeba m	
	Shahida vk	Nafeesa Bhayan
	Ummul haiffa	
	Shahma sherin kp	
	Hafsath	
	Nandhana A	Fathima Shafna MN
Sneha vk		
Farha shurooque		
2 nd Year BSc. Botany	Athulya	Ayisha Simsima
	Barjeesabindh	
	Suhaila Rahmath	
	Fathima fida tp	
	Misniya	
	Fathima hanna	



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	Hisanabanan	Nashwa
	Lubnasheri	
	Nahida	
	Rahna	
	Shabana thasni	Meghna
	Nasal shirin	
	Shahala sherin	
	Shahana	Fahmi
	Shana jasmin	
1 st Year Bsc.Botany	Fathima shahna CP	
	Fathima Sifana P	
	Fathima Suhaira V	
	Febna PV	Ayisha Shimli
	Sayid Aflah	
	Fida Thasli	
	Hashifa Nasrin	Jamsheena KP
	Irshad T	
	Rabeeha Thesni P	
	Ridha Abdul Azeez	
	Juhaina Jasmin	
	Rasha Mohammed	
	Saliya T	



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	Shaliha Shibili	Suhana Rosni KK
	Shamil AP	
	Shifa Nasri	

SUPPLIMENTAL LEARNING

Apart from class room learning our department arranges other learning programmes in order to provide practical experience to the students. We follow a systematic pattern for encouraging the experiential learning. In every semester, except in sixth semester, we organize experiential learning Programme. Each faculty holding the concerned paper conduct the Programme very systematically with proper guidance. Apart from these various other tasks were also assigned to the students like book review, seminar presentation, etc. In each semester students have to do minor project works individually under the guidance of concerned faculty. Regular presentation of the progress of their work will be conducted by the department. All these will be carefully scrutinized to avoid the errors.

DETAILS OF THE EXPERIENTIAL LEARNING IN EACH SEMESTER :

Experiential learning and community engagement are essential components of modern academic activities, offering students a dynamic and hands-on approach to education. By actively participating in real-world experiences and collaborating with the community, students not only gain practical knowledge but also develop crucial skills in problem-solving, critical thinking, and empathy. This introduction sets the stage for an exploration of the profound impact of experiential learning and community engagement in shaping well-rounded, socially responsible individuals within the academic sphere .

Objectives:

1. To provide students with hands-on learning experiences outside the classroom.
2. To engage students in community service projects aimed at addressing social issues and needs.
3. To foster empathy, social responsibility, and leadership skills among students.



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4. To strengthen partnerships between the institution/organization and the local community.
5. To enhance students' understanding of societal challenges and encourage active participation in community development efforts.

Experiential learning programmes are introduced for students in various topics in each semester .

Sl. no	Semester	Date Assigned	MiniProject	Aim/Objectives	Project Advisor	No: Of Groups / Students Submitted
1	Third Semester	12-8-2023	Documentation Of Pteridophytic Strata Within Kottakkal Farook Arts And Science College, Malappuram, Kerala	Collection and identification of obtained plant species pteridophytes. Preparation of herbarium and field book. To prepare data for enlisting the available plant species and the habitat diversity and conservation status of the reported species	Anjaly Johnson K	21
2	First Semester	21-8-2023	Anatomical variations of stem in five different angiosperm families	To understand the anatomical variations of stem in five different angiosperm families. To prepare herbaria of the collected plants.	Jyothy V J	22



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3	Second semester	11-2-2024	Exploring Lichen Diversity: A Study of Montane Ecosystems in the Ooty Botanical Garden"	<p>To document the diversity of lichens in different habitats within the study area.</p> <p>To identify and catalogue lichen species found during the expedition.</p> <p>To assess the ecological significance and potential applications of lichens in the region.</p> <p>To provide students with hands-on experience in fieldwork, specimen collection, and laboratory analysis, fostering practical skills in biodiversity research and taxonomic identification.</p>	Suhaira Mol	22
4	Fourth Semester	4-02-2024	Assessment of safranin staining method for plant tissues: optimization and application	<p>To optimize the safranin staining protocol for plant tissues. To assess the suitability of safranin staining for different types of plant tissues.</p> <p>To evaluate the efficacy of safranin staining in visualizing specific cellular structures and components. To compare safranin staining with other histological staining methods for plant tissues.</p>	Dr Chithra M	21



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CERTIFICATE PROGRAMME

Inter disciplinary certificate programmes are career enhancement short-term courses at Kottakkal Farook Arts and Science College is to provide students and staff with opportunities to enhance their skills and knowledge in specific areas that are relevant to their academic and professional development. These short-term courses aim to supplement the existing curriculum and to provide practical skills and knowledge that can be applied in various career fields. Department of botany offers Certificates course in Organic farming for second year students and Certificate course in Vermiculture for first year students.

Certificate Course in Organic Farming :

The Certificate Course in Organic Farming for second-year B.Sc. Botany students was conducted over a span of 36 hours, providing a comprehensive overview of organic farming practices. The course aimed to enhance students' understanding of sustainable agricultural methods and their application in real-world scenarios. The Certificate Course in Organic Farming proved to be a valuable addition to the academic curriculum, offering students a practical perspective on sustainable agriculture. The acquired knowledge and skills empower them to contribute to the promotion of organic farming practices and environmental stewardship in their future endeavors. Organic Farming class effectively imparted knowledge and practical skills to the students. The positive feedback underscores the course's success in engaging and informing students about sustainable agricultural practices. The identified areas for improvement provide valuable insights for refining future iterations of the course to better meet the needs and expectations of the students.

The course was structured into interactive lectures, hands-on practical sessions, and field visits. The course covered detailed ideas of organic farming in five modules which were described.

Students provides hands-on experience in sustainable agriculture, promotes environmental awareness, enhances teamwork and problem-solving skills, and fosters a connection to nature. Additionally, students may gain a deeper understanding of food systems, nutrition, and the importance of responsible farming practices.. Assignments were also given to students and submitted via google classroom to help them better course experience.

Engaging in an organic farming class offers numerous benefits, including; students can learn principles of sustainable farming, focusing on environmentally friendly and resource-efficient practices. The class typically involves practical, hands-on activities, allowing students to directly



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apply theoretical knowledge to real-world situations. Students develop a heightened awareness of the impact of farming practices on the environment and the importance of preserving biodiversity. Understanding organic farming methods provides insights into the nutritional value of organically grown produce and the potential health benefits associated with reduced exposure to synthetic chemicals. Problem-solving in the context of organic farming challenges cultivates critical thinking skills as students find sustainable solutions to agricultural issues. Many farming activities require collaboration. Students learn to work together, fostering teamwork and communication skills. Organic farming classes often reconnect students with nature, instilling a sense of responsibility for the environment and promoting a more profound connection with the food they consume.

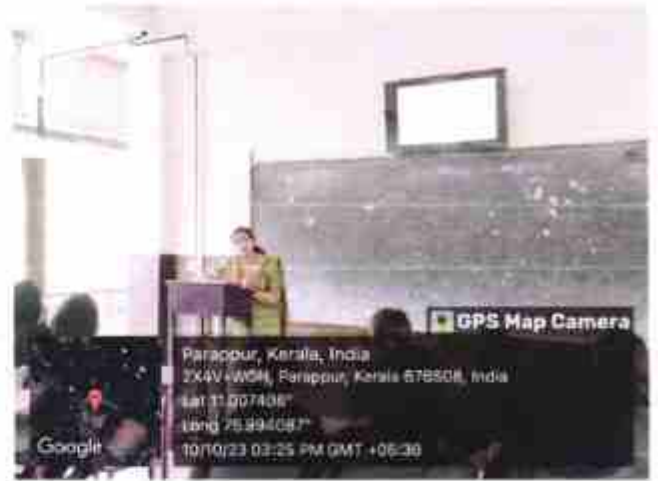
Some classes may include aspects of farm management and business, providing students with entrepreneurial skills if they choose to pursue farming as a career. Students gain insights into the broader food production and distribution systems, contributing to a holistic understanding of food security and sustainability. The knowledge acquired in the class can lead to a lifelong commitment to sustainable and eco-friendly practices, both in agriculture and everyday life.

The student's performance was assessed through a combination of Examinations, assignments, and Practical tests. The Examination was conducted at the end of the course to assess the student's understanding of the theoretical concepts covered in the course. Assignments were given to test the student's proficiency in organic farming. The grading criteria were communicated to the students at the beginning of the course, outlining the weightage of each assessment component. Additionally, active participation and engagement during lectures and practical sessions will be taken into consideration for the Overall evaluation.

Overall, 21 students were enrolled on the course from second -year B.Sc.Botany students and all students successfully completed the Course. To support students learning, a list of recommended resources and references was provided to them. These resources include Presentations, Lecture notes, online tutorials, websites, and videos related to the organic farming techniques used in the course. Students are encouraged explore these resources for further study and to enhance their understanding of these techniques. At the end of the course, the students have acquired the necessary skills and knowledge to practice organic farming techniques.




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The Certificate Course in Organic Farming proved to be a valuable addition to the academic curriculum, offering students a practical perspective on sustainable agriculture. The acquired knowledge and skills empower them to contribute to the promotion of organic farming practices and environmental stewardship in their future endeavours. Organic Farming class effectively imparted knowledge and practical skills to the students. The positive feedback underscores the course's success in engaging and informing students about sustainable agricultural practices. The identified areas for improvement provide valuable insights for refining future iterations of the course to better meet the needs and expectations of the students.



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Certificate Course in Vermiculture :

The Certificate Course in Vermiculture for first year B.Sc. Botany students was conducted over a span of 36 hours, providing a comprehensive overview of vermiculture practices. The Objectives of this course were Waste management, soil detoxification and regeneration and sustainable agriculture. Role of earth worm in solid waste management. Vermicomposting for mitigating & managing environmental pollution. During this training program, the participant learned the various approaches to vermicomposting. The students gained knowledge about the Vermicompost preparation method, application method, management of vermicompost, vermiwash preparation, application of vermiwash, and management of vermiwash tank.

The course was structured into interactive lectures, hands-on practical sessions, and field visits. The course covered detailed ideas of vermiculture in three units which were described.

In the realm of sustainable agriculture and environmental conservation, vermiculture has emerged as a key practice that holds significant promise for fostering ecological balance and enhancing soil fertility. Vermiculture, the cultivation of earthworms for various beneficial purposes, has gained widespread recognition for its positive impact on agriculture and waste management. As the importance of vermiculture continues to grow, so does the need for individuals with specialized knowledge and skills in this field. Certificate courses in vermiculture play a crucial role in equipping individuals with the expertise needed to contribute to sustainable farming practices and environmental stewardship.

Vermiculture involves the controlled breeding and management of earthworms, particularly species like *Eisenia fetida*, for their valuable contributions to soil health and waste management. Earthworms play a vital role in enhancing soil structure, nutrient content, and microbial activity. They aerate the soil, promote water retention, and decompose organic matter, converting it into nutrient-rich vermicompost. Additionally, vermiculture helps in reducing the volume of organic waste, offering an eco-friendly solution to waste disposal challenges.

Certificate courses in vermiculture provide participants with a comprehensive understanding of the principles and techniques involved in successful earthworm farming. Participants learn about the selection and management of suitable earthworm species, optimal environmental conditions, and effective feeding strategies. By imparting knowledge about vermiculture, certificate courses contribute to the promotion of sustainable agricultural practices. Farmers and agricultural professionals equipped with vermiculture expertise can integrate earthworms into their farming



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systems, leading to improved soil fertility, increased crop yields, and reduced dependence on chemical fertilizers.

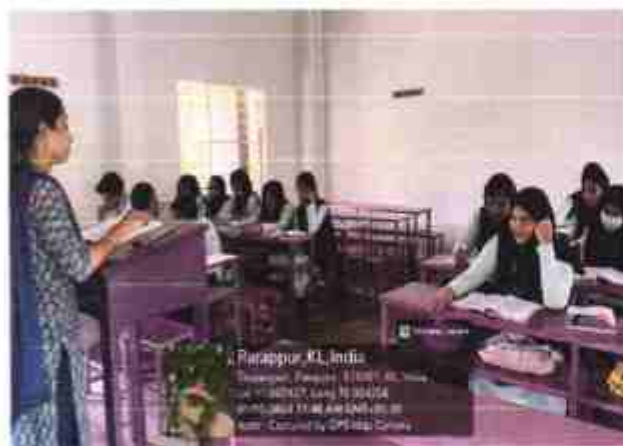
The courses emphasize the role of vermiculture in waste management. Participants learn how to set up and manage vermicomposting systems, diverting organic waste from landfills and converting it into nutrient-rich compost. This knowledge is essential for addressing the growing challenges of waste disposal in a sustainable manner. Vermiculture has a positive impact on the environment by reducing greenhouse gas emissions associated with conventional waste disposal methods. Certificate courses highlight the environmental benefits of vermiculture, fostering a sense of responsibility among individuals to contribute to conservation efforts. The skills acquired through vermiculture certificate courses open up entrepreneurial opportunities. Graduates can establish their own vermicomposting units or offer consultancy services to farmers and businesses seeking sustainable waste management solutions.

The student's performance was assessed through a combination of Examinations, assignments, and Practical tests. The Examination was conducted at the end of the course to assess the student's understanding of the theoretical concepts covered in the course. Assignments were given to test the student's proficiency in vermiculture. The grading criteria were communicated to the students at the beginning of the course, outlining the weightage of each assessment component. Additionally, active participation and engagement during lectures and practical sessions will be taken into consideration for the Overall evaluation.

Overall, 22 students were enrolled on the course from second -year B.Sc. Botany students and all students successfully completed the Course. To support students learning, a list of recommended resources and references was provided to them. These resources include Presentations, Lecture notes, online tutorials, websites, and videos related to the vermiculture techniques used in the course. Students are encouraged to explore these resources for further study and to enhance their understanding of these techniques. At the end of the course, the students have acquired the necessary skills and knowledge to practice vermiculture techniques.



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Certificate courses in Vermiculture play a vital role in fostering a cadre of individuals equipped with the knowledge and skills to contribute to sustainable agriculture and waste management. As the world grapples with environmental challenges and seeks innovative solutions, vermiculture stands out as a practice that holds immense potential. By investing in education and training in vermiculture, we not only empower individuals but also pave the way for a more sustainable and ecologically balanced future.



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STUDENT SUPPORT AND DEVELOPMENT ACTIVITIES

The student support and student development initiatives that have been undertaken in this academic year are presented.

1. Mentoring for students
2. Bridge/ Orientation course
3. Digital Textbook Support
4. Botany Lab
5. Special Coaching provided for supplementary examinations
6. Placement workshop for students

1.MENTORING

Mentoring has become a necessity to resolve problems relating to academics and other related issues faced by the students. Mentoring can build a healthy relationship between the students and teachers in building their discipline, performance and also positive growth of the students.

Mentoring groups were formed under various mentees.

—Mentor	Mentee
Dr. Chithra M	Ayisha shimli
	Fathima Shahna CP
	Irshad T
	Fathima Sifana P
	Fathima Suhaira V
	Febina PV
Aiswarya K	Fida Thasli C
	Fidha K
	Hashifa Nasrin P
	Hiba
	Jamsheena KP
	Mubaina Jasmin



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Anjaly Johnson K	Mohammed Mifsal K P
	Rabceha Thesni P
	Rasha Mohammed P
	Ridha Abdul Azeez K
Jyothy V J	Saliya T
	Sayid Aflah
	Shaliha Shibili
	Shamil AP
	Shifa Nasri
	Suhana Rosni KK

Mentoring students can encompass a wide range of activities aimed at providing guidance, support, and encouragement to help students succeed academically, professionally, and personally. Here are some common activities involved in mentoring students:

- **SPECIAL MENTORING DONE**

Extra time for Exams- The special students who needed extra time were mentored and with the help of the office of examinations extra time was provided both for mid-semester and end-semester exams.

- **ACADEMIC SUPPORT:** Assisting students with their coursework, helping them understand complex concepts, providing study tips, and offering resources for additional learning.

- **MENTORING FOR WEAK SUBJECTS**

The students were continuously mentored regarding their academics. They were motivated and continuously encouraged to seek help from the teachers of the subjects in which they are weak.

