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**BHARATA MATA  
COLLEGE  
THRIKKAKARA**

Affiliated to MG University, Re-accredited by NAAC with 'A+' Grade, ISO 9001-2015 Certified

# **ANNUAL REPORT 2022-2023**

**DEPARTMENT OF BOTANY**



## *Department at a Glance*

The degree course in Botany started on July 28th 1970, sanctioned strength of students is 36. There Four faculty members in the department of which three of them are Ph.D degree holders. All are actively engaged in academic, extension and outreach programmes. Three year U.G course is offered by the department with agribusiness as the elective paper. The department also offers Botany complementary course for Zoology students. In addition to this an open course is conducted on Agri-based Microenterprises for students of other departments. The department has two laboratories. Total number of students is 104. Workshop and hands on training on Botany related topics, to promote entrepreneurship among students.

Specific programmes on World Environment day, nutrition week, class on career opportunities in plant science

## *Department Vision*

- o To be a “centre for Excellence”
- o To discover, maintain and transmit knowledge concerning basic plant biology and provide leadership in the biological sciences.
- o To expand academic co-operation by offering new courses and upgrading programs to a wider spectrum of students and researchers.
- o To conduct innovative research, teaching and outreach on the patterns and processes of life with a focus on plants and their environments.

## *Department Mission*

Our mission is to foster an environment of excellence by attracting and supporting the outstanding students, faculty and staff needed to sustain our vision. We focus on the patterns and processes that enable predictive understanding of plants and their environments at local, regional, and global scales, leading to strengths in the areas of ecology, evolution, and systematics.

## *Courses offered*

**UG B.Sc BOTANY**

**Certificate/ Add on Flori-Business and Flower Arrangement**

## *Department Highlights*

**Ph.D Awarded - 3**

**Paper Publications - 4**

**Publications - 6**

**MoUs - 1**

**Workshops/Seminars/**

**Invited Talks - 1**

## *Faculty Profile*

### *Dr. Newby Joseph*

HoD, Assistant Professor

Qualification: M.Sc, Ph.D

Joining Year: 2005



### *Mrs. Kalyanikrishna*

Guest Faculty

Qualification: M.Sc.CSIR-UGC Net- JRF

Joining Year: 2021



### *Dr. Shahina NK*

Guest Faculty

Qualification: M.Sc, M..Phil Ph.D

Joining Year: 2020



### *Dr. Surya Sukumaran*

Guest Faculty

Qualification: M.Sc, Ph.D

Joining Year: 2022



## Student Profile

Class	Batch (eg.2021-24)	Male	Female
UG – 1st Year	2022-2025	9	23
UG – 2nd Year	2021-2024	10	23
UG – 3rd Year	2020-2023	7	30

## Student Representatives

Class	Male (Name)	Female (Name)
UG – 1st Year	Sivaraj E R	Anasuya R
UG – 2nd Year	Akshay Suresh	Aiswarya Prakash
UG – 3rd Year	Kurien Elias	Sneha Alias

## Result analysis of Students 2019-21 (PG)

UG					
Semester					
I	II	III	IV	V	VI
37	37	37	37	36	36

	UG						PG			
	Semester									
	I	II	III	IV	V	VI	I	II	III	IV
<b>Count</b>	32	28	32	32	36					
<b>%</b>	<b>86.5</b>	<b>73.5</b>	<b>86.5</b>	<b>86.5</b>	<b>97</b>					

## *Result analysis of Students of other batches*

Program	Batch	Semester	No of Students registered	No of Students Passed	Percentage
B.Sc Botany	2020-2023	Fourth	37	32	86.5
B.Sc Botany	2021-2024	Second	33	17	51.5%
B.Sc Botany	2020-2023	Fifth	37	36	97
B.Sc Botany	2020-2023	Sixth	36	31	88.57

## *Department contribution to examinations*

Name of the Faculty	Role Taken
Dr. Newby Joseph	Deputy Chairman Chief Examiner Addl. examiner, Invigilator
Mrs. Kalyanikrishna	Addl. examiner, Invigilator
Dr. Shahina N K	Addl. examiner, Invigilator
Dr. Surya Sukumaran	Addl. examiner, Invigilator

## *Institutional responsibilities held by the faculty*

Name of the Faculty	Responsibilities Held
Dr. Newby Joseph	Nature club teacher in charge PTA secretary Campus flora digitalisation and QR coding process at BMC (Co ordinator) Co ordinator documentary on campus flora - <a href="https://youtu.be/g7Z-h2kJm3E">https://youtu.be/g7Z-h2kJm3E</a> Co ordinator mushroom cultivation unit Coordinator of various departmental Programs, extension activities, out reach events Member , campus ministry