- **ENCOURAGEMENT TO PARTICIPATE IN ASSOCIATION AND CULTURAL ACTIVITIES**

The students were constantly encouraged to participate in all the co-curricular and inter-class events to help them develop self-confidence.

- **PERSONAL DEVELOPMENT**

Supporting students in developing important life skills such as time management, organization, communication, critical thinking, and problem-solving.



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- **RESOURCE REFFERALS:**

Connecting students with relevant campus resources, support services, academic programs, workshops, and extracurricular activities that can enhance their academic and personal development.

- **MID SEM RESULT ANALYSIS-**

Result analysis of Mid-semester exams of the special students was done separately to know their performance. It was found that compared to the first year, the second-year students and third year students fared better.

By engaging in these activities, mentors can make a significant impact on students' academic success, personal growth, and future career prospects.

In the weekly departmental meetings issues related to these students were discussed:

The teachers give extra time for the completion of written assignments to first-year students who had problems comprehending and articulating using the English language. This was observed more in the case of Malayalam medium students.

The students of the first semester found the subject of general chemistry and Reproductive botany to be tough. After speaking to them it was concluded that lack of practice and not being able to grasp fast during the lecture hours were the main reasons for not being able to cope with the subject. The teachers teaching the subject were met in person and were requested to take a few one-to-one sessions for these students. The teachers obliged and some students even managed to get help during study holidays.

An effort was made to bring them together to study problem-based papers on campus with assistance from teachers and a few senior students (supplemental learning) who were good at the subject. It was observed that this group study helped them in looking at each other's notes and getting their doubts cleared. Buddies were identified from their own classes to help them with any doubts regarding the subjects or any other thing. They became friendly with their seniors during meetings and so took help from them too. At the end of each semester their scores in all subjects were taken note of and they were advised and helped accordingly. Students who had attendance issues were constantly monitored and mentored and helped to sort out the same.




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2. ORIENTATION PROGRAMME FOR FIRST YEARS :

A 3-week long induction program for the UG students entering the institution. The College Induction Ceremony is the official welcome for first-year students and their families. A ten-day departmental-level orientation for the first semester Botany students was organized with a special timetable before the commencement of regular sessions. The main objective was to orient the students to KFASC academic culture with a focus on presentation and writing and referencing skills. This is a time for everyone - students, parents, faculty, and staff- to meet one another, talk about the college, and articulate some of the ideals that define us as a place of learning and growth.

The Induction Program is designed with objectives:

- Planned event to educate the new entrants about the environment of the college, and connect them with the people in it.
- The incumbents learn about the institutional policies, processes, practices, culture, and values
- to make the newly joined students feel comfortable in their new environment
- Create confidence in slow learners that they are supported continually.
- To give a summary of the program outcomes, program-specific outcomes, and course outcomes.
- To bridge the gap between previous knowledge and the course opted
- Set a healthy daily routine
- Develop awareness, sensitivity, and understanding of the self, about people around them, society at large, and nature
- sensitize them towards exploring their academic interests and activities
- reducing competition and making them work for excellence, and to achieve skills
- promote bonding within them
- Build relations between teachers and students
- form a broader view of life and building of character.

On 01/08/2023 the first-year students were given a college-level induction program in the main auditorium along with the PTA gathering. Here the students were briefed about the rules and regulations of the department with respect to dress-



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discipline, attendance, the various clubs, associations, and other activities.

The following are the activities proposed under this Programme in which the student would be fully engaged throughout the days for the entire duration of the programme. The activities during the Induction Program would have an Initial Phase, a Regular Phase and a Closing Phase. The Initial and Closing Phases would be two days each. Normal classes start only after the induction program is over.

DEPARTMENT OF BOTANY

BRIDGE COURSES 2023-24 TIME TABLE

Date	Department	10.00AM-11.00AM	11.00AM-12.00PM	12.00PM-1.00PM	2.00PM-3.00PM	3.00PM-4.00PM
02-08-2023	1stSem Botany	SL	Dr.Chithra M Horticulture	Anjaly JohnsonK Plant Breeding	Aiswarya K Some basic concepts in Chemistry	Aiswarya K Some basic concepts in Chemistry

03-08-2023	1stSem Botany	Aiswarya K Chemistry in everyday life	Ebrahimkutty Introduction to Zoology	SL	Ebrahimkutty Animal Diversity	Shabeeba Common Course Induction Programme LEAP
	04-08-2023	1stSem Botany	SreeshaM Common Course Induction Programme LEAP	Afsitha Common Course Induction Programme LEAP	Ebrahimkutty Cytology	Shabeeba Common Course Induction Programme LEAP




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07-08-2023	1stSem Botany	Sreesham Common Course Induction Programme LEAP	Parveena Vadakkan Common Course Induction Programme LEAP	Shabeeba Common Course Induction Programme LEAP	SL	Jyothy VJ Environmental Science
08-08-2023	1stSem Botany	Afsitha Common Course Induction Programme LEAP	Parveena Vadakkan Common Course Induction Programme LEAP	Dr.Chithra M Evolution	SL	Aiswarya K Analytical Chemistry
09-08-2023	1stSem Botany	SL	Dr.Chithra M Biotechnology	Anjaly Johnson K Taxonomy	AiswaryaK Various areas in Chemistry	AiswaryaK Analytical chemistry

10-08-2023	1stSem Botany	AiswaryaK Chemistry in daily life	Ebrahimkutty Human Genetics	SL	Ebrahimkutty Biochemistry	Shabeeba Common Course Induction Programme LEAP
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11-08-2023	1stSem Botany	Sreesham Common Course Induction Programme LEAP	Afsitha Common Course Induction Programme LEAP	Ebrahimkutty Physiology	Shabeeba Common Course Induction Programme LEAP	Ebrahimkutty Conservation biology
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14-08-2023	1stSem Botany	Sreesham Common Course Induction Programme LEAP	Parveena Vadakkan Common Course Induction Programme LEAP	Shabeeba Common Course Induction Programme LEAP	SL	Anjali Johnson K SYLLABUS"
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**GENERAL INDUCTION PROGRAMME 2023-24
TIME TABLE**

Date & Day	Time	Venue	Session	Resource Person
18/9/2023 MONDAY	10.00 AM-1.00 PM	Auditorium	Know your college profile: 1. Campus rules and regulations, 2. Attendance, Leave & Dropout Management System 3. Discipline uniform rules, etiquette, 4. exam rules, hall ticket, 5. canteen, parking rules, 6. anti-ragging initiatives 7. NAAC Accreditation, Student Expectations	Prof.M.Abdul Azeez Principal,KFASC
	2.00 PM-4.00 PM	Auditorium	Introduction of ERP, LMS, CIMS, ITLE, and student areas of concern	Mr.Mohamed Haneefa K T System Manager KFASC
19/9/2023 TUESDAY	10.00 AM-1.00 PM	Auditorium	Familiarization with the system environment followed in the campus	Mr.Anas C System Admin KFASC
	2.00 PM-4.00 PM	Auditorium	1. Introduction of PACE 2. Experiential Learning, Community Engagement Programmes, 3. Certificate Courses/Add-on courses- ICSI Study Centre.	Dr.Mustafa K Director,PACE
20/9/2023 WEDNESDAY	10.00 AM-1.00 PM	Auditorium	Library Resources- Digital Library- NLIST	Mrs.Rajeena Librarian
	2.00 PM-4.00 PM	Auditorium	Health, Fitness and Wellness	Mr.Saamsheer.K Assistant Professor Department of Physical Education
21/9/2023 THURSDAY	1.00 AM-4.00 PM	Primer for Mentoring Sessions on Universal Human Values		




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PRIMER FOR MENTORING SESSION ON HUMAN VALUES

TIME TABLE

	Student Aspirations, Expectations, Gratitude	Self & Body, Peer Pressure, Prosperity	Relationship in Family	Mulya in Relationship: Trust (Vishwas) Mulya in Relationship: Respect (Sammaan)
	Session 1 (10.00 AM -11.30 AM)	Session 2 (11.30 AM - 1.00 PM)	Session 3 (2.00 PM – 3.00 PM)	Session 4 (3.00 PM – 4.00 PM)
BSc BOTANY	MUJEEB TP Asst. Professor Dept. of Commerce & Management	RAIHANATH K. Asst. Professor Dept. of Commerce & Management	MOHAMED LABEEB Asst. Professor Dept. of Languages	NAUFAL VK Asst. Professor Dept. of English

Outcomes:

- a) Exposure to college life in a structured and supportive learning community.
- b) Team building ability and leadership qualities.
- c) Foster positive relationships with peers, faculty, and staff at the College

An orientation program for degree students is a vital component of their transition into university life. It serves to familiarize them with the campus, academic expectations, support services, and extracurricular opportunities available to them

3. DIGITAL TEXTBOOK SUPPORT

The Department of Botany provides digital textbooks to the students of the department to broaden their intellectual horizons and to aid in the classroom teachings. The list of textbooks given in DSPACE and students can download or read the book, either prescribed or recommended.



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from their home or a place of their ease. Free textbook references are available at DSpace. And also students are given opportunities to refer Journals and the usage of NLIST.

4. LABORATORY FACILITIES IN DEPARTMENT OF BOTANY

Botany department consists of botany lab and two complimentary subject labs such as Zoology and Chemistry Laboratories.

Botany Lab: Exploring the World of Plants

Botany, the scientific study of plants, is a fascinating field that unravels the secrets of the plant kingdom. To delve into this captivating world, botanists and students alike rely on a well-equipped botany lab. Let's take a closer look at the essential components and equipment found in our institute Botany lab.

Lab Notebooks and Lab Documentation: Keeping detailed records of experiments and observations is a fundamental aspect of scientific research.

Microscopes: Microscopes are the windows through which botanists observe the intricate structures of plants. In a botany lab, you'll find two types of microscopes: dissection microscopes for examining plant parts and compound microscopes for finer details at the cellular level.

Plant Specimens: A diverse collection of plant specimens, both fresh and preserved, serves as the heart of any botany lab. These specimens are used for identification, classification, and study of plant morphology.

pH Meter: Understanding the acidity or alkalinity of soil or plant extracts is crucial for plant physiology and research. A pH meter helps botanists measure these factors accurately.

Permanent Slides: Permanent slides allow for long-term preservation and study of microscopic plant structures, such as plant cells, tissues, and various microorganisms found on plants.

Plant Physiology Equipment: This category includes tools like spectrophotometers, respirometers, and fluorimeters, which help researchers investigate plant processes like photosynthesis, transpiration, and respiration.



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Budding Knife: Budding knives are handy tools for plant propagation techniques such as budding and grafting.

Specimen Jar: Specimen jars with preservatives are essential for preserving plant specimens for future use.

Conical Flask: Conical flasks are commonly used for mixing and storing plant solutions, extracts, or chemical reagents.

Wash Bottles: These bottles are used to dispense water or other solutions gently and precisely for various laboratory procedures.

Petri Plates: Petri plates are used for cultivating plant tissues, such as tissue culture or microbial studies.

Tray: Trays are convenient for organizing and carrying various plant samples, equipment, and materials around the lab.

Anatomy Stains, Slides, and Coverslips: These are crucial for preparing and staining plant tissues for microscopic examination.

Glycerine and Herbarium Presser: Glycerine is used for preserving plant specimens, and herbarium pressers are essential for drying and flattening plant samples for herbarium collections.

Ocular Micrometre: An ocular micrometre helps in accurate measurements during microscopic examinations.

Plant Anatomy Charts: Visual aids like charts and diagrams help students and researchers understand plant anatomy and morphology better.

Alcohol and Formaldehyde: These are used as preservatives and fixatives for plant specimens.

Chemicals: A wide range of chemicals, including reagents and stains, are used for various experiments and analyses.

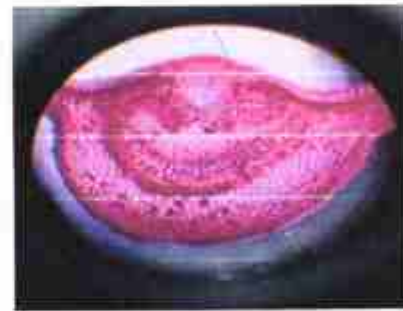
Weighing balance: A weighing balance is a critical piece of equipment found in Botany laboratories. It plays a pivotal role in plant research by allowing scientists, students, and researchers to accurately measure the mass of plant specimens, conduct various experiments, and gather crucial data for their studies.

Refrigerator: Some plant specimens or reagents may require refrigeration for long-term storage.




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A well-organized and equipped botany lab is essential for advancing our knowledge of plants and their crucial roles in ecosystems, agriculture, and human life. It provides a space for scientific exploration, experimentation, and discovery, allowing us to unravel the mysteries of the plant world and address important questions related to plant biology, ecology, and conservation.



Chemistry Lab: Where Science Meets Experimentation

The chemistry lab is a space where students, and researchers explore the fascinating world of matter, reactions, and chemical processes. This controlled environment is equipped with



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various tools and equipment to conduct experiments, analyse substances, and gain a deeper understanding of the fundamental principles of chemistry. Let's delve into the essential components and equipment found in our Chemistry laboratory:

Laboratory Benches and Workstations: These provide a stable and spacious surface for conducting experiments and setting up equipment.

Safety Equipment: Safety is paramount in a chemistry lab. It includes safety goggles, lab coats, gloves, and emergency shower and eye wash stations in case of accidents.

Fume Hood: Fume hoods are essential for safely conducting experiments that involve noxious or hazardous chemicals. They prevent the escape of harmful fumes and ensure the safety of lab personnel.

Chemical Storage Cabinets: These cabinets are designed to store chemicals safely, segregating them based on their compatibility and potential hazards.

Glassware: Chemistry labs are stocked with a wide range of glassware, including beakers, flasks, test tubes, and graduated cylinders, for measuring, mixing, and holding substances.

Heating Equipment: Bunsen burners, hot plates, and heating mantles are used for heating and boiling substances in various experiments.

Chemicals: Chemicals are the heart of any chemistry lab, including acids, bases, salts, solvents, and a plethora of reagents for specific experiments.

Analytical Balances: These precise instruments are used to measure the mass of substances accurately.

Centrifuges: Centrifuges are used for separating substances based on density, such as separating solids from liquids or isolating components from a mixture.

Safety Showers and Eyewash Stations: In case of chemical spills or accidents, these are crucial for immediate decontamination and safety.

Burettes and Titrators: These are used for precise volumetric measurements and titrations in analytical chemistry.

Chemical Hoods: Used for safely handling toxic substances, chemical hoods protect users from harmful fumes and vapours.



6/2/23
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Lab Notebooks and Lab Documentation: Keeping detailed records of experiments and observations is a fundamental aspect of scientific research.

Chemical Waste Disposal System: Proper disposal of chemical waste is essential for environmental safety and compliance with regulations.

A well-equipped and organized chemistry lab is the cornerstone of scientific research and education in the field of chemistry. It provides the resources and infrastructure needed to explore the properties, behaviour, and interactions of chemicals and contributes to advancements in various fields, including medicine, materials science, environmental science, and more. The chemistry lab is where theoretical knowledge meets practical experimentation, leading to discoveries that shape our understanding of the natural world.

Zoology Lab: Exploring the Diversity of Animal Life

The zoology lab is a dynamic environment where scientists, students, and researchers engage in the study of animals and their diverse characteristics, behaviours, and ecosystems. It serves as a hub for hands-on exploration, research, and the advancement of knowledge about the animal kingdom. Let's explore the key components and equipment found in our zoology laboratory:

Lab Notebooks and Lab Documentation: Keeping detailed records of experiments and observations is a fundamental aspect of scientific research.

Microscopes: Microscopes are fundamental tools for studying the microscopic structures of animals, including cells, tissues, and parasites.

Specimens: Zoology labs house a vast collection of animal specimens, both preserved and living, representing various species from different taxonomic groups. These specimens are used for research, identification, and teaching purposes.

Dissection Tools: Zoologists use a variety of dissection tools, including scalpels, scissors, forceps, and dissecting trays, to examine the internal anatomy of animals.

Skeletons and Models: Anatomical models and skeletons help students and researchers understand the internal and external structures of animals.



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Microtomes: Microtomes are used to prepare thin sections of animal tissues for histological examination.

pH Meters and Water Quality Analysers: These instruments are used to assess the water quality in aquariums and aquatic animal habitats.

Chemical Reagents: Various chemicals are used for tasks such as preserving specimens, staining tissues, and conducting biochemical analyses.

Computer Workstations: Computers are used for data analysis, simulations, and modelling, as well as for recording and organizing research findings.

Field Equipment: Field zoologists often use equipment like traps, nets, and binoculars for capturing and studying animals in their natural habitats.

Animal Handling and Safety Gear: Safety gear includes gloves, lab coats, and protective eyewear to ensure safe interactions with animals and laboratory equipment.

Weighing balance: A weighing balance is a critical piece of equipment found in zoology laboratories. It plays a pivotal role in animal research by allowing scientists, students, and researchers to accurately measure the mass of animal specimens, conduct various experiments, and gather crucial data for their studies.

A well-equipped zoology lab is crucial for advancing our understanding of animal biology, behaviour, ecology, and evolution. It provides a controlled environment for experimentation and observation, allowing researchers to uncover the intricacies of the animal world. Zoology labs contribute to the conservation of species, the understanding of biodiversity, and the development of knowledge that benefits both the scientific community and society at large.

5. COACHING FOR SUPPLEMENTARY EXAMINATIONS:

Special coaching was given to students writing the supplementary and improvement examinations by faculty members so that they can clear the exam with confidence.

6. PLACEMENT WORKSHOP FOR STUDENTS:

Organized a placement workshop on medical coding, such as the one hosted by Avodha in association with Department of botany, it is a valuable opportunity for students interested in this field to gain insights, skills, and connections that can help them succeed in their career endeavours.



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Medical coding is a crucial aspect of healthcare administration and involves the conversion of medical procedures, diagnoses, treatments, and equipment into universal alphanumeric codes. These codes are used for various purposes, including billing, insurance claims, medical records, research, and healthcare analytics. Medical coding offers a range of career opportunities in various healthcare settings, including hospitals, clinics, physician practices, insurance companies, consulting firms, and government agencies. With the increasing demand for healthcare services and the transition to electronic health records (EHRs), the demand for skilled medical coders continues to grow.

Overall, medical coding plays a vital role in the healthcare industry by ensuring accurate documentation, billing, and reimbursement for healthcare services, thereby supporting effective patient care delivery and healthcare management.

CO-CURRICULAR, CULTURAL AND EXTRACURRICULAR ACTIVITIES, THE INDUSTRIAL VISITS AND FIELD TRIP, AND EXTENSION ACTIVITIES

INDUSTRIAL VISITS AND FIELD TRIP

Excursions are arranged to give exposure to students. Field education is equally important as a class room teaching. It's an essential part of botany as plants are best studied in natural habitat. These tours bring a good repo among students and teachers. A botany field trip offers students and enthusiasts the opportunity to explore the natural world firsthand, deepen their understanding of plant biology, and appreciate the diversity of plant life in different ecosystems. a botany field trip provides an immersive and enriching experience that fosters curiosity, appreciation, and understanding of plant life and ecosystems, while also promoting scientific inquiry and environmental awareness.

1. FIELD TRIP TO OOTY BOTANICAL GARDEN:

Field education is equally important as classroom teaching. It adds vigor to learning Processes and relieves monotones of indoor education. Field study is an essential part of botany as plants are best studied in their natural habitat. These tours also help to build good bonds between students and teachers.



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Objectives:

- Familiarize the students with the wild and cultivated flora and ecology of region.
- Study the natural habitat and character of each and every plants found in area.
- Know about the growth and structure of variety species.
- To collect the algae, lichens, & ferns .

As part of B.Sc. Curriculum, A one - day trip was organized by ooty by the Department of Botany, Kottakkal Farook Arts & Science College, on 22nd November 2023 for 3rd semester (Second year) and 1st semester (First year) botany Students. The major objective was to familiarize the students with the Wild and cultivated flora and ecology of the region. A group of 42 Students were accompanied by Dr.Chithra, Ms. Jyothy, Ms. Aiswarya, & Mr. Suhail of the Botany department. On 22nd November 2023 all the students and faculty members reached at kottakkal on 5.30 am, we heired a bus and the journey started at 6 am. After hours we reached gudallur and saw the wide range of Eucaliptus trees. At 1 pm we reached our destination Botanical Garden.



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The Botanical Garden in Ooty was a captivating exploration of diverse plant life nestled in the Nilgiri Hills. The garden, established in 1848, spans over 55 acres and serves as a haven for plant enthusiasts, researchers, and nature lovers alike. The garden boasts an impressive collection of over 650 species of plants, including rare and endangered ones. We encountered a rich array of



flowering plants, ferns, orchids, and medicinal herbs, each contributing to the garden's ecological tapestry. We see their many plants and flowers. The Government Botanical Gardens is undoubtedly one of the most sought after tourist attractions not just in Ooty but in the entire Tamil Nadu. No tourist will leave Ooty without a visit to the well organized, well maintained botanical gardens. It is a famous sightseeing place to visit in Ooty. Maintained by the Horticultural Department of Tamil Nadu .



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The present day Botanical Gardens is divided into 5 sections. They are the Lower Garden, which has the fern house that harbors one hundred and twenty seven species of ferns; the New Garden, which contains the rose garden, a lot of natural floral carpets and natural ponds; the Italian Garden, laid down by Italian Prisoners of War from the First World War; the Conservatory, which has lots of groups of flowering plants; and the Nurseries, which contains a series of glass houses having innumerable varieties of exotic plants. Also we collected lichens & algae. Also we covered the pine forest and collected pine leaves to preserve. Notable features included the fossil tree trunk, a relic from the ancient past, and the Toda hill showcasing indigenous plant species. The rose garden, with its myriad hues and fragrances, provided a sensory delight, while the conservatories housed exotic tropical plants, transporting us to different corners of the world. The garden boasts an impressive collection of over 650 species of plants, meticulously curated to showcase the region's biodiversity. From towering trees to delicate ferns, the garden is a living encyclopedia of flora. Noteworthy were the Himalayan cypresses, rhododendrons, and the charming collection of carnivorous plants that drew our keen interest. Engaging educational programs facilitated by knowledgeable guides deepened our understanding of plant adaptations, conservation efforts, and the ecological significance of maintaining biodiversity. These programs fostered a sense of environmental responsibility among participants. The Botanical Garden actively participates in conservation initiatives, including seed banks and propagation programs for endangered species. Learning about these efforts highlighted the crucial role botanical gardens play in preserving plant diversity and combating habitat loss such as the preservation of endemic species like the Nilgiri Tahr habitat, underscored the crucial role botanical gardens play in safeguarding plant diversity.

At 4'O clock we had our lunch. Our Trip ended about 12 pm. It can be concluded that the trip was successful and we believed that our objectives was achieved. We learned something new and beneficial for us. It is a well recommended trip for botany students. All students actively participating in this trip. The study tour left an indelible mark on our understanding of plant life and conservation. The serene surroundings of the Botanical Garden, coupled with the wealth of information gained, made this excursion both enjoyable and enlightening.



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Our visit to the Botanical Garden in Ooty was a harmonious blend of aesthetic pleasure and educational enlightenment. It reinforced the importance of preserving botanical diversity and underscored the pivotal role that such gardens play in fostering environmental awareness.



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2. RYOKO EDUCATIONAL TOUR 2021-2024

A study tour is a purposeful excursion designed to provide participants with real-world learning experiences beyond the confines of a traditional classroom. It offers a unique blend of academic exploration, cultural immersion, and hands-on encounters, fostering a deeper understanding of subjects through direct engagement. Whether delving into historical sites, interacting with local communities, or witnessing industry practices firsthand, a study tour becomes a dynamic catalyst for comprehensive learning and personal growth. This report encapsulates the essence of such a transformative journey, shedding light on the knowledge gained and perspectives broadened during our expedition. Embarking on a study tour is not merely a departure from routine; it is a voyage into the realms of experiential learning and cultural immersion. As we delve into this report, envision the unfolding narrative of our journey—a mosaic of insights, discoveries, and educational odysseys that transcend traditional classroom boundaries. Join me in unraveling the chapters of our study tour, where every destination becomes a classroom and every experience a lesson etched in the tapestry of our academic exploration. The educational tour was organized by final Year Bsc. Botany students as part of their curriculum which includes five days of trip

OBJECTIVES

- Develop and refine skills in the identification of plant species in their natural habitats.
- Explore diverse ecosystems, such as forests, wetlands, and grasslands, to understand the relationships between plants and their environment.
- Visit conservation areas to observe and learn about plant conservation strategies.
- Familiarize with biotechnology instruments and its working.

Day 1 : 05-12-2023 Tuesday

The Department of Botany of Kottakkal Farook Arts And Science College organizes five days educational tour cum field excursion to Chikmagalur, Dandeli, Dharwad And Hampi to collect information regarding the vegetational wealth and diversity of flora and to visit various departments related to botany. The tour was led by Dr. Chithra M , HoD Department of Botany along with one faculty member Jyothy V J with a total of 11 students from Botany. During the first day all students was gathered in college at 8pm and depart at 8.30 pm from Kottakkal to Chikmagalur by bus.



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Day 2:06-12-2023 Wednesday

We reached our first destination at 7.00 am after fresh up and breakfast students board on the bus and depart to sightseeing in Chikmagalur. Chikmagalur is known for its stunning natural beauty. It is surrounded by lush green hills, coffee plantations, and waterfalls. Chikmagalur is home to several beautiful waterfalls, including the Hebbe Falls, Jhari Falls, and Kalhatti Falls. These waterfalls offer a refreshing escape. Chikmagalur offers a refreshing escape from the city's hustle and bustle and is an ideal destination for nature lovers, adventure seekers, and those who want to experience the rich cultural heritage of Karnataka. When nature is depicted as a beautiful girl, grass becomes her garment, the colorful flowers become the border of her dress and the flower pots become her perfect necklace. So our first sight is the gigantic sculpture of the girl is found at the entrance of Siri Cafe, a restaurant located on the way from Chikmagalur to Mullayanagiri. It definitely catches everyone's eyes. Regardless of whether you are hungry/thirsty or not, you would decide to stop by and get into this restaurant just by seeing this attractive sculpture. After taking some photos we returned from there. Next we went for trekking in chikmagalur. Trekking in Chikmagalur is one of the most preferred activities by tourists and nature lovers. If you are an nature lover, you are sure to love the many trekking trails that Chikmagalur has. Of all the trails, the Kemmanagundi trail is said to be one of the most popular one. With breathtaking views of nature, you must trek when in Chikmagalur.it was really a wonderful experience to all.

Then we went to a water falls and spent some time there. Then we had our lunch. After that we went for another destination a hilly area with a wide diversity of flora . on that hilly region we come across through various plant species and take photos of that variety of plants.



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After exploring the last destination in chikmagalur we started our journey to dandeli.

Day 3: 07-12-2023 Thursday

After overnight travel from chikmagalur we reached dandeli at 7.30 am. After fresh up and breakfast we went for our activities in Dandeli. Dandeli is a small town located in the Uttara Kannada, along with the Western Ghats on the banks of the river Kali. The place contains pristine lush deciduous forests which are full of rare species of trees, plants, and animals. Dandeli has a varied population consisting of many migrants from various parts of India. Hence, they maintain the diversity in all the festivals and cultural equality in the place. Kannada is the major language used in the place. The town is an adventurer's paradise. Many of activities can be done to quench the thirst of adventure. Other activities include Kayaking, Canoeing, Mountain biking, rafting etc. in the Kali adventure camp. The trekking is also an activity included. Swimming is also an ideal sport to enter but beware of crocodiles in the river Kali. After all water activities in the river Kali at Dandeli we had our lunch and returned to the resort. After that students spent their leisure time in engaging in rain dance and camp fire. Students perform various skills and talents in the camp fire. The day end with camp fire.



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Day 4:08-12-2023 Friday

The fourth day destination of our study tour was Karnataka university, Dharwad. Karnatak University was established at Dharwad in the Indian state of Karnataka in October 1949. It had its official inauguration in March 1950. The campus spans 750 acres .Dr. D. C. Pavate was the vice-chancellor from 1954 to 1967. The rapid development of the institution is credited to him.

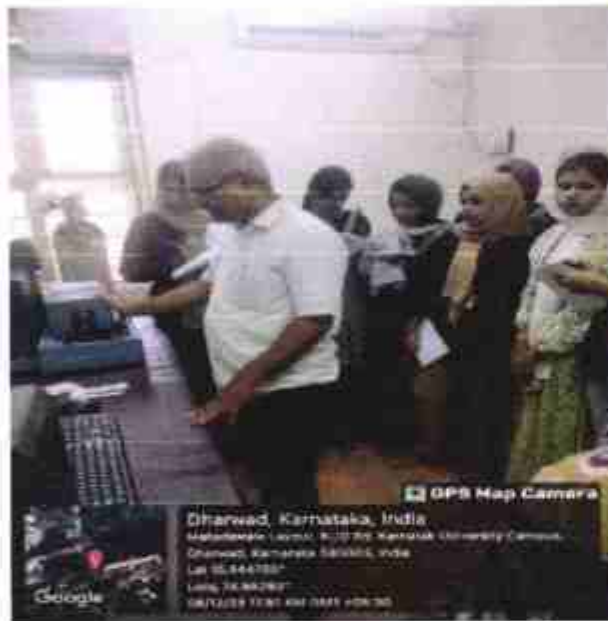
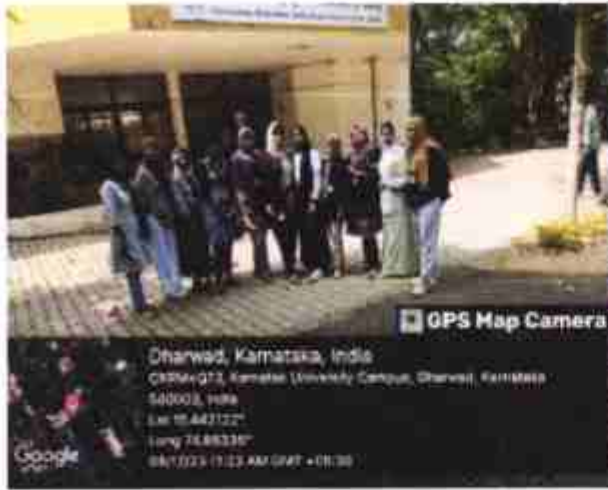
The university was recognized with the "Potential for Excellence" by the University Grants Commission. The university is the second oldest, after University of Mysore, in the state of Karnataka. The Karnatak university once used to serve most part of Karnataka like districts of Dharwad, Belagavi, Uttara Kannada, Bijapur, Gulbarga, Raichur, Bidar and Bellary till 1980's and also from 1953 to 1965 Manipal Institute of Technology and Kasturba Medical College Manipal were affiliated to Karnatak University Dharwad and all degrees were awarded by Karnatak University. The bifurcation of districts and establishment of new universities in this region has led to jurisdiction area of Karnatak university to present day districts of Dharwad, Uttara Kannada, Haveri and Gadag.

In the university we visited university scientific instrumentation centre(USIC) where we introduced various instruments like thermal analyser, colorimeter, spectrophotometer, scanning electron microscope etc., by experts. then we went to department of microbiology and biotechnonology , department of botany, department of physics where varsha mam and pavan sir explained various activities done in those departments.