<p>Dr. Shahina N K</p>	<p>Member of Admission committee, Campus flora digitalisation and QR coding process at BMC (Co ordinator, floristic identification and documentation Subject outreach activity, 'Bhakshyayogyamaya koonukal' on Ningalkariyamo BMC You tube channel-<a href="https://youtu.be/3-QnM1nsPgg">https://youtu.be/3-QnM1nsPgg</a> Co ordinator mushroom cultivation unit Prepared a documentary on campus flora - <a href="https://youtu.be/g7Z-h2kJm3E">https://youtu.be/g7Z-h2kJm3E</a> Co ordinator, Plant Audit as part of Green Audit, BMC 2021-22 Coordinator of various departmental Programs, extension activities, outreach events MOOC coordinator</p>
<p>Mrs. Kalyanikrishna</p>	<p>Botany Association staff in charge Resource person higher education seminar Coordinator of various departmental Programs, extension activities, outreach events MOOC coordinator</p>
<p>Dr. Surya Sukumaran</p>	<p>Add on course coordinator Coordinator of various departmental Programs, extension activities, outreach events- Alumni meet, start up program</p>





## Department Association

A full-fledged department for Botany in Bharata Mata College was formed in 1970 with the commencement of B.Sc. Botany Course with a sanctioned strength of 36 students. Since then the department has been regularly conducting different activities inside the college and as outreach to society. Botany association was formally set up only in recent years, however the department was active and dynamically involved in both academic and outreach activities. For the past two years the department association has a hierarchical structure and conducts different activities in the department enhancing student participation at all junctures.

**Staff In charge: Mrs. Kalyanikrishna (Assistant Professor on contract)**

**President: Kurian Elias**

**Secretary: Nikhitha Sanu**

**Other office bearers: Vice president: Aiswarya Prakash, Joint**

**Secretary: Akshay Suresh,**

**Treasurers: Sameena V S, Mariya Rose**

In this academic year association activities started with inauguration of the association on 25th November 2022. The chief guest of the program was Mr. Sharon Paul, First Rank holder, B.Sc Botany (2019-22), MG University, Kottayam. The ceremony was inaugurated by planting a sapling by the chief guest and launching of the documentary 'Campus trees of Bharata Mata College'. Mr. Sharon interacted with de-



partment students on how to score high marks in university exams and then after that, a documentary on Campus Trees of Bharata Mata College in the afternoon students showcased various cultural activities and the event concluded with snacks and refreshments.

This year Botany association conducted various departmental activities such as World environmental day celebration, world conservation day observance, Independence day celebration, Onam, Keralapiravi and Christmas celebrations. In December Botany association conducted an interdepartmental Soil Art competition in connection with World Soil Day (5th December). Soil art was done using different types of soils glued on paper. 5 teams participated for the event and first prize was bagged by Jeo Baby (Department of Economics). Second prize was won by Catherine Jones & Steve Antony (Department of Zoology). In connection with a global alumni meet conducted by the college, the department of Botany invited its alumni to come and meet together at the department. This provided us with a joyful opportunity to meet and greet many old students of the department. Many of them shared their experiences and memories about the college and former faculties of the department. The other activities conducted under the association are an exhibition on world pulses day and national science day. Department also conducted various outreach and extension activities during this academic year. The association valedictory function celebrated on 30th May 2023 with various events and by an invited talk by Sreehari.S.Nair, Research Scholar MES Asmabi College, Thrissur.



### *Flower Arrangement Workshop*

**Date and Time** : 18th January 2023

**Coordinator** : Dr. Jacob Varghese & Dr. Newby Joseph

**Number of Students** : 30

This year the Ernakulum district agri-horticulture society conducted the 39th Cochin flower show at Ernakulathappan ground from 13-22nd January 2023. As part of this the organizers have arranged various classes and workshops for the common people as well as students regarding vegetable carving, flower arrangement etc. Former faculty of the department Mr. Jacob Varghese was the coordinator. He happily invited our department to visit the flower show and attend a flower arrangement workshop with students. Therefore, two faculties Dr. Newby Joseph and Ms. Kalyanikrishna along with II DC Botany students went to the flower show on 18th January 2023. Students had a very interesting section on various designs and methods to do

flower arrangement with common ornamental flowers from 10 am until 12.30pm. Later on they got the opportunity to familiarize in real various flowering plants that are commonly available in today's market with regard to botanical aspects. There was also a section of medicinal plants and orchids which was interesting for the botany students.



## Association Programme

Date and Time : 31/05/2023

Coordinator : Dr. Newby Joseph

As a part of the Association programme, Department of Botany conducted an invited talk on Genus- Ficus by Sreehari S Nair, Research Scholar, Asmabi College, Thrissur. The resource person shared his knowledge about diversity of ficus in Western Ghats with a colourful presentation.



## Day Observations

### World Environment Day 2022

**Date and Time** : 6th June 2022

**Coordinator** : Dr Shahina N K

**Number of Participants** : 73

World Environment Day is celebrated to encourage awareness and environmental protection. According to the United Nations, "The celebration of this day provides us with an opportunity to broaden the basis for an enlightened opinion and responsible conduct by individuals, enterprises, and communities in preserving and enhancing the environment." The theme is "Only one earth". Mother earth is to be protected from different ecological threats such as waste disposal, pollution etc.

Botany department of Bharatha Mata College decided to celebrate environment day on 6th June by creating a vertical garden using plastic bottles -an attempt to reduce environmental pollution using waste management/recycling, cleaning and beautification of college botanical garden.

The student co-ordinator was Nikitha Sanu M (2nd BSc) and faculty co-ordinator was Dr Shahina . On the day with the support of our teachers students of Botany department collected empty plastic bottles. These were cleaned and used for planting various plants. Around 50 such bottles were prepared and fixed to the grill of green house.

In addition to this, the premises of our green house were cleaned. Unwanted materials, weeds, dry leaves and wastes were removed and disposed. New plants were planted in pots. The entire activity was a success by the participation of all faculties and students of botany department.



# *World Nature Conservation Day*

**Date and Time** :29 th JULY 2022

**Coordinator** :Dr. Newby Joseph, Kalyanikrishna and Dr. Shahina NK

**Number of Participants** : 50

In connection with world nature conservation day, the Department of Botany organized a program called 'KARKKADAKA KAZHCHA'- An awareness and conservation program on Medicinal Plants.

Highlights :

- HERBAL MEDICINAL GARDEN
- EXHIBITION
  - Herbs used in " Karkkadaka Kanji
  - Ingredients of Pathilathoran
    - Herbs used in Oushadha Chukku Kappi

The Department organized an exhibition of 32 common medicinal plants used for monsoon related diseases. Each plant was labeled with scientific name, common name and medical uses. Students put a stall which impart traditional knowledge which Malayalees follow during the month of Karkidakam. Third year student Sameena V.S delivered an informative speech about the significance and relevance of the exhibition.

The main attractions were the special medicinal food- Karkadaka kanji ,

Pathilathoran and Oushada chukku Kappi.- prepared and consumed during monsoon season to help in rejuvenation of body to fight diseases and boost immunity. These foods were also prepared and the herbs included in these foods were exhibited with its common name and scientific name. A detailed description of the ingredients and recipe were also presented. The College Principal and Manager visited the stall and appreciated the department for such an informative exhibition. Karkkidaka chollu and Nadan pattu were other attractions.



## ***Independence Day 2022***

**Date and Time** : 12th August 2022

**Coordinator** :Dr. Newby Joseph, Mrs. Kalyanikrishna, Dr. Shahina N.K

**Number of Participants** : 16

On the occasion of the 75th Independence Day celebration, various programmes were held in Bharata Mata College. As a part of it, the Department of Botany participated and organised a tricolour floral National flag. With the combined effort of teachers and students in the department, the flag was made with different flowers and leaves. The orange part of the flag was made by using Marigold flowers (*Tagetes erecta*), white centre portion is done using white Chrysanthemum (*Chrysanthemum* sp.) and the green portion done with leaves of *Araucaria* (gymnosperm) plant. Later the flag was displayed near the college reception. After that Dr. Newby Joseph, Head, Department of Botany delivered the Independence Day message. Faculty members of our department Mrs. Kalyanikrishna and Dr. Shahina N.K were present. The programme concluded with National Anthem.