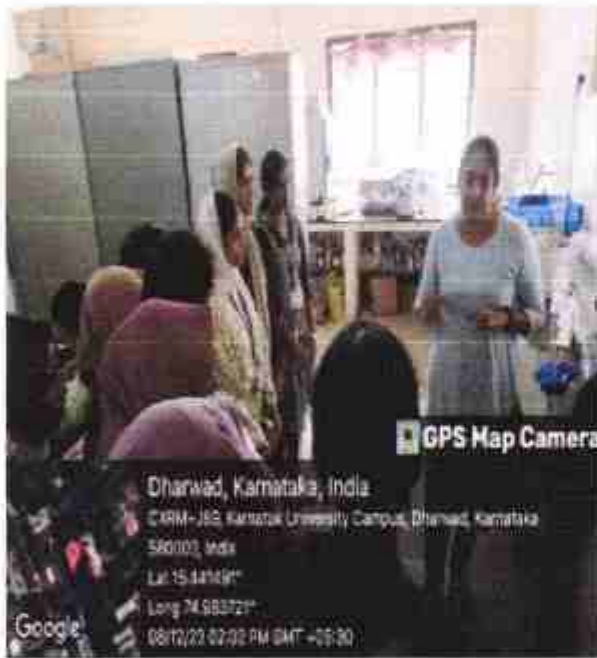
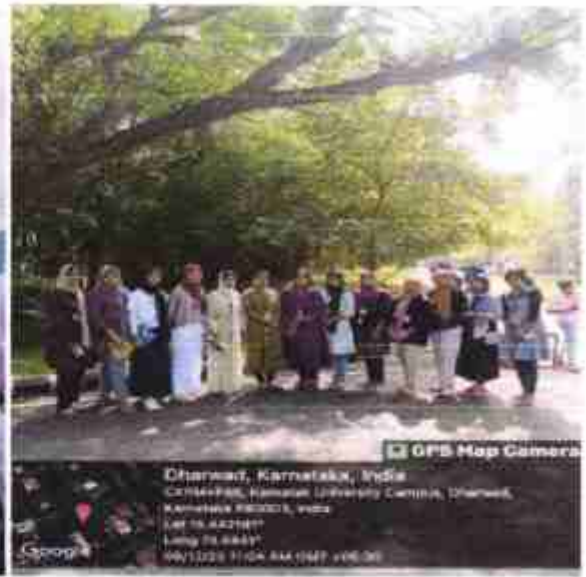
After that we went to dharwad regional science center. Dharwad Regional Science Centre is situated in the pristine Karnataka University Campus in Dharwad surrounded by a natural ambience with an aura of academic ambience. That Centre was an ideal place to engage the young and old alike in creative activities of the science centre and for spreading scientific temper among its visitors. It provided a fun filled experience in understanding of science to the visitors.



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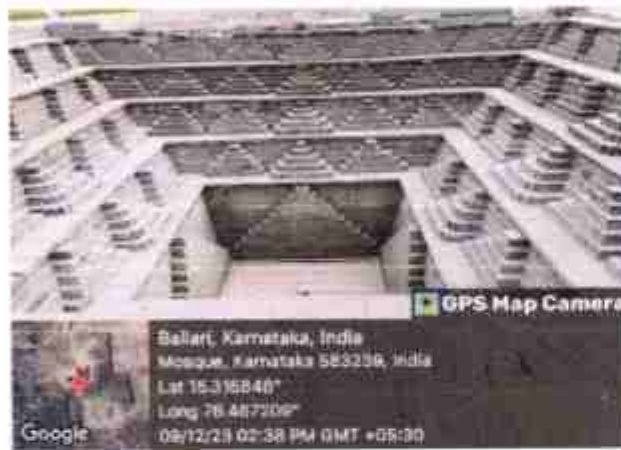
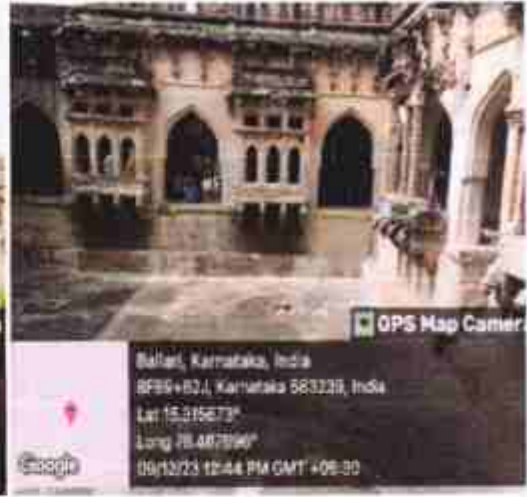
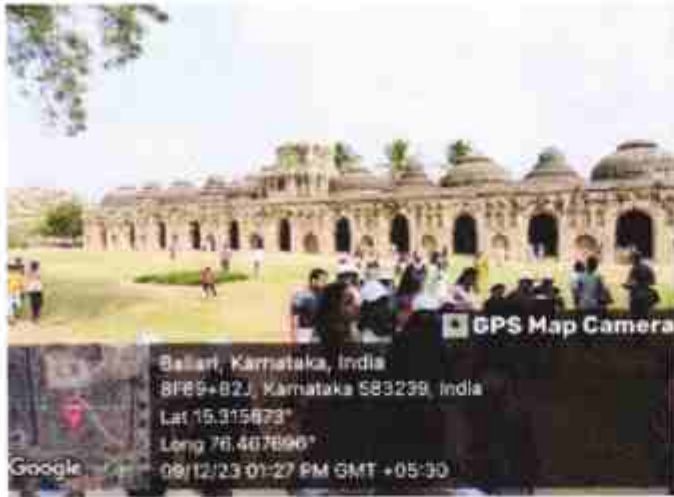


Then we had our lunch and started our journey to our next destination Hampi. On that day we stayed in a resort located at Hosapete.

Day 5:09-12-2023 Saturday

We started our journey from Hosapete to Hampi at 8.30 am. We reached our destination at 10.00 am. Hampi is an ancient village in the south Indian state of Karnataka. It's dotted with numerous ruined temple complexes from the Vijayanagara Empire. On the south bank of the River Tungabhadra is the 7th-century Hindu Virupaksha Temple, near the revived Hampi Bazaar. A carved stone chariot stands in front of the huge Vittala Temple site. Southeast of Hampi, Daroji Bear Sanctuary is home to the Indian sloth bear.





In hampi we visited many places like Vitthala Temple, Queen's Bath, Elephants Stables, Lotus Mahal, Saasivekaalu Ganesha, Zanana Enclosure, Kadakalu Ganesha, Stone Chariot, Virupaksha Temple. Virupaksha temple was the last site in Hampi. After some shopping we returned from Hampi at 8.00 pm. Then we had our lunch. Then we started our returning journey. During the



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journey both students and teachers shared their experiences and valuable feedback. On 10th December 2023 at 2.00 pm we reached our college.

The five-day study tour proved to be a valuable experience, offering a comprehensive understanding of our subject. The diverse range of activities, insightful lectures, and immersive site visits contributed to a well-rounded learning experience. This tour not only deepened our knowledge but also fostered meaningful connections among participants. As we return, equipped with new perspectives and insights, it is evident that this study tour has enriched our academic and practical understanding of our subject, paving the way for continued growth and application of the acquired knowledge in our respective fields.

3. FIELD VISIT TO AGRICULTURAL RESEARCH STATION, ANAKKAYAM

Field visits can be incredibly enriching experiences, whether for research, education, or exploration purposes. The aim of a field visit is to provide participants with firsthand experience and to witness the operations of the Plant Breeding Station, gain insights into the tissue culture process, and explore the methods of budding and grafting.

Field visits are often conducted to achieve the following objectives:

- Tissue culture information: Detailed knowledge and data about the techniques, procedures, and applications of tissue culture, which involves the growth and maintenance of plant or animal cells in a controlled environment.
- Vermicomposting: A method of composting that utilizes earthworms to decompose organic waste materials, resulting in nutrient-rich vermicompost that can be used as a natural fertilizer.
- Grafting demo: A demonstration or presentation showcasing the process of grafting, which involves joining together different plant tissues to create a new plant with desirable characteristics.
- Introduction of bio-control products: The presentation or introduction of products that utilize biological agents, such as beneficial insects or microorganisms, to control pests or diseases in agriculture or horticulture. This can include information about the products, their effectiveness, and their potential benefits for sustainable pest management.

The Department of Botany, Kottakkal Farook Arts & Science College organized a one day field visit to the Agricultural Research Station at Anakkayam. On 17th January 2024, Fifteen students, accompanied by Ms. Anjaly Johnson K (Assistant professor), arrived at Anakkayam.



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Stand at 09:30 am. At 10:00 am, the Anakkayam Research Centre commenced its activities for the day. The Cashew Research Station, Anakkayam, which was established in 1963 and is located in the agricultural heartland of Malappuram district, underwent a significant change on 21-06-2011. It was renamed as the Agricultural Research Station by Sri. K. P. Mohanan, the Honorable Minister for Agriculture, Govt. of Kerala. This renaming marked a new chapter for the research station, as it brought about a redefinition of its mandates and objectives. Following the renaming, the Agricultural Research Station now serves as a lead station for research in hi-tech horticulture. It focuses on the production and distribution of planting materials for all major horticultural crops. Additionally, it has become a center for research in propagation studies, including micro-propagation of floriculture crops. Moreover, the station plays a crucial role as a lead center for conducting residential training programs on various aspects of advanced horticulture, entrepreneurship development, and women empowerment.

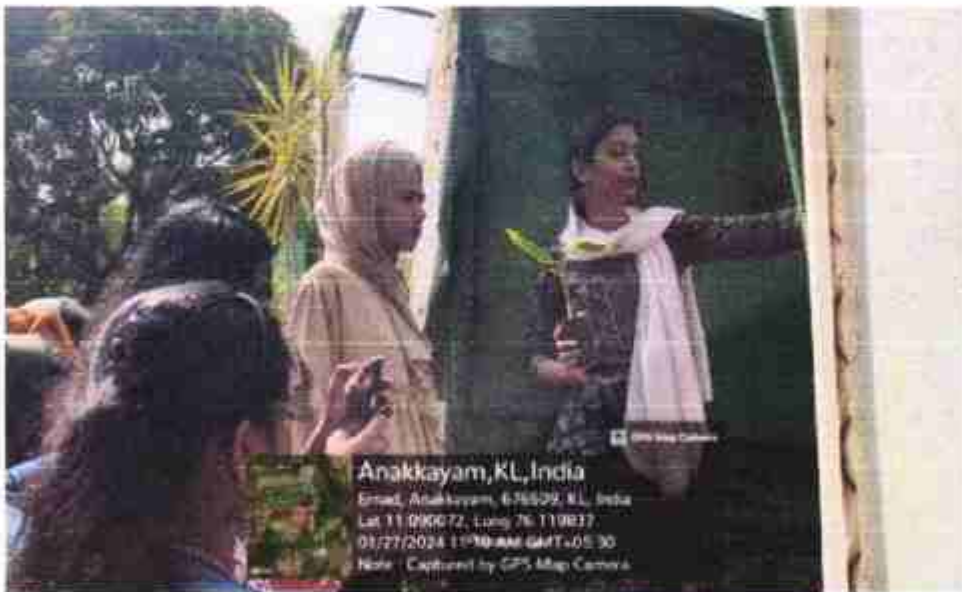
In terms of land use, the research station has a total area of 10 hectares. The utilization of this land is carefully planned and allocated for different purposes. The majority of the land, 9.5 hectares, is dedicated to crop production, ensuring a significant focus on horticultural crops. The station also has specific areas allocated for cashew experimental plots, cashew bulk production, coconut cultivation, nurseries, mango progeny gardens, protected cultivation, and germplasm of fruit crops. Additionally, a portion of the land is utilized for roads, buildings, and other infrastructure. Importantly, there is no unutilized land, highlighting the efficient use of resources at the Agricultural Research Station.

As a result of these changes, the Agricultural Research Station, Anakkayam has emerged as one of the main centers for research and improvement of horticultural crops in the state. Its reputation has attracted farmers from various parts of Kerala, Tamil Nadu, and Karnataka, who seek technical guidance and advice on agricultural production. The station is considered a role model within the state due to its excellent performance in terms of effective land use and the adoption and demonstration of advanced technology to enhance production.

At 10:15 am, we proceeded to the tissue culture lab. The research associate, Thasniya, provided a comprehensive briefing on the lab's operations and research activities.



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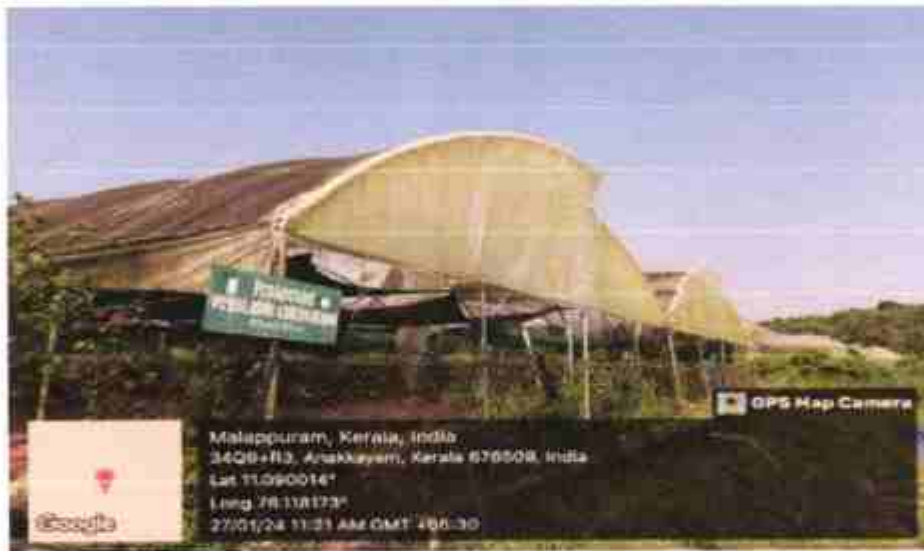
At 11:00 am, we visited the biocontrol laboratory. The primary objective of the biocontrol laboratory is to produce a large quantity of bioagents that can effectively control pests and diseases. These biocontrol agents play a crucial role in Integrated Pest and Disease Management, making them essential for effective control measures. Thasniya Mam, the research associate, introduced several products such as Beauveria Bassiana and Bacillus thuringiensis for effective pest and disease control.



At 11:15 am, we toured the vermicompost unit. Vermicomposting involves the transformation of organic waste into nutrient-rich manure through the activity of earthworms.



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At 11:30 am, we explored the polyhouse and greenhouse. A greenhouse is a glass structure that warms up its interior when exposed to sunlight, while preventing greenhouse gases from escaping. A polyhouse is a type of greenhouse, essentially a smaller version with a polyethylene cover. Various types of greenhouse plants are cultivated here.



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Additionally, we attended a demonstration on budding and grafting techniques conducted by experienced trainers. Budding and grafting are essential techniques in horticulture for propagating plants and creating desired characteristics. The trainers provided hands-on guidance and practical tips for successful budding and grafting, enriching our understanding of plant propagation methods. The visit concluded at 1:00 pm, marking the end of a fruitful and educational experience at the Agricultural Research Station.



The conclusion of the tour report focuses on the Anakkayam Research Centre, which encompasses various areas of study such as tissue culture, plant breeding, and biotechnology. The station provides a comprehensive overview of the research center's activities and findings, highlighting the significance of these fields in advancing scientific knowledge and agricultural practices. Through the utilization of tissue culture techniques, the center aims to propagate plants with desirable traits, contributing to the development of improved crop varieties. Additionally, the visit emphasizes the role of biotechnology in enhancing agricultural productivity and sustainability, showcasing the center's efforts in harnessing genetic engineering and molecular biology to address various challenges faced by the agricultural sector



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COMMUNITY ENGAGEMENT & EXTENSION ACTIVITIES

Extension activities in our adopted village showcases the impactful initiatives and community-driven projects carried out throughout the year. From educational programs to healthcare initiatives, the report reflects our commitment to sustainable development and positive change in the local community.

1.MEDICINAL PLANT CULTIVATION

The second year students of B.Sc botany were taken for the extension and community programme to ward no.12 of parappur panchayat on 9th august 2023. We started from farook arts and science college at 11:00 a.m. The faculties of Department of Botany, Ms. Jyothy V J and Ms. Anjaly johnson accompanied the visit. We reached the kizhekkekkund anganawadi by 11:00 am. The inauguration of medicinal plants distribution was done by ward member Sulaiman T E to anganawadi worker. Then students were grouped and they distributed medicinal plants to villagers . The villagers actively participated in this programme and they give advices for future events. And also they gifted rare medicinal plants to us and plant them in our garden. We distributed various medicinal plants like aloe vera, bhringaraj, thulasi, brahmi, neem, ginger, turmeric, murikootipacha, techi, panikoorkka, uzhinja, citrus, chittamruthu, tazhutama, thippali, karinochi, nelli, pepper, kurunthotti, adalodakam, jathi to almost 30 houses. With great satisfaction we return from there and the visit was concluded by 2.00 pm.