## Onam Celebration

**Date and Time** : September 2

**Coordinator** : Dr. Newby Joseph, Dr. Shahina N K, Ms. Kalyanikrishna,  
Dr. Surya Sukumaran

**Number of Participants** : Whole Department

As part of the onam celebration conducted by Bharata Mata College, Department of Botany organised an onam celebration on 02 September 2022. Both second year and third year batches participated in the program, by decorating the department, making pookalam and planning various cultural programs. The program started by 11am with the inaugural address from the HoD and followed by cultural programs by students. For lunch a scrumptious feast 'onasadhya' was arranged and everyone thoroughly enjoyed the food. The students of the department also participated in the Athapookalam contest conducted by Nature Club of BMC and secured second prize of Rs. 1500/- sponsored by Laboratory Equipment stores, MG Road, Ernakulam.





## ***Kerala Piravi Celebration***

**Date and Time** : November 1

**Coordinator** :Dr. Shahina NK, Dr. Surya Sukumaran, Dr. Newby Joseph

**Number of Participants** : 71

The 66 th 'Kerala Piravi' day was celebrated in the Department of Botany, Bharata Mata College on 1st November 2022. The programme started with a prayer song and was followed by the Kerala Piravi message of Dr. Newby Joseph, Head of the Department. The students ornamented the stage by calling up the tradition, custom and heritage of Kerala. They wore traditional costumes and gave an eye-catching performance. Anasuya, the first DC class leader, briefed the history, events and importance of Kerala through a brief speech. Other attractive programs were; Mohiniyattam, Nadan-Pattu, Nat-tarivu quiz, Thiruvathirakali etc. The program concluded with a vote of thanks by third DC student, Kurian Elias. The programme paved the way to remember and honor our mother tongue and mother land.



# World Soil Day

Date and Time : 5th December

Coordinator :Ms. Kalyanikrishna, Dr. Newby Joseph

Number of Participants : 5 teams

In connection with World Soil Day 2022, on 5th December, the Department of Botany organized an interdepartmental soil art competition. Every year the UN observes this day to create awareness about soil and its importance in sustaining life. This year's theme was 'Soil: Where life begins'. Soil art was done using different types of soils glued on paper. 5 teams participated for the event and first prize was bagged by Jeo Baby (Department of Economics). Second prize was won by Catherine Jones & Steve Antony (Department of Zoology).



## *Christmas Day Celebration*

**Date and Time** : 23 December

**Coordinator** :Dr. Shahina NK, Ms. Kalyanikrishna Dr. Surya Sukumaran,  
Dr. Newby Joseph

On 23rd of December Department of Botany conducted Christmas celebration in the first year classroom. The students from I, II and III DC classes joined and decorated the classroom beautifully. Cultural programs started at 10 am with a prayer to Almighty. Cake cutting ceremony was done by the teachers of the department in the presence of our Santa. Several cultural programs including group songs, dance performances were presented by students. In between different games were also conducted; which made the event fun and filled with happy festive vibes. Student teams from Department of Botany has participated in the Crib making competition, Tableau & star making competition, carol song competition and Christmas tree making competition organized by Campus ministry on behalf of the Christmas celebrations 2022.



## ***World Pulses Day Celebration***

**Date and Time** : 20th February 2023

**Coordinator** :Dr. Shahina NK, Dr. Newby Joseph

**Number of Participants** : Whole College

The United Nations designated World Pulses Day is observed every year on 10 February, recognising pulses' importance as a global food.

In association with World Pulses Day 2023 on 20th February 2023, the Department of Botany organised a Pulses exhibition with the theme "Pulses to empower youth in achieving sustainable agrifood systems" near the enquiry of BMC. Various pulses were displayed with their scientific names, common names and use. Students also displayed artworks using pulses and did chart works showing the history, theme and economic benefits of pulses. Food outlets with a variety of mouthwatering homemade delicious dishes made up of pulses attracted everyone alike. Seeds of peas were distributed among the college community. Students also had a shared lunch with various dishes made up of pulses.

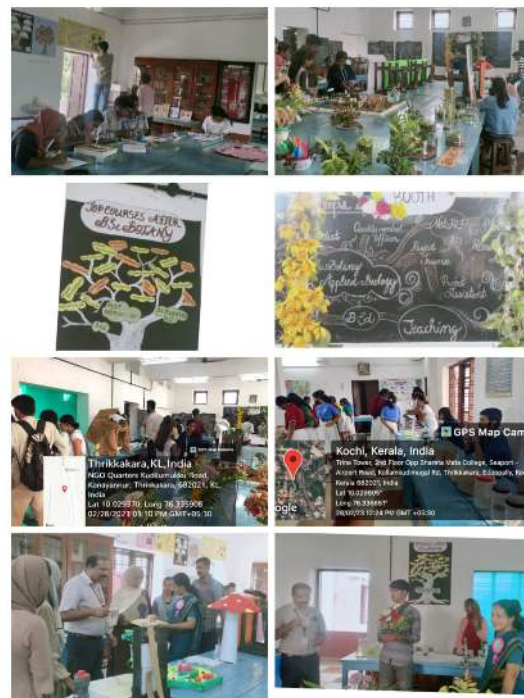


# National Science Day 2023

Date and Time : 28th February 2023

Coordinator : Dr. Newby Joseph, Ms. Kalyanikrishna, Dr. Shahina NK,  
Dr. Surya Sukumaran