Programme outcomes:

- Increased Awareness: The activity successfully raised awareness about the importance of medicinal plants for health and wellness.
- Plant Cultivation: Participants showed enthusiasm in planting medicinal herbs, with many adopting the practice at home and within the community.
- Knowledge Enrichment: Local knowledge about traditional herbs and their uses was shared and documented, contributing to the preservation of cultural heritage.
- Community Engagement: The activity fostered a sense of community as participants came together to learn, share experiences, and work towards a common goal.



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- **Healthcare Integration:** Participants gained insights into incorporating herbal remedies into their healthcare routines under the guidance of healthcare practitioners.



2. ENVIRONMENTAL CLEAN UP INITIATIVES

The students of first semester and third semester B.Sc. Botany students conducted environment clean up programs in ward 9 of Parappur panchayat on 08/11/2023. Environmental clean-up initiatives encapsulate a collective effort to rejuvenate our surroundings. From waste management to green practices, this document reflects our commitment to preserving the planet for future generations. Students collected wastes from villages and sorted them as biodegradable and non-bio degradable. Waste management is crucial for several reasons. Firstly, it mitigates environmental impact by reducing pollution and preventing the release of harmful substances. Secondly, proper waste management promotes public health by minimizing the risk of diseases associated with uncontrolled waste. Additionally, it



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conserves resources through recycling and responsible disposal, contributing to sustainable practices and a healthier planet overall.

Programme outcomes:

- Increased Awareness: The activity successfully raised awareness about the importance of environment cleanliness.
- Reduced pollution levels, ecosystem restoration, biodiversity conservation, and overall improvement in environmental quality.



3. GREEN VEGETATION INITIATIVE :

Botany students from second year engaged in a community outreach initiative aimed at promoting sustainable gardening practices through vegetable seed distribution.



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Objective: The primary goal was to encourage local residents to start their vegetable gardens, fostering self-sufficiency and healthy eating habits while promoting environmental sustainability

BSc Botany students distributed packets of vegetable seeds to neighbouring areas on 01/04/2024 , targeting households interested in starting their gardens. Alongside seed distribution, students provided basic gardening tips, including soil preparation, watering techniques, and pest management strategies. Emphasis was placed on the benefits of growing one's vegetables, such as reduced carbon footprint, access to fresh produce, and cost savings. The initiative was well-received by the community, with many expressing gratitude for the opportunity to start their gardens. Residents showed enthusiasm for learning about sustainable gardening practices, indicating a willingness to participate in future initiatives.

Impact:

- **Increased Awareness:** The activity raised awareness about the importance of sustainable food production and empowered community members to take action.
- **Potential Long-Term Benefits:** By promoting gardening, the initiative has the potential to contribute to food security, community resilience, and environmental stewardship in the long run.

The vegetable seed distribution initiative conducted by BSc Botany students was successful in engaging the community and promoting sustainable gardening practices. Moving forward, continued efforts in community outreach and education can further enhance the impact of such initiatives on local food systems and environmental sustainability.



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4. PLANT DIVERSITY SURVEY REPORT

A survey was conducted on on 10th August 2023 in ward 12 of Veenalukkal of Parappur panchayat. Various data were collected regarding the plan diversity in their home. Around 26 houses were surveyed for this purpose. The was done in direct face to face communication. Various questions were asked to people regarding plant conservation and diversity. The questions included are Name, occupation, house no., address, no of family members, class levels of children in their family, farming interests, vegetable garden, medicinal garden, awareness about modern agricultural practices, about life style diseases, awareness about government schemes for improving farming practices. The people were cooperated very well in the survey. They give adequate data for the survey. From the survey it was identified that most of the people are interested in farming practices and most of them are aware of modern agricultural practices and some of them have vegetable garden in their home and a few of them have some medicinal plants. Then we gave an awareness about plant conservation .

Objectives

- To collect basic details of the people.
- To collect details about farming practices of the locality



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Extra Curricular Activities:

Experiential learning and community engagement activities were introduced in onam and Christmas festive seasons.

Onam Related Experiential Learning And Community Engagement Programme:

TOGETHER BLOOM: ONAM WITH FLOWERS

Onam, the vibrant and culturally rich festival of Kerala, transcends mere celebration; it is a tapestry woven with traditions, values, and community spirit. This festival, which falls in the Malayalam month of Chingam (August-September), holds profound significance for Keralites around the world. Beyond its colorful festivities and sumptuous feasts, Onam serves as a powerful conduit for experiential learning and community engagement.

This program seeks to explore the multifaceted dimensions of this extraordinary festival. It is more than just a cultural immersion experience; it is a journey that delves deep into the heart of Kerala's heritage, fostering a profound understanding of its rich traditions and values. At the same time, it encourages active community engagement, forging connections with locals and leaving a lasting impact on both participants and the community. Through this participant will embark on an immersive learning adventure, guided by knowledgeable experts and local leaders. This program is not just about observing the festival but actively participating in various aspects of its celebration. It's about wearing traditional attire, creating intricate floral designs (Pookalam), savoring delicious Onam Sadhya, and dancing to the beats of Thiruvathira and Pulikali. But it's also about understanding the cultural context, learning the history behind these traditions, and appreciating the values that Onam upholds.

In addition to cultural immersion, our program encourages community engagement. Participants will have the opportunity to contribute meaningfully to the local community, whether through volunteering, supporting local artisans and businesses, or participating in community-building activities. This program is a unique opportunity for individuals from diverse backgrounds to come together, learn, and grow while celebrating a festival that transcends geographical boundaries.

In this programme 15 students of final year B.Sc. Botany actively participated in community engagement programme. The students distributed various plants such as ocimum, tithonia, impatiens, chassalia, rose, hibiscus, ixora, biophytum etc... to people of a selected locality. The people were actively participated and very well corporate with the students



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OBJECTIVES

- To experientially explore the cultural dimensions of Onam celebrations.
- To actively engage with the local community and contribute to the festivities.
- To document the essence of Onam celebrations and its impact on the community.

Sl No	Name of the student	Name of the recipient	Address	Name of the plant
1	Ayisha Hiba	Sayyid saloom.kk	Kadalundi kodakkattakath (H) Nayarpadi, Prappur, Vengara	Ixora coccinea
2	Ayisha Hiba	Fathima shafna.VT	Valiyakkathodi(H) Nayarpadi ,Parappur, Vengara	Hibiscus rosa-sinensis
3	Farha Shurooque P P	Aysha zahra	Nadukkandiyil (h) paripparamaban,v.k padi.	Chassalia curviflora
4	Farha Shurooque P P	Muhammed naseem	Nadukkandiyil (h) paripparamaban,v.k padi	Capsicum frutescens
5	Fathima Shabeeba M	Fathimath Rifa	panthaloore house ,melkulagara , Malappuram	Gomphrena globosa
6	Fathima Shabeeba M	Fabeeba	changalamperry house ,melkulagara , Malappuram	Tagetes erecta
7	Fathima Shafna M N	Fathima sharah mn	meduvil nalakath house,chemmad,tirurangad i	Impatiens flaccida
8	Fathima Shafna M N	shabna kk	meduvil nalakath house,chemmad,tirurangad i	Alloplectus martius
9	Femina Chekkath	muhammad hadhi	chekkath (H), pookiparamb, kottakal	Impatiens dasysperma
10	Femina Chekkath	dil abishaan	chekkath (H), pookiparamb, kottakal	Tithonia rotundifolia
11	Hafsath P	Mazin zayan	Pantharangadi house	Ocimum tenuiflorum
12	Hafsath P	Mazin zayan	Pantharangadi house	Biophytum sensitivum
13	Nafeesa Bayan	Yaseen	Mattil (H) , Panakkad , Malappuram	Euphorbia mili
14	Nafeesa Bayan	Hashim	Thayyil (H) Panakkad , Malappuram	Allamanda cathartica
15	Nandana A	Vinya	Ayanikkal (ho) Marathur	Impatiens Balsamina



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			(po) Malappuram	
16	Nandana A	Aathira	Parakkal (ho) vallikkapatta (po)Blind padi	Bougainvillea glabra
17	Safna A	Nihal.A	Amareri house Kuttoor north	Clerodendron speciosum
18	Safna A	Sinan K	Kavungal house Kuttoor north	Pentas lanceolata
19	Shafna Nazar V V	Thahira	Vellanavalapil (H)kariparamb , chemmad	<i>Catharanthusroseus</i>
20	Shafna Nazar V V	Sinan	Kallungal (H)perumbuzharoad,venni yur	Ocimumtenuiflorum
21	Shahida V K	Hafsath.	vellakadavil house	Gomphrena globosa
22	Shahida V K	Hafsath.	vellakadavil house	Impatiens Balsamina
23	Shahma Sherin K P	Zuharabi	kuriyedathparambil house, Perumannaklari,Malappur am	Tabernaemontanadivaric ata
24	Shahma Sherin K P	Subaida	kuriyedathparambil house, Perumannaklari,Malappur am	Portulacaoleracea
25	Shahna Sherin K	Hascena mangadan	Arichol ,udharani paramb	Rosa rubiginosa
26	Shahna Sherin K	Shebin sha	Kavungal,Arichol ,udharani paramb	Thunbergia erecta
27	Sneha V K	sudharsanan	Vettathinkara(H)po vettom, Tirur	Hibiscus rosa-senensis
28	Sneha V K	Gopi vk	Vettathinkara(H)po vettom, Tirur	Crossandra infundibuliformis
29	Ummul Haifa	Areen	Thottngal house	Tabernaemontana divaricata
30	Ummul Haifa	Aizin	Thottngal house	Jasminum spp.

Students distributed more than 25 flowering plants to people. The plants include ocimum, tithonia, ixora, hibiscus, impatiens, rosa, gomphrena, pentas, clerodendron, biophytum etc...In this program, we must recognize that the impact will continue to ripple through our community and beyond. The plants distributed today will grow into a lush green canopy that provides shade, clean air, and a habitat for wildlife. The knowledge and awareness generated through this program will inspire more sustainable practices and responsible environmental stewardship.

Botany, the study of plants and their environments, finds a perfect intersection with Onam festivities, which are deeply rooted in nature, agriculture, and ecology. For botany students, Onam presents a multifaceted platform to delve into various aspects of plant life, ecological sustainability,



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traditional agricultural practices, and cultural significance. Through experiential learning initiatives centered around Onam, students can immerse themselves in the rich tapestry of Kerala's biodiversity while gaining practical insights into the intricate relationship between humans and nature.

The experiential learning endeavors undertaken by botany students during the auspicious occasion of Onam. From exploring the botanical marvels behind the floral decorations to understanding the ecological impact of traditional farming methods associated with Onam, students embark on a journey of discovery that seamlessly integrates theoretical knowledge with real-world applications.

Onam serves as a backdrop for students to explore diverse botanical specimens, ranging from the iconic 'Pookalam' floral carpets adorning households to the lush vegetation adorning the landscape. By studying the floral patterns, species diversity, and ecological niches, students gain a holistic perspective on the interplay between cultural traditions, environmental stewardship, and botanical knowledge. Following are the list of various activities done by students during the onam days:

SL NO.	NAME OF THE STUDENT	PROJECT TITLE
1	AYISHA HIBA	Onam learning bridges: connecting hearts,sharing knowledge
2	FARHA SHUROOQUE.PP	Onam community canvas:painting experiences,weaving bonds
3	FATHIMA SHABEEBA.M	Onam community canvas:painting experiences,weaving bonds
4	FATHIMA SHAFNA.M.N	"onam blossoms: Nurturing tradition"
5	FEMINA CHEKKATH	Onam community canvas:painting experiences,weaving bonds
6	HAFSATH P	Onam unity:cultivating connections
7	NAFEESA BHAYAN	Onam blend:experiential education, community integration
8	NANDANA A	Onam experiential commune: learning, bonding,celebrating"
9	SAFNA A	Celebrateonam together
10	SHAFNA NAZAR.V.V	Onam community canvas:painting experiences,weaving bonds
11	SHAHIDA.V.K	Onam community canvas:painting experiences,weaving bonds



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12	SHAHMA SHERIN.K.P	Onam community canvas:painting experiences,weaving bonds
13	SHAHNA SHERINK	Diving into kerala's culture
14	SNEHA VK	Onam samanvay: Harmonizing heritage and community
15	UMMUL HAIFA	A cultural discovery

The second year students of B.Sc botany were taken for the extension and community programme "Floral Splendor: Celebrating Onam with Local Blooms". This name highlights the use of local flowers in creating vibrant pookalams while emphasizing the beauty and cultural significance of the tradition. As part of the Onam celebration, many students decorated their homes with native flower beds. Students have record which local flowers were used to prepare the flower bed , their scientific name and common name. Mainly this activity aims collaboration with local florists and students to create eco-friendly local flower arrangements inspired by traditional Onam designs. Ms. Anjaly Johnson K guided for this extention activity. Creating Onam pookalams with local flowers has cultural, artistic, environmental, and community-building merits, making it a significant and beautiful tradition during the festival of Onam.

PROGRAMME OUTCOMES:

- Cultural Preservation: By using local flowers in Onam pookalams, you promote and preserve Kerala's rich cultural heritage. This tradition has been passed down through generations, and continuing it with local flowers reinforces the importance of cultural identity.
- Environmental Awareness: Using local flowers encourages awareness of the local ecosystem and the value of native plants. It can lead to discussions about the importance of biodiversity and the conservation of indigenous flora.
- Sustainability: Emphasizing local flowers in pookalams aligns with sustainable practices. It reduces the carbon footprint associated with importing exotic flowers and supports local farmers who grow these flowers, thereby promoting sustainability.
- Community Engagement: Organizing events and workshops around creating pookalams with local flowers can foster community engagement. People can come together to learn, share, and collaborate on these traditional art forms, strengthening community bonds.



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- **Artistic Expression:** Using local flowers encourages artistic expression. Participants can explore their creativity in designing intricate pookalams, which can be seen as a form of artistic expression and a way to showcase talent.
- **Educational Opportunities:** These programs can serve as educational platforms, teaching participants about the cultural significance of Onam and the unique qualities of local flowers. It's an opportunity for learning about botany, art, and Kerala's history.
- **Promotion of Local Economy:** Supporting local flower farmers and businesses contributes to the local economy. This can lead to economic growth and prosperity within the community.
- **Aesthetic Beauty:** Pookalams created with local flowers are not only culturally significant but also visually stunning. The program outcomes include the creation of beautiful and vibrant floral displays that can be enjoyed by participants and spectators alike.

Sl.No.	Name Of The Students	Local Name And Scientific Name Of Flowers
1	ATHULYA K K	<ul style="list-style-type: none"> • Chembarathi : Hibiscus rosa sinensis • Rose : Rosa rubiginosa • Grape-leaf Wood Rose: Merremia vitifolia
2	AYISHA SIMSIMA	<ul style="list-style-type: none"> • Manganaari : Cosmos sulphureus • Tagetes : Tagetes erecta
3	MEGNA	<ul style="list-style-type: none"> • Shangu pushpam : Clitoria ternatea
4	RAHNA	<ul style="list-style-type: none"> • Yellow kolambi flower: Allamanda cathartica
5	NEHIDA	<ul style="list-style-type: none"> • Krishna kireedam : Clerodendrum paniculatum • Pumpkin flower : Cucurbita pepo
6	NASLA	<ul style="list-style-type: none"> • Hibiscus : Hibiscus rosa sinensis • Marigold : Tagetes erecta
7	SHAHANA	<ul style="list-style-type: none"> • marigold : Tagetes erecta • Jamathi. : Chrysanthemum
8	NASHWA	<ul style="list-style-type: none"> • kolambi flower : Allamanda cathartica • Water leaf. : Talinum triangulare
9	SHAHALA SHERI	<ul style="list-style-type: none"> • Marigold : Tagetes erecta • Water Lilly : Nymphaea pubescens
10	LUBNA SHERIN	<ul style="list-style-type: none"> • Marigold : Tagetes erecta • Rose : Rosa indica
11	SUHAILA RAHMATH	<ul style="list-style-type: none"> • Thechi pookam : Ixora coccinea



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12	NEHLA	<ul style="list-style-type: none"> • Marigold : Tagetes erecta • Rose. : Rosa rubiginosa
13	FAHMI	<ul style="list-style-type: none"> • Rose : Rosa rubiginosa • Singapore Daisy: Sphagneticola trilobata



In conclusion, the Onam-related experiential learning and community engagement program, through the distribution of plants, has not only celebrated the essence of Onam but also left a lasting legacy of unity, environmental consciousness, and community engagement. It serves as a shining example of how festivals can be harnessed to create positive change and nurture a brighter, greener future for all.