On behalf of this year's National Science Day, the Science departments of Bharata Mata College had organised an exhibition and lab visit for high school and higher secondary students on 28th February 2023. A quiz competition was also conducted for the school students. In connection with this Botany department has arranged an exhibition of representatives of various groups of plant kingdom, terrarium arrangements, flower arrangements, mushroom cultivation and value added products from mushrooms models of sustainable living, plant physiology and cell biology concepts and various experiments in Botany. Along with this, the department had a display of route map of different courses and career choices after BSc Botany. Final year students of Botany also created a photo booth with various plants and flowers for the exhibition visitors.



## Department Non-Academic activities

### Seedling Distribution

Date and Time : 4th June 2022

Coordinator : Dr Newby Joseph

Number of Students : 8

The students of Department of Botany, Bharata Mata College, Thrikkakara organized a campaign that urges children 'to grow our own greens'. The objective of the programme was to distribute the vegetable seedlings to bring interest and awareness to kids about the benefits of organic vegetable production in the kitchen garden.

The final year students of Botany and faculty distributed the vegetable seedlings like Okra, Spinach, Pea, Chillies etc. to children of Anganwadi at T.V Centre, Eachamukku, Kakkanad during their 'Praveshanotsavam'. The kids were educated by Aamila T. A final year student of Botany who explained how to plant the sapling and take care of it. Head of the Department Dr Newby Joseph co-ordinated the programme. Anganwadi teacher Beevi CM, ward councilor Haseena KU and parents of the children helped in providing saplings and making the program a great success

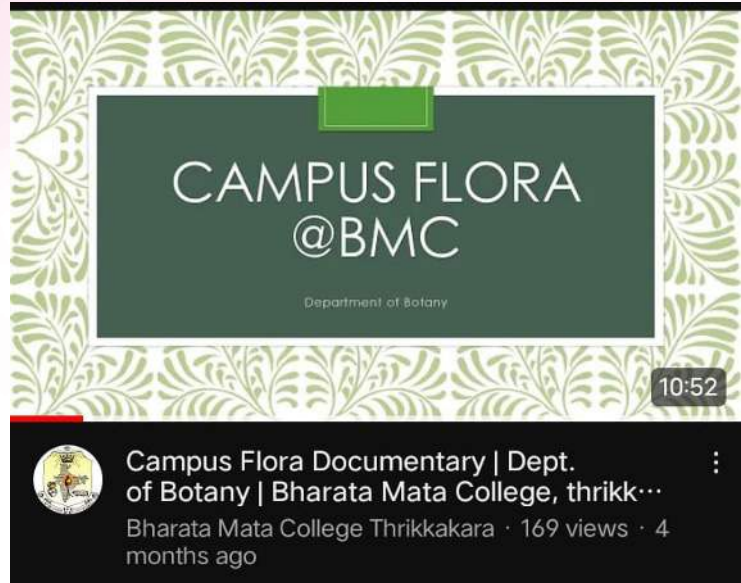


## Documentary on Campus Flora

Date and Time : 5 th March 2023

Coordinator : Dr. Newby Joseph, Dr Shahina NK,

Department of Botany prepared a video documentary on campus flora including the scientific name, local and malayalam name of each tree. Also given a description about the tree along with its medicinal / economic uses. The video is available on you tube for public use <https://youtu.be/g7Z-h2kJm3E>.



## Quick Bite of Knowledge : Ningalkariyam

Date and Time : March 23, 2023

Coordinator : Dr Shahina NK,

A knowledge sharing program on edible mushrooms of Kerala by Dr. Shahina NK through BMC you tube channel. <https://youtu.be/3-QnM1nsPgg>.



## Extension activities

### Vegetable Gardening

**Date and Time** : 24th June, 2022

**Coordinator** : Dr. Newby Joseph, Dr. Shahina N. K

**Number of Participants** : 20

Planting trees and plants can make a positive impact on nature in future. We, students of Department of Botany planned this program to make students aware of the importance of plants especially organic vegetables and fruits to lead a healthy life. Plants have a large influence on our day to day life. It is vital that plants thrive so that humans can survive.