Christmas Related Experiential Learning And Community Engagement Programme:

Christmas, a globally observed occasion, stands as a beacon of joy and unity. Rooted in the celebration of the birth of Jesus Christ, it has evolved into a cultural extravaganza that transcends religious boundaries. This festive season, marked by traditions of gift-giving, festive decorations, and joyous gatherings, creates a magical atmosphere that resonates with people around the world.

First year botany students actively participated in the community engagement programme during the Christmas. Botany students organized Christmas tree planting and its decorations, preparations of cakes and Christmas trees and the traditional assets of the festivities. Following are the list of activities done by the students:

SL NO	NAME OF THE STUDENT	PROJECT TITLE
1	AYISHA SHIMILI	Vanilla Essence In Christmas Cake.



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2	FATHIMA SHAHNA C P	Exploring The Festive Connection Between Nuts And Christmas Celebrations
3	FATHIMA SIFANA P	The Sweet Tradition Raisins In Christmas Treat
4	FATHIMA SUHAIRA V	Exploring The Centrality Of Vattayappam In Christmas Celebration
5	FEBNA P.V	"Kiwi Wine In Christmas".
6	FIDA THASLI C	Christmas Related Experiential Learning And Community Engagement Programme
7	FIDHA K	Exploring The Centrality Of Plum Cake In Christmas Celebrations
8	HIBA	The Thread Of Tradition: Unravelling The Importance Of Cotton Plant In Christmas Celebration
9	IRSHAD T	Decorations Of Thuja Occidentalis (Arborvitae) In Christmas Celebration
10	JAMSHEENA K P	Araucaria Heterophylla In Christmas Decorations
11	JUHAINA JASMIN	Evergreen Elegance In Christmas Tree
12	MOHAMMED MIFSAL K P	Pothos Or Devil's Ivy Of Christmas
13	RABEEHA THESNI P	Rose Apple Wine In Christmas"
14	RASHA MOHAMMED P	Traditional Role Of Gingerbread Cookies In Christmas
15	RIDHA ABDUL AZEEZ K	Christmas Flowers And Plants Perfect For Decorating And Gifting
16	SALIYA T	Exploring The Symbolic Significance And Historical Importance Of Pine Trees In Christmas Celebrations"
17	SHALIHA SHIBILI	How Clementine Associate With Christmas
18	SHAMIL AP	Christmas Cactus Of Christmas
19	SHIFA NASRI	Importance Of Dragon-Fruit In Christmas



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20	SUHANA ROSNI K K	Important Of Straw In Christmas
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Botany students have a wealth of knowledge about plants and ecosystems that can be leveraged to create meaningful Christmas-related extensions and community engagement activities. By promoting sustainability, environmental awareness, and community involvement, these initiatives not only spread holiday cheer but also contribute to the well-being of local ecosystems and communities. Through their creativity and passion for plants, botany students play a vital role in making the holiday season more environmentally friendly and enjoyable for everyone.

Verdure community engagement programme:

The Verdure Science Exhibition held in the Botany Lab was an enriching and vibrant event that showcased the marvels of plant life and botanical research. Organized as an extension activity within the academic framework, the exhibition aimed to foster curiosity, appreciation, and understanding of plant biology among our college students, faculty, Farook English Medium Higher Secondary Students and visitors alike.

PROGRAMME OUTCOMES

- Increased awareness and knowledge about botany among participants.
- Enhanced engagement and interest in science, particularly botany.
- Opportunities for students to interact with professionals in the field and learn from their expertise.
- The extension activity was to foster a deeper understanding and appreciation of botany among students through interactive exhibits and presentations



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The extension activity took place on 17th January 2023, and lasted from 02:00 pm to 18th January 4:00 PM. The exhibition was inaugurated at 2:00 PM in the botany lab by Mr. Mahesh Kumar, Deputy Manager at Arya Vaidya Sala Kottakkal. His insightful remarks emphasized the importance of botanical research and its applications in various fields, inspiring the participants to explore the wonders of plant life.



The Botany Lab, serving as the perfect backdrop for such an event, provided a conducive environment for interactive learning and exploration. With meticulously arranged exhibits, informative displays, and hands-on activities, Verdure aimed to encapsulate the diverse facets of botany and its relevance in today's world. From showcasing the intricate structures of plant anatomy to highlighting the ecological importance of various plant species, the exhibition offered a



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comprehensive insight into the fascinating realm of botany. Through engaging demonstrations and live experiments, attendees had the opportunity to witness firsthand the wonders of plant physiology, growth patterns, and adaptations.

Moreover, Verdure served as a platform for students to demonstrate their creativity and innovation through projects and presentations. From DIY hydroponic systems to innovative methods of plant propagation, botanical gardens, irrigation systems, participants showcased their ingenuity in addressing contemporary challenges in agriculture, environmental conservation, and sustainability. Furthermore, the exhibition fostered interdisciplinary connections by exploring the intersections of botany with other fields such as biotechnology, pharmacology, and environmental science. By emphasizing the interconnectedness of plant life with various aspects of human society, Verdure underscored the significance of botanical research in addressing global challenges and promoting holistic well-being.




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The exhibition provided a unique platform for students to explore the diverse aspects of botany in a hands-on manner. It sparked curiosity and enthusiasm for the subject, motivating participants to pursue further studies and careers in plant sciences. Verdure was a resounding success, providing a platform for students to explore the fascinating world of botany and inspiring them to pursue further studies and careers in the field. The event underscored the importance of hands-on learning experiences in fostering curiosity and enthusiasm for science




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ANNUAL REPORT OF EXTENSION ACTIVITIES IN THE ADOPTED VILLAGE

The annual report on extension activities in our adopted village showcases the impactful initiatives and community-driven projects carried out throughout the year. From educational programs to healthcare initiatives, the report reflects our commitment to sustainable development and positive change in the local community.

1. MEDICINAL PLANT CULTIVATION

The second year students of B.Sc botany were taken for the extension and community programme to ward no.12 of parappur panchayat on 9th august 2023. We started from farook arts and science college at 11:00 a.m. The faculties of Department of Botany, Ms. Jyothy V J and Ms. Anjaly johnson accompanied the visit. We reached the kizhekkekkund anganawadi by 11:00 am. The inauguration of medicinal plants distribution was done by ward member Sulaiman T E to anganawadi worker. Then students were grouped and they distributed medicinal plants to villagers . The villagers actively participated in this programme and they give advices for future events. And also they gifted rare medicinal plants to us and plant them in our garden. We distributed various medicinal plants like aloe vera, bhringaraj, thulasi, brahmi, neem, ginger, turmeric, murikootipacha, techi, panikoorkka, uzhinja, citrus, chittamruthu, tazhutama, thippali, karinochi, nelli, pepper, kurunthotti, adalodakam, jathi to almost 30 houses. With great satisfaction we return from there and the visit was concluded by 2.00 pm.

Programme outcomes:

Increased Awareness: The activity successfully raised awareness about the importance of medicinal plants for health and wellness.

Plant Cultivation: Participants showed enthusiasm in planting medicinal herbs, with many adopting the practice at home and within the community.

Knowledge Enrichment: Local knowledge about traditional herbs and their uses was shared and documented, contributing to the preservation of cultural heritage.

Community Engagement: The activity fostered a sense of community as participants came together to learn, share experiences, and work towards a common goal.



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Healthcare Integration: Participants gained insights into incorporating herbal remedies into their healthcare routines under the guidance of healthcare practitioners.



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2. ENVIRONMENTAL CLEAN UP INITIATIVES

The students of first semester and third semester B.Sc. Botany students conducted environment clean up programs in ward 9 of Parappur panchayat on 08/11/2023. Environmental clean-up initiatives encapsulate a collective effort to rejuvenate our surroundings. From waste management to green practices, this document reflects our commitment to preserving the planet for future generations. Students collected wastes from villages and sorted them as biodegradable and non-bio degradable. Waste management is crucial for several reasons. Firstly, it mitigates environmental impact by reducing pollution and preventing the release of harmful substances. Secondly, proper waste management promotes public health by minimizing the risk of diseases associated with uncontrolled waste. Additionally, it conserves resources through recycling and responsible disposal, contributing to sustainable practices and a healthier planet overall.



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Programme outcomes:

Increased Awareness: The activity successfully raised awareness about the importance of environment cleanliness.

Reduced pollution levels, ecosystem restoration, biodiversity conservation, and overall improvement in environmental quality.



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PLANT DIVERSITY SURVEY REPORT

A survey was conducted on on 10th August 2023 in ward 12 of Veenalukkal of Parappur panchayat. Various data were collected regarding the plan diversity in their home. Around 26 houses were surveyed for this purpose. The was done in direct face to face communication. Various questions were asked to people regarding plant conservation and diversity. The questions included are Name, occupation, house no., address, no of family members, class levels of children in their family, farming interests, vegetable garden, medicinal garden, awareness about modern agricultural practices, about life style diseases, awareness about government schemes for improving farming practices.

The people were cooperated very well in the survey. They give adequate data for the survey. From the survey it was identified that most of the people are interested in farming practices and most of them are aware of modern agricultural practices and some of them have vegetable garden in their home and a few of them have some medicinal plants.

Then we gave an awareness about plant conservation and modern agricultural practices those who are unaware of that and also give an awareness about medicinal plant cultivation and some medicinal plant uses

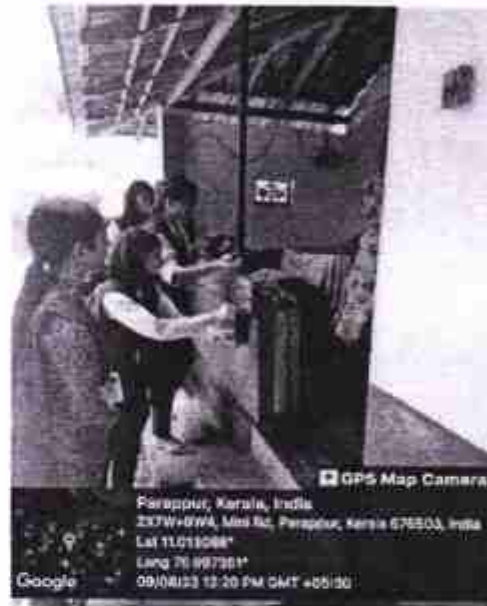



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Objectives

To collect basic details of the people.

To collect details about farming practices of the locality.



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KOTTAKKAL FAROOK ARTS AND SCIENCE COLLEGE

DEPARTMENT OF BOTANY

BIODIVERSITY SURVEY

Sl. No.	NAME	OCCUPATION	HOUSE No.	Address	No of family members	State levels of children in their family	ARE YOU INTERESTED IN FARMING?	DO YOU HAVE MEDICAL GARDEN?	DO YOU HAVE VEGETABLE GARDEN?	ARE YOU AWARE OF MODERN AGRICULTURAL PRACTICES?	ANY LIFE STYLE CHANGES AND SEEN IN YOUR FAMILY?	DO GOVERNMENT PROVIDE ANY SCHEME TO IMPROVE FARMING PRACTICES?
1	Shiraza	Home wife	95 B	Pottalakkuzhappu	4	HIGHER SECONDARY	Yes	Yes	No	Yes	No	Yes
2	Rasheeda	Home wife	92	Koofarath house veevathampal	3	LOWER PRIMARY	Yes	No	No	No	No	No
3	Shabeer	Home wife	98	Puthambal	3	UPPER PRIMARY	Yes	Yes	No	Yes	No	Yes
4	Suresh Kumar (Sampath)	Driver	95 C	Kannayambath	5	HIGHER SECONDARY	Yes	Yes	Yes	Yes	Yes	Yes
5	Siddique	Business	82	Vilangal	3	LOWER PRIMARY	Yes	Yes	Yes	No	No	Yes
6	Sajida	Housewife	95	Thakkal	5	COLLEGE	Yes	Yes	Yes	Yes	Yes	Yes
7	Deepa	MP	88	Vethyil Buzha	8	HIGH SCHOOL	Yes	Yes	Yes	No	No	Yes
8	Rafiq	Land	82x	Thoorathil kayalatt	3	ABOVE	Yes	No	Yes	Yes	No	No
9	Alakshya	Govt	85 A	MC house parappur	3	UPPER PRIMARY	Yes	Yes	Yes	Yes	No	No
10	Abdul Mujeeb	Business	90	Thoorathil subanganatt	2	LOWER PRIMARY	Yes	Yes	Yes	Yes	No	Yes
11	Kamranessa	Nel	78	Chinnayyanganth	9	HIGH SCHOOL	Yes	Yes	Yes	Yes	No	Yes
12	Fathima Sabira	No	82	Thoorathil	3	HIGH SCHOOL	Yes	No	No	No	No	No
13	Hania	Engineer	92	MC house	10	LOWER PRIMARY	Yes	Yes	No	No	No	Yes
14	Tasneem	No	74	Chinnayyanganth	5	COLLEGE	Yes	Yes	No	No	No	No
15	Rasheeda	Home wife	86	Panchal house	6	COLLEGE	Yes	Yes	Yes	Yes	No	Yes
16	Ashraf	Nill	71	Chemunkatt	5	LOWER PRIMARY	Yes	Yes	No	No	No	No
17	Abdul azeez	No	75	Chinnayyanganth	3	COLLEGE	Yes	No	No	No	No	No
18	Thasneema	Housewife	98	Vilangal	6	HIGHER SECONDARY	Yes	Yes	Yes	Yes	No	Yes
19	Khadra	Nill	77	Chinnayyanganth	5	ABOVE	Yes	Yes	Yes	Yes	No	Yes
20	Sabira	Home wife	74	Chemunkatt	4	LOWER PRIMARY	No	No	No	No	No	No
21	Shahid Kameel	Farmer	77b	Panchal	5	ABOVE	Yes	Yes	No	Yes	No	Yes
22	Fawzla	Housewife	91	Malambuzhalukhal	8	LOWER PRIMARY	Yes	Yes	Yes	Yes	No	Yes
23	Abdul mujeeb	Bank officer	203	Thoorathil	6	LOWER PRIMARY	Yes	Yes	No	Yes	Yes	Yes
24	Mulassamad kazi	Hotel management	84	Thoorathil korant	4	COLLEGE	No	Yes	No	Yes	No	Yes
25	Abdulhakeem	Farming	87	Thoorathil (D)	4	HIGHER SECONDARY	Yes	Yes	No	Yes	No	Yes
26	Hafsumad	Electrician	215	Thoorathil korant	3	UPPER PRIMARY	Yes	No	No	Yes	Yes	Yes



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GREEN VEGETATION INITIATIVE

Objective: The primary goal was to encourage local residents to start their vegetable gardens, fostering self-sufficiency and healthy eating habits while promoting environmental sustainability.

Botany students from second year engaged in a community outreach initiative aimed at promoting sustainable gardening practices through vegetable seed distribution.

BSc Botany students distributed packets of vegetable seeds to neighbouring areas on 01/04/2024, targeting households interested in starting their gardens. Alongside seed distribution, students provided basic gardening tips, including soil preparation, watering techniques, and pest management strategies. Emphasis was placed on the benefits of growing one's vegetables, such as reduced carbon footprint, access to fresh produce, and cost savings. The initiative was well-received by the community, with many expressing gratitude for the opportunity to start their gardens. Residents showed enthusiasm for learning about sustainable gardening practices, indicating a willingness to participate in future initiatives.

Impact:


Increased Awareness: The activity raised awareness about the importance of sustainable food production and empowered community members to take action.

Potential Long-Term Benefits: By promoting gardening, the initiative has the potential to contribute to food security, community resilience, and environmental stewardship in the long run.

Conclusion:

The vegetable seed distribution initiative conducted by BSc Botany students was successful in engaging the community and promoting sustainable gardening practices. Moving forward, continued efforts in community outreach and education can further enhance the impact of such initiatives on local food systems and environmental sustainability.




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Green Vegetation Initiative held on 01/04/2024.



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DEPARTMENT OF BOTANY

EXTENSION ACTIVITIES 2023-2024

REPORT

SOIL HEALTH AND COMPOSTING AWARENESS PROGRAMME

Title: Soil Health and Composting Awareness Programme

Date: 22nd September 2023

Venue: Local School in Ward 12, Kottakkal Municipality

Organizer: Final Year Students of the Department of Botany, Kottakkal Farook Arts and Science College

INTRODUCTION

On the 22nd of September 2023, the final year students of the Department of Botany from Kottakkal Farook Arts and Science College conducted an extension activity aimed at enhancing the local flora through community engagement. This activity took place at a local school in Ward 12 of Kottakkal Municipality and saw participation from 40 local residents and 21 students. The event focused on educating the community about the importance of local plant species, their conservation, and practical methods to promote biodiversity.


OBJECTIVES

1. Raise awareness about the importance of local flora.
2. Educate the community on the conservation of native plant species.
3. Assist in planting and nurturing native trees and plants.
4. Promote sustainable gardening practices.
5. Encourage community participation in biodiversity conservation efforts.

METHODOLOGY

- **Educational Sessions:** Conducted informative sessions on the ecological and cultural importance of native plant species.
- **Planting Demonstrations:** Demonstrations on planting techniques, care, and maintenance of native plants.




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- **Community Planting Drive:** Organized a drive where students and residents planted native trees and shrubs in designated areas.
- **Sustainable Gardening Workshops:** Provided workshops on sustainable gardening practices, including composting and organic pest control.
- **Feedback Collection:** Gathered feedback from participants to evaluate the effectiveness of the activity and identify areas for improvement.

OUTCOMES

- **Increased Awareness:** Residents gained knowledge about the significance of local flora and its role in the ecosystem.
- **Native Plant Growth:** Several native plants and trees were successfully planted and are being nurtured in Ward 12.
- **Community Involvement:** Enhanced community engagement in planting and caring for local flora.
- **Sustainable Practices Adoption:** Residents showed interest in adopting sustainable gardening practices.
- **Skill Development:** Students developed practical skills in organizing community-based environmental activities.

SUMMARY

The extension activity on enhancing local flora through community engagement, held on September 22, 2023, was a successful initiative by the final year Botany students of Kottakkal Farook Arts and Science College. Key areas where residents raised doubts included the identification of native plant species, best practices for planting and nurturing these species, and ways to integrate sustainable gardening methods. Overall, the feedback was positive, with participants appreciating the practical assistance and educational value provided.



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DEPARTMENT OF BOTANY
EXTENSION ACTIVITY 2023-2024
FEEDBACK FORM

Name of the Resident:

Age:

Gender:

1. How useful did you find the workshop on enhancing local flora?

Very Useful Useful Neutral Not Useful

2. How clear were the instructions provided for planting native species?

Very Clear Clear Neutral Unclear

3. Did the workshop improve your understanding of native plant conservation?

Strongly Agree Agree Neutral Disagree

4. How likely are you to implement the sustainable gardening practices discussed?

Very Likely Likely Neutral Unlikely

5. Were the students' explanations and demonstrations helpful?

Very Helpful Helpful Neutral Unhelpful

6. How effective were the planting demonstrations?

Very Effective Effective Neutral Ineffective

7. Did the activity address your concerns about local flora conservation?

Completely Mostly Neutral Partially

8. How well did the activity engage the local community?

Very Well Well Neutral Poorly




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9. How satisfied are you with the practical assistance provided by the students?

Very Satisfied Satisfied Neutral Dissatisfied

10. How likely are you to participate in future community-based environmental activities?
















Very Likely Likely Neutral Unlikely

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DEPARTMENT OF BOTANY
EXTENSION ACTIVITY 2023-2024
FIFTH SEMESTER PARTICIPANTS LIST

TITLE: SOIL HEALTH AND COMPOSTING AWARENESS PROGRAMME

Sl.No	Admn no:	Name of student	Signature
1	4317	AYISHA HIBA	
2	4589	FARHA SHUROOQUE. P P	
3	4601	FATHIMA SHABEEBA. M	
4	4607	FATHIMA SHAFNA.M.N	
5	4557	FEMINA CHEKKATH	
6	4732	HAFSATH P	
7	4608	NAFEESA BHAYAN	
8	4715	NANDANA A	
9	4616	SAFNA A	
10	4380	SHAFNA NAZAR. V.V	
11	4735	SHAHIDA . V .K	
12	4522	SHAHMA SHERIN K.P	
13	4282	SHAHNA SHERIN K	
14	4685	SNEHA VK	
15	4734	UMMUL HAIFA	




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SEMINARS , INVITED TALKS, ASSOCIATION PROGRAMMES:

- **'HARMONY IN NATURE: EXPLORING CLIMATE CHANGE, SOCIETAL ROLE AND MEDICINAL PLANTS':**

The Botany Department of Kottakkal Farook College for Arts & Science has organized a One Day International Seminar on **'HARMONY IN NATURE: EXPLORING CLIMATE CHANGE, SOCIETAL ROLE AND MEDICINAL PLANTS'** on 3rd August 2023 in association with Eco Club, Internal Quality Assurance Cell, National Service Scheme at the Seminar hall. The formal inauguration of this seminar was take place at about 10 am. Faculty members from this college, other colleges, U.G. students from CPA College, Markaz College, HM College, other departments and our department were participated in the inaugural session and in the seminar. Dr.Chithra M, Assistant Professor and Head, Department of Botany, welcomed all to the programme.

Prof. M.ABDUL AZEEZ, Principal, Kottakkal Farook Arts & Science College inaugurated the seminar and give presidential address. Mohammed Labeeb (Vice Principal), Suhail.KP(IQAC coordinator),Dr. Musthafa K (Director-PACE),T K Faheema (IQAC coordinator), Sreenath M (Head of dept. English &Chief superintendent of examination), Mujeeb T P(Head of dept. Commerce),Suhail K (Head of dept. Physics), Aboobacker Kutty Naha (Head of dept. Mathematics), Sampreeth (Head of dept. Political Science), Jyothy V J (Assistant professor , dept of Botany), Anjaly Johnson (Assistant professor , dept of Botany), Aiswarya K (Assistant professor, dept of Botany)were given felicitation to the programme. Aswathy K(Coordinator - Eco Club), mentioned vote of thanks at the end of the inaugural session.



Key Topics Discussed:

- Climate Change Impacts and Adaptation
- Societal Responsibility in Environmental Conservation



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- Medicinal Plants
- Guardians of Biodiversity and Health
- Innovations and Research in Botany

The first session was handled by Dr. Nayeem Mullungal on the topic "Climate Change: Role of Science and Society". Dr. Nayeem Mullungal a Marine Chemist teaching at the Department of Biology and Environmental Science Quatar University from 2015. Actively involved in Marine and Environmental research for more than 13 years.

He had completed **PhD in Chemical Oceanography** from the Department of Chemistry, University Of Otago, New Zealand in 2017 with an **International students Scholarship**. Finished an **M.Phil. In Marine chemistry** from the Department of Chemical Oceanography, CUSAT in 2011 soon after **M.Sc. in Hydrochemistry** from the same department in 2009. He was graduated as a **B.Sc. Chemist** from **Calicut University** in 2007. He got many awards and achievements. In 2022 and he was participated as a guest scientist in GEOMAR, Kiel, Germany and ISOTRACE, New Zealand respectively. In 2013 and 2011 he got student travel award from AAG and NZMSS to attend 26th IAGS, Rotorua and marine Science conference at Stuart Island, NZ. In 2011 he got best student poster award, ICER 2011, Surat, India. In 2011 he achieved first rank for M.Phil. in Marine Chemistry. In 2010 he got PhD Scholarship for International students from University of Otago.



His Major research focus is on the *oceanic nitrogen cycle (N20)* and he use novel stable isotopic techniques for the studies. Other research areas are *ocean Biogeochemistry*, **Synthesis of Nanoparticles from Macro Algae and their applications**. He had presented his research works in more than 35 international conferences in **nine** different countries. Have secured various international awards and supports for his work from different international agencies and Institutes including AGU, SOLAS, and Chinese Academy of Sciences, IAGS, GEOMAR, NZMSS and GRC. He worked as guest scientist/researcher in ISOTRACE research group, New Zealand as well as in GEOMAR, Kiel. Also worked as reviewer and editorial board member of various Research Journals.

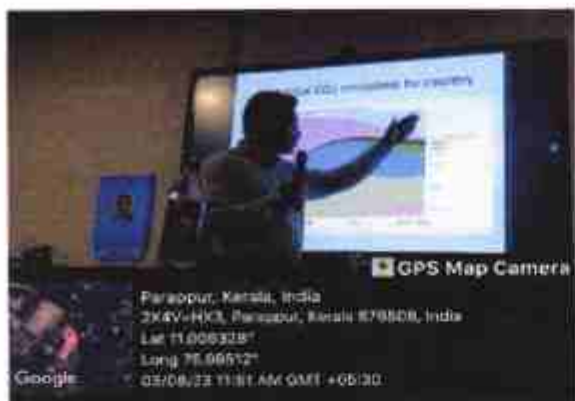


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The seminar on Climate Change: Role of Science and Society provided valuable insights into the critical role of both science and society in addressing climate change. Science plays a fundamental role in studying and understanding the causes and effects of climate change. This involves research in various fields such as climatology, atmospheric science, and environmental science. Society plays a key role in raising awareness about climate change through education, media, and grassroots initiatives. Informed citizens are more likely to demand action. Effective climate action requires collaboration between the scientific community and society. Scientists must communicate their findings clearly, and society must support and implement evidence-based solutions. The presentations by the resource person were informative, engaging, and well-structured. The discussion on the latest climate science and research findings was particularly enlightening. The seminar effectively highlighted the importance of interdisciplinary collaboration. Case studies and real-world examples demonstrated the practical impact of science and societal action. In-depth coverage of the topic, providing a holistic view of climate change mitigation and adaptation. Clear and concise explanations of complex scientific concepts made the content accessible to a diverse audience. Encouraged active participation through Q&A sessions and discussions. Highlighted the role of grassroots movements and citizen engagement, making it relevant to everyday life. Effective use of multimedia, including visuals and charts, enhanced understanding. Overall, the seminar was a valuable learning experience and a reminder of the collective responsibility we have in addressing climate change. It successfully emphasized the synergy between science and society and left participants motivated to take action.



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The second session handled Dr. Sulaiman C T on the topic "Standardization of Medicinal Plants and Herbal Products". Dr. Sulaiman C.T is a Senior Scientist of Phyto chemistry Division, Centre for Medicinal Plants Research Arya Vaidya Sala, Kottakkal. He started research work in 2008 as Scientist at Phyto chemistry division of the Centre and engaged in phytochemical standardization of medicinal plants. The main focus areas of research are phytochemical characterization of medicinal plants, studies on secondary metabolites, scientific validation of traditional knowledge, ingredient analysis and high throughput screening of herbal formulations etc. Expertise in handling sophisticated analytical instruments such as HPLC, HPTLC, GC, FTIR, GC/MS and LC/MS. His research accomplishments further include isolation of many phytochemicals including 6 new molecules and 35 new reports from various medicinal plants. The current research focus is developing herbal anti-viral drug for SARS Cov2 in collaboration with CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad. Handling many



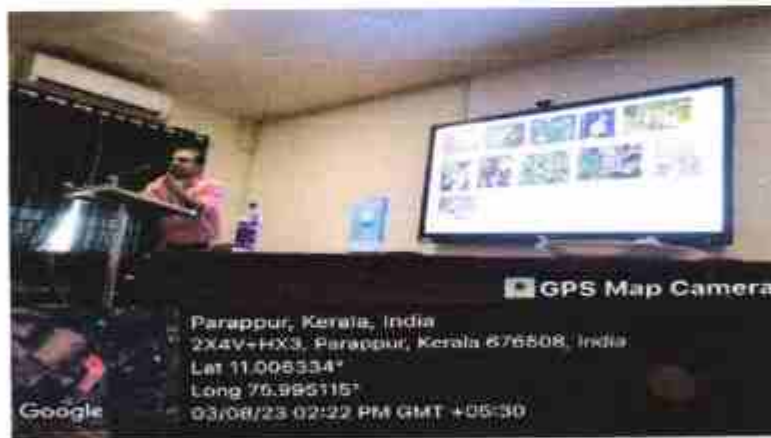
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collaborative research works in association with reputed institutes like University of Johannesburg, South Africa, Indian Institute of Science, Bangalore, Centre for Cellular and Molecular Biology, Hyderabad etc. His research contributions are evidenced by more than 50 research articles in various international journals published by world renowned publishers like Springer Nature, Elsevier, Taylor & Francis etc. Guided more than 50 post-graduate students from various Universities for their project work serving as member of Board of Studies of Kannur University, Kerala and reviewer for many international journals such as Nature-Scientific reports, Nature-Communication Biology, Analytical Letters, Journal of Medicinal Plants Research, Natural Product Research, Phytochemical Analysis etc. He has contributed for many research projects funded by central/state government like Indian Council for Medical Research, National Medicinal Plants Board, Ministry of AYUSH etc.

The seminar on the "Standardization of Medicinal Plants and Herbal Products" provided an insightful and thorough examination of the critical topic of standardization within the herbal medicine industry. He effectively addressed the challenges, importance, and methods of standardizing medicinal plants and herbal products. The seminar offered a comprehensive exploration of the standardization process, covering various aspects such as botanical identification, quality control, and regulatory requirements. It delved into the challenges faced by the industry and provided solutions. Dr. Sulaiman maintained an engaging and clear delivery style, making complex concepts accessible to the audience. The use of real-world examples and case studies enhanced understanding. The incorporation of scientific principles and methodologies in standardization was commendable. However, a more detailed explanation of certain analytical techniques could have provided a deeper insight. The seminar effectively highlighted the importance of adhering to regulatory standards and guidelines in the herbal industry. This information was valuable for those interested in the legal and ethical aspects of herbal products. Practical applications of standardization, including quality control measures and laboratory techniques, were discussed. More hands-on examples or demonstrations could have illustrated these concepts.



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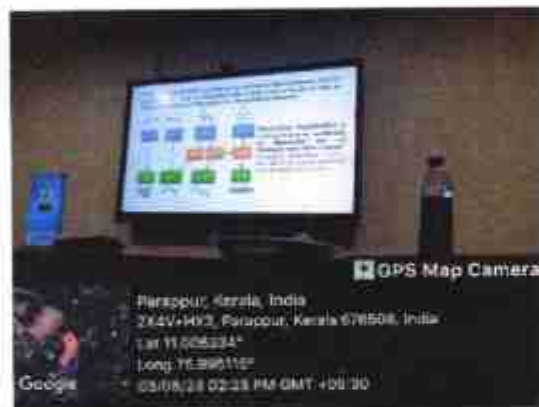


Sulaiman Sir encouraged questions and interaction with the audience during the Q&A session, fostering a dynamic learning environment. The presentation was well-structured and clear, with logical progression. However, a brief summary of key takeaways at the end would have reinforced the main points. The use of medicinal plants, herbal products, visuals, including charts and diagrams, supported the content. Incorporating more visuals to break down complex processes could enhance comprehension. The seminar on the Standardization of Medicinal Plants and Herbal



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Products was informative and highlighted the importance of quality control in the herbal industry. It provided valuable insights into the challenges faced and potential solutions. He explore many emerging trends and technologies in standardization for herbal products.



In conclusion, the seminar successfully shed light on the critical aspect of standardization in the herbal medicine industry. The audience left with a better understanding of the challenges involved and the measures needed to ensure the quality and safety of herbal products.



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The One Day International Seminar on 'Harmony in Nature' organized by the Botany Department in Kottakkal Farook Arts and Science College, IQAC, NSS and Eco club served as a vital platform for thought-provoking discussions and knowledge sharing. It underscored the interconnectedness of nature and the urgency of safeguarding it for future generations. The seminar was concluded by valedictory function at about 4.00 pm. Teachers and students shared their feedback on the seminar in this session.