On 24th June, 2022, the Botany department along with the nature club of Bharata Mata College decided to make vegetable garden in the green house of our college. The student coordinator Kurian Elias under the guidance of teachers of the department coordinated the activity. We got directions regarding how to sow seeds and transplant them. 50 seedlings of various vegetables were planted in the botanical garden.

As an initial step, we cleaned the garden and removed all the weeds, waste materials in and around the garden. Hybrid seedlings of Chilli, Tomato, Spinach, Pea and Brinjal were purchased from VFPCCK for the purpose. The second step was ploughing the soil and planting them. Teachers grouped the students into 3 groups - one group for ploughing the soil, one for mixing the soil with fertilizer and other group for planting them. The potting mixture comprises coco peat and vermicompost. Finally we planted the seedlings and watered them. To maintain the vegetable garden students are divided into groups for watering and manuring.





## *Vermicompost Distribution in Campus*

**Date and Time** : 18th July 2022

**Coordinator** : Dr. Newby Joseph, Kalyanikrishna and Dr. Shahina NK

Vermicomposting a method by which we recycle organic wastes using to produce quality compost. Red earthworm (*Eisenia foetida*) is the preferred species of earthworm because of its high multiplication rate and thereby converts the organic matter into vermicompost within 45-50 days. Earthworms consume biomass and excrete it in digested form called worm casts. The casts are rich in nutrients, growth promoting substances, beneficial soil micro flora and having properties of inhibiting pathogenic microbes. The students of botany department (2019-2022 batch) successfully produced vermicompost in the campus and an inaugural packet was gladly given to the respected Manager, Rev. Fr. Dr. Abraham Oliaputh. The stable, fine granular organic manure thus obtained will be further utilized for manuring campus flora seedlings and crop production.



## Exhibition of 'Dashapushpangal'

Date and Time : 22nd August - 30th September 2022

Coordinator : Dr. Newby Joseph, Kalyanikrishna

Number of Participants : 33

Botany Department arranged an exhibition on the 10 sacred herbs popularly known as Dasapushpangal (Karuka, Kayyonni, Vishnukranti, Mukkuty, Thiruthali, Cheroola, Uzhinja, Puvankurunnila, Muyalcheviyan and Nilappana). These herbs are found almost everywhere in Kerala, yet not many people are currently aware about them. The herbs are used effectively in home remedies because of their medicinal properties and their ability to cure in a natural way. Women of Kerala wear these herbs on the month of Karkadaka as it is said to benefit their health. They are also used for decorative purposes, such as making the floral carpet pookalam during festivals like Onam. In connection with the month of Chingam (malayalam calendar) students of the department conducted this program to spread awareness about locally available herbs and their uses in day-to-day life among the college community.

Students of the department prepared charts on the scientific nomenclature and uses of the ten herbs. All the ten plants were already maintained in the department garden and every two days a plant with its chart was exhibited near the college reception. The exhibition was very informative and received well by the college community, since it made an awareness about the medicinal uses of the herbs included in this category.



## Anti-Drug Campaign

Date and Time : 31st October 2022

Coordinator : Dr. Newby Joseph, Dr. Shahina N K, Dr Surya Sukumaran

Number of Participants :71

The Department of Botany organized a “Pledge and sign programme” on October 31 to combat drug usage among young people in connection with the Kerala Government’s anti-drug campaign. Students of botany took an oath promising that they would “never consume any illegal substances in their life” and that they would “do their utmost to help the addict get rid of that addiction.” They also guarantee that they will raise awareness about drug abuse. To the anti-drug sign campaign, they all signed.



## *UCC Centennial Vista Exhibition visit*

**Date and Time** : 11th November 2022

**Coordinator** : Ms. Kalyanikrishna, Dr. Newby Joseph,

**Number of Participants** : 70

On the occasion of 100 year celebrations in U C College Aluva, an exhibition was conducted by various departments of the college, other institutes and govt. organizations. As part of the extension programme of the department, the Botany department of BMC took 1DC and 3DC students to visit this exhibition. We started from college at 2pm in the college bus and reached UC College by 2.30pm. After taking the entry tickets, students visited various exhibition departments including Botany, Zoology, chemistry, Library and Psychology. It was informative and engaging for our students to visit another campus, along with various interesting facts to learn and experience from the exhibition.



## *Higher Education Seminar*

**Date and Time** : 18th November 2022

**Coordinator** : Ms. Kalyanikrishna

**Number of Participants** : 70

Department of botany has arranged a higher education seminar for the students on 18th November 2022 at 2.30pm. The aim of this event 'What awaits you after B.Sc. Botany' was to provide an insight about different career and job opportunities after the completion of their course. The resource person was department faculty, Ms. Kalyanikrishna (Former DAAD fellow, Germany). Higher studies options in India and abroad were discussed. There was also active involvement from the students' side about various competitive exams and how to prepare for them. Job opportunities after BSc and MSc botany were also elaborated.



## 39th Cochin Flower Show Visit

**Date and Time** : 18th January 2023

**Coordinator** : Dr. Newby Joseph & Ms. Kalyanikrishna

**Resource Person/s** : Mr. Jacob Varghese

**Number of Participants** : 33

This year the Ernakulum district agri-horticulture society conducted the 39th Cochin flower show at Ernakulathappan ground from 13-22nd January 2023. As part of this the organizers have arranged various classes and workshops for the common people as well as students regarding vegetable carving, flower arrangement etc. Former faculty of the department Mr. Jacob Varghese was the coordinator. He happily invited our department to visit the flower show and attend a flower arrangement workshop with students. Therefore, two faculties Dr. Newby Joseph and Ms. Kalyanikrishna along with II DC Botany students went to the flower show on 18th January 2023. Students had a very interesting section on various designs and methods to do flower arrangement with common ornamental flowers until 12.30. Later on they got the opportunity to familiarize in real various flowering plants commonly available in today's market with regard to botanical aspects. There was also a section of medicinal plants and orchids which was interesting for the botany students.



## ***Study tour***

**Date and Time** : 08/02 /2023 to 10/02/2023

**Coordinator** : Dr. Newby Joseph & Dr. Shahina N K

**Number of Participants** : 35

Final year B.Sc. VI Semester Botany

students of Bharata Mata College Thrikkakara along with two faculties and a lab attender conducted a study tour and field collection trip to Uduppi, Chikkmagalur and Coorg from 08/02 /2023 to 10/02/2023.

Students visited eco parks, beaches and undergo tracking to mountains. They observed the characteristics of plants, their habits and habitats. They noted this details in their field book and collected plant twigs or part of the plant for the herbarium and pressed them as per procedure. Students enjoyed the trip by dancing, singing, boating and trekking. They also collected a few species of lichen and algae.



## *Entry Level Examination*

Category	No of Students
Advanced Learners	1
Average Learners	19
Slow Learners	12
Total	32

## *Mentoring Report*

The Botany department follows the mentoring system initiated by mentoring Cell. The students are grouped and assigned a mentor teacher who is responsible for collecting academic performance and class attendance of individual students. The mentor regularly meets with mentees and is given necessary information regarding his/her mentees and is expected to offer guidance and counselling as and when required. In isolated cases, parents are called for special meetings with the Principal at the suggestion of the mentor. The result of the system has been implemented significant improvement in the teacher-student relationship. The system has been useful in identifying slow learners and advanced learners. The department organizes a remedial class on different subjects within the syllabus for poor/slow learners.

## *Department Mentor list 2021-22*

Sl No.	Name of the Mentor	No. Mentees
1	Dr. Newby Joseph	37
2	Mrs. Kalyanikrishna	33
3	Dr. Shahina N K	19
4	Dr. Surya Sukumaran	13



## *Addon / Certificate courses*

Course name: Floribusiness & flower arrangement

Objective: self employment.

A Brief Report: Addon course have started at the Department of Botany as part of the curriculum. This certificate course on 'Floribusiness and flower arrangement' has been enrolled by 35 students from First year Degree students. 36 hours were engaged. A summative assessment would be conducted at the end of the course. 33 students will be qualified for the same and certificates will be issued.

Course coordinator: Dr. Surya Sukumaran



## *Bridge course*

Date/s of Bridge course: 19-09-2023

Teacher In charge : Dr. Shahina N K

Brief Report:

This course helped to bridge the gap between plus two education and Degree level course in Botany. The syllabus covered basic knowledge in pure plant science. All students of first year degree class had attended the course.

## ***MOOC Courses Attended details***

SI No.	Name of the Student	Platform (SWAYAM, Edu net etc.)	Name of the Course	Duration
1	ANUPRIYA ANIL	SWAYAM	Organic farming	3 years
2	BHADRA NARAYANAN	SWAYAM	Organic farming	3 years
3	DARSIGUNTA MAHITHA	SWAYAM	Organic farming	3 years
4	FATHIMA FARHANA K S	SWAYAM	Organic farming	3 years
5	GREESHMA GIREESH	SWAYAM	Organic farming	3 years
6	HADIYA ABDUL KHADER	SWAYAM	Organic farming	3 years
7	HANIYYA.A.P	SWAYAM	Organic farming	3 years
8	JITHIN P J	SWAYAM	Organic farming	3 years
9	KAMALESH U	SWAYAM	Organic farming	3 years
10	LAKSHMI SALIKUMAR	SWAYAM	Organic farming	3 years
11	RIYA FATHIMA M S	SWAYAM	Organic farming	3 years
12	SURYA BABU	SWAYAM	Organic farming	3 years
13	VISHNU T M	SWAYAM	Organic farming	3 years
14	AARYA V R	SWAYAM	Organic farming	3 years
15	AISWARYA PRAKASH	SWAYAM	Organic farming	3 years
16	AKSHAY SURESH	SWAYAM	Organic farming	3 years
17	ANAGHA M A	SWAYAM	Organic farming	3 years
18	ARJUN.K.M	SWAYAM	Organic farming	3 years

19	ASWATHY PRASAD	SWAYAM	Organic farming	3 years
20	CILENA XAVIER	SWAYAM	Organic farming	3 years
21	FATHIMA MEHEJABIN	SWAYAM	Organic farming	3 years
22	GATHA GOPI	SWAYAM	Organic farming	3 years
23	GOUTHAMY RAJEEV	SWAYAM	Organic farming	3 years
24	K MOHAMMED ISHAN	SWAYAM	Organic farming	3 years
25	KAVYA SUDHAN	SWAYAM	Organic farming	3 years
26	M THANSY MUJEEB	SWAYAM	Organic farming	3 years
27	MEERA K A	SWAYAM	Organic farming	3 years

## *Department level Infrastructure*

Number of Classrooms:	3
Computers & Peripherals	3
PCs	: 3
Projectors	: 3
Printers	:1
Furniture & Fittings	
Desk	:47
Bench	:45
Tables	:9+2
Chairs	:8+5
Almirah	:5+9
Shelf	:1

## Lab Equipments

1. Electronic balance(Accuracy 0.01gm) Model N 600
2. Overhead Projector
3. pH m Water bath eter with electrode digital model MK-VI Systronics
4. Water bath rectangular 350X250X125mm- 6 holes
5. Refrigerator
6. Water Filter
7. Autoclave
8. Centrifuge – Kemi
9. Incubator
10. BOD incubator
11. Laminar flow
12. Computer 5+1
13. Digital Microscope Motic
14. Spectrophotometer
15. Generator (Complaint)
16. Projector 3
17. Dissection Microscope
18. Compound microscope
19. pH/EC/TDS/Salinity Meter (PETS)- Model 372
20. Portable Digital Dissolved Oxygen Meter – Model 831
21. Digital pH meter with Electrode & PT 100 Model 335(Systronics)
22. Electronic balance Accuracy 0.001gm (1mgm) capacity 220gm Model BL 220H- (Shimadzu)
23. Magnus inclined Binocular Microscope - Olympus/MLXB plus
24. Microscope student Monocular – Olympus/HAS
25. Zoom Stereo Binocular Microscope- Olympus/MSZ.BI

## Department Meetings

A departmental meeting is a gathering of individuals who work within a specific department within an organization, with the purpose of discussing department-related issues and making decisions that impact the department. The main purpose of a departmental meeting is to provide a forum for discussing department-related issues, sharing information, and making decisions that impact the department. Departmental meetings are also an opportunity for department members to share their ideas, concerns, and feedback with one another, as well as with department and management. They provide a forum for building teamwork and collaboration, and for fostering a sense of community within the department. HOD/HOD in charge will preside over the meeting. Main topics for discussion:

- Students' attendance
- Students' performance in the department activities
- Students' improvements in the examination
- Review of last month's activities
- Plan the activities to be done in this month



Sl No.	Date and Time of Meeting	Major Agendas
1.	21-06-2022, 12.30pm	course allotment to guest faculties departmental activities for next month
2.	12-07-2022, 3.30pm	remedial coaching for S1 exams vermicompost distribution
3.	01-08-2022, 12.30pm	S3 classes starting, FIST equipments checking, absentees checking
4.	14-09-2022, 9.30am	classes reopened after onam vacation, first internal