FIORENZA - Botany Association Event

On the 17th of January 2024, the Botany Association of Kottakkal Farook Arts and Science College organized a remarkable event, Fiorenza. The event was dedicated to exploring the fascinating world of botany, featuring an insightful seminar and an interactive science exhibition.



The welcome speech was delivered by Nafcesa Bhayan, the Association Secretary, extending warm greetings to the attendees. Dr. Chithra M, Head of the Botany Department, delivered the Presidential Address, emphasizing the significance of botany in our daily lives. Prof. Abdul Azeez, the Principal of the college, inaugurated the event, symbolizing the official commencement of Fiorenza. Mahesh Kumar M.K, Deputy Manager (Estates) at Arya Vaidya Sala, Kottakkal, was invited to launch the association's logo, marking a symbolic and memorable moment. Felicitations were extended by Mohamed Labech



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(Vice Principal), Faheema TK (IQAC Coordinator), Aboobacker Kutty Naha (HOD, Mathematics), Suhail K P (CEO), Suhail K (HOD, Physics), and Sreenath M (HOD, English), along with Jasim Rabeeh (Union Chairman). The Vote of Thanks was presented by Ridha, the representative of the first-semester Botany students, expressing gratitude to all the dignitaries and participants.



During the inaugural session of the Fiorenza a special ceremony took place to acknowledge and honor the academic excellence of semester toppers and the exceptional contributions of winners in extension activity projects. Certificates and mementos were distributed to the deserving students, recognizing their outstanding achievements in both academic performance and extracurricular endeavors. This award ceremony not only celebrated individual accomplishments but also promoted a culture of recognition and motivation within the Botany Department. The recipients were applauded on stage, and the tangible tokens of appreciation served as lasting reminders of their hard work and dedication, fostering a sense of pride and unity among the students and faculty.



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The seminar presentation took place from 11:30 AM to 1:00 PM. Mahesh Kumar M.K continued as the resource person, sharing valuable insights into "Common Medicinal Plants and Their Uses." Highlights from Mahesh Kumar's Seminar on Common Medicinal Plants and Their Uses During the Fiorenza event at Kottakkal Farooq Arts and Science College, Mahesh Kumar M.K, Deputy Manager (Estates) at Arya Vaidya Sala, Kottakkal, delivered an enlightening speech



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on the medicinal significance of various plants commonly found in our daily lives. His talk covered a spectrum of plants, each with unique medicinal properties contributing to human health and well-being.

Plants Discussed:

- *Curcuma aromatica* (Wild Turmeric): Mahesh Kumar shed light on the medicinal importance of *Curcuma Aromatica*, emphasizing its anti-inflammatory and anti-bacterial properties. Wild Turmeric has been traditionally used in Ayurveda for various health benefits.
- *Coleus ambonicus* (Indian Borage): The discussion extended to *Coleus Ambonicus*, commonly known as Indian Borage. Mahesh Kumar highlighted its role in traditional medicine for treating respiratory issues and its potential as an anti-inflammatory agent.
- *Acorus calamus* (Sweet Flag): *Acorus Calamus*, or Sweet Flag, was explored for its medicinal significance. The speaker discussed its use in promoting digestive health and its potential in alleviating neurological disorders.
- *Zingiber officinale* (Ginger): Mahesh Kumar highlighted the versatile medicinal properties of *Zingiber Officinale*, commonly known as Ginger. Its anti-nausea, anti-inflammatory, and antioxidant properties make it a valuable component in traditional medicine.



- *Plumbago indica* (Leadwort): *Plumbago Indica*, or Leadwort, was discussed for its potential in treating respiratory ailments. The speaker elaborated on its traditional uses and the compounds that contribute to its medicinal properties.
- *Saraca asoka* (Ashoka Tree): The Ashoka Tree, or *Saraca Asoka*, was explored for its historical significance in Ayurveda. Mahesh Kumar discussed its potential benefits for women's health, particularly in gynecological conditions.




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- *Azadirachta indica* (Neem): The medicinal importance of Neem (*Azadirachta Indica*) was emphasized, covering its antibacterial, antifungal, and anti-inflammatory properties. Neem has been traditionally used for skin ailments and overall well-being.
- *Justicia adhatoda* (Vasaka): Medicinal Properties: Vasaka is known for its bronchodilator and expectorant properties. It is commonly used in traditional medicine to treat respiratory conditions such as asthma, bronchitis, and cough.
- *Eclipta alba* (Bhringraj): Medicinal Properties: Bhringraj is valued for its hair growth and strengthening properties. It is also used in traditional medicine to treat liver disorders, skin ailments, and respiratory issues.
- *Aloe vera*: Medicinal Properties: Aloe Vera is renowned for its soothing and healing properties. It is commonly used for skin conditions, burns, and wounds. Internally, it is known for its potential benefits for digestion and immune system support.
- *Andrographis paniculata* (King of Bitters): Medicinal Properties: *Andrographis Paniculata* is recognized for its immune-boosting properties. It is used in traditional medicine to treat respiratory infections, fevers, and as an overall immune system support.



- *Bacopa monnieri* (Brahmi): Medicinal Properties: Brahmi is known for its cognitive-enhancing properties. It is used in traditional medicine to improve memory, reduce stress, and support overall brain health.
- *Asparagus racemosus* (Shatavari): Medicinal Properties: Shatavari is valued for its rejuvenating and nourishing properties, particularly for the female reproductive system. It is used to support women's health, fertility, and as a general tonic.
- *Indigofera tinctoria* (True Indigo): Medicinal Properties: True Indigo has been used traditionally for its anti-inflammatory properties. It is also known for its application in traditional dyeing and coloring.
- *Kaempferia galanga* (Galangal): Medicinal Properties: Galangal is known for its anti-inflammatory and digestive properties. It is used in traditional medicine to treat digestive issues, enhance appetite, and alleviate inflammation.



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Each of these plants carries a rich history of traditional use in various cultures, and modern research continues to explore their potential therapeutic applications. It's important to note that while traditional uses are often well-established, consulting with healthcare professionals is advisable before incorporating these plants into a health regimen, especially for individuals with specific health conditions or those on medication.



Mahesh Kumar's comprehensive and insightful talk on common medicinal plants provided attendees with a deeper understanding of the therapeutic properties inherent in nature. The discussion not only highlighted the traditional uses of these plants but also underscored the relevance of incorporating them into contemporary healthcare practices. His engaging presentation undoubtedly left the audience with a heightened appreciation for the medicinal treasures present in our daily surroundings.



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Fiorenza proved to be a remarkable and informative event, providing students and participants with an enriching experience in the field of botany. The combination of a thought-provoking seminar and an engaging science exhibition showcased the college's commitment to promoting knowledge and understanding in the botanical sciences. The organizers are to be commended for their meticulous planning and execution of the event, which undoubtedly left a lasting impact on all attendees.



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Verdure Science Exhibition at Botany Lab Science

The Fiorenza event continued in the afternoon with the Verdure Science Exhibition, focusing on exploring the Botany Lab. In continuation of the Fiorenza event at



Kottakkal Farook Arts and Science College, the afternoon session unfolded with an awe-inspiring science exhibition titled "Verdure" at the Botany Lab. This exhibition showcased a myriad of informative and visually captivating displays, demonstrating various aspects of botany. The exhibition was officially inaugurated by presenting seeds to the college principal, symbolizing growth, learning, and the nurturing of knowledge. Seeds were also distributed to various Heads of Departments, faculties and to students who visited the exhibition.



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Exhibition Highlights: Botanical Garden Model: A detailed model depicting a botanical garden provided insights into the diverse plant species, their habitats, and the importance of conservation. Photosynthesis and Cell Division: Interactive displays explained the intricate processes of photosynthesis and cell division, illustrating the fundamental mechanisms that sustain plant life. Irrigation and Plant Anatomy: Exhibits on irrigation techniques and plant anatomy delved into the essentials of plant growth, emphasizing the significance of water supply and understanding the structural aspects of plants. Herbarium and Seed Germination: Displays featuring herbarium collections showcased the art of preserving plant specimens. Additionally, the process of seed germination was explored, highlighting




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the stages of a plant's life cycle. Acid Rain, Stomata, and DNA: Educational exhibits covered topics such as acid rain's impact on plant life, the role of stomata in gas exchange, and the importance of DNA in plant genetics. Tobacco Mosaic Virus and Osmosis Model: A presentation on the Tobacco Mosaic Virus and a working model demonstrating osmosis provided insights into plant diseases and fundamental biological processes.



Food Web and Ecosystem: The intricacies of food webs and ecosystems were illustrated, emphasizing the interconnectedness of plant life with other organisms in their environment. Entrance Décor: The entrance was adorned with a floral diagram from the Malvaceae family, creating a visually appealing introduction to the exhibition. Theophrastus Tribute: The blackboard was adorned with a beautiful picture of Theophrastus, the Father of Botany, paying homage to the pioneering figure in the field. Hall Ambiance: The hall ambiance was enhanced with colorful balloons, hanging plants, potted plants, and an array of botany-related pictures and botanical charts, creating an immersive environment.





The Verdure Science Exhibition held during the Fiorenza event was a resounding success, showcasing the rich tapestry of botanical sciences in an engaging and informative manner. The diverse range of exhibits, from botanical garden models to detailed demonstrations of cellular processes, provided a comprehensive view of the intricate world of plants. The meticulous decoration of the entrance with a floral diagram and tribute to Antonie van Leeuwenhoek, the Father of Botany, set the tone for an immersive experience.



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The vibrant ambiance of the hall, adorned with balloons, hanging plants, and botanical-themed visuals, created a welcoming environment for students, teachers, and visitors alike. The symbolic inauguration, where seeds were presented to the principal and Heads of Departments, reflected the commitment to nurturing knowledge and growth within the college community. The exhibition not only showcased the hard work and dedication of the Botany Department but also highlighted the importance of hands-on learning and interactive displays in the field of science.

The positive feedback and appreciation from students and teachers underscored the success of the exhibition in achieving its educational objectives. The Verdure Science Exhibition not only educated participants on various facets of botany but also sparked curiosity and enthusiasm for the fascinating world of plant sciences.



In conclusion, the Fiorenza event, with its impactful seminar and captivating science exhibition, not only celebrated the wonders of botany but also contributed significantly to the academic and cultural enrichment of the college community. The dedication and effort put forth by the organizers, coupled with the active participation of attendees, made Fiorenza an event to be remembered and cherished within the academic calendar.



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OZONE DAY CELEBRATION "OZONE ODYSSEY":

Kottakkal Farook Arts and Science college Botany department celebrated International Ozone Day on September 16, 2023, with great enthusiasm and a commitment to raising awareness about ozone layer protection and environmental conservation. The event aimed to educate students, staff, and the local community about the significance of the ozone layer and the urgent need for its preservation.

The program included a quiz competition and a poster-making competition, which took place on 16-09-2023 at botany lab. The quiz competition was designed to test participants' knowledge about the ozone layer, its significance, and the measures taken to protect it. The questions covered topics such as ozone depletion, the Montreal Protocol, and the role of individuals in preserving the ozone layer. Participants were actively involved in the quiz competition. Prizes were awarded to the top 3 performers to encourage active participation and learning. They are Ummul Haifa(5 sem B.Sc Botany), Shamna (5 sem B.Sc Physics), Nafeesa Bhayan (5 sem B.Sc Botany) respectively.



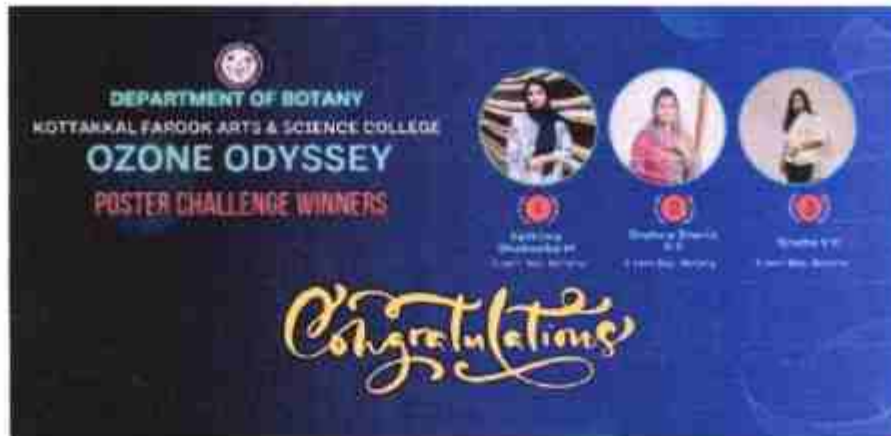
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The poster-making competition aimed to encourage creativity and visual expression of the importance of ozone protection. Participants were provided with art supplies and given a set amount of time to create posters related to ozone layer conservation. Their posters were judged based on creativity, relevance, and the clarity of the message conveyed. 14 participants showcased their artistic talents and knowledge on ozone preservation. The posters conveyed powerful messages about the significance of the ozone layer and the need for its protection. Winners received recognition and prizes for their outstanding contributions. The winners are Fathima Shabeeba M (5 sem B.Sc Botany), Shahna Sherin K P (5 sem B.Sc Botany), Sneha V K (5 sem B.Sc Botany).



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Participants gained valuable knowledge through the quiz competition and expressed their understanding and creativity through the poster-making competition. Such initiatives are crucial in educating and engaging the community in environmental conservation efforts. We extend our gratitude to all participants, volunteers, and sponsors who contributed to the success of this program and helped spread awareness about the importance of preserving the ozone layer for a sustainable future

Botany Department and students actively engaged in various cultural and festive events throughout the academic year. Their enthusiastic participation not only showcased their talents but also fostered a sense of community and camaraderie within the college. This report highlights their involvement in the Onam celebration, Christmas festivities, Food Fest, and Arts and Sports Festival.

➤ Onam Celebration:

The Botany students played an integral role in the vibrant Onam celebrations held at Kottakkal farook arts and science college. They contributed by participating in traditional dances like



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Thiruvathirakali and creating intricate floral arrangements known as Pookalam. Additionally, they showcased their culinary skills by preparing and serving authentic Onam delicacies, adding to the festive atmosphere of the event.

➤ Christmas Festivities:

During the Christmas season, the Botany students embraced the spirit of joy and giving. They actively participated in decorating the college premises with festive lights and decorations and in cake cutting ceremony.

➤ Food Fest:

The Botany students showcased their passion for culinary arts in the college Food Fest. They presented a diverse array of dishes, including healthy salads, innovative smoothies, and delectable desserts, all featuring botanical ingredients. Their creativity and culinary expertise were lauded by both fellow students and faculty members, making the Food Fest a resounding success.

➤ Arts and Sports Festival:

In the Arts and Sports Festival, the Botany students demonstrated their versatility by excelling in both artistic and athletic pursuits. They showcased their artistic talents through painting exhibitions, showcasing nature-inspired artworks that captivated audiences. Additionally, they actively participated in various sports events, displaying their physical powers and competitive spirit.

The participation of Botany students in the Onam celebration, Christmas festivities, Food Fest, and Arts and Sports Festival significantly enriched the college's cultural landscape. Their enthusiasm, creativity, and dedication were evident in every aspect of their involvement, reflecting their passion for both botanical studies and extracurricular activities. Moving forward, their continued engagement promises to contribute positively to the vibrant college community.



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In conclusion, the Annual report of the Department of Botany for 2023-2024 highlights a year of significant research advancements, educational excellence, and a steadfast commitment to the study of plant sciences. Our dedicated faculty, driven students, and collaborative partnerships have propelled us to new heights in understanding the intricate world of plants. Throughout the year, our department has conducted groundbreaking research, published influential papers, and contributed to the conservation of plant biodiversity and community engagement programmes which is an remarkable one. And also industrial visits , seminars, invited talks etc... We've also continued to inspire and educate the next generation of botanists through innovative teaching methods and hands-on experiences. As we look ahead, we remain committed to pushing the boundaries of botanical knowledge, fostering environmental stewardship, and preparing our students for careers that will shape the future of botany. We extend our appreciation to all who have supported our department's mission and look forward to another year of growth and discovery in the world of plants.




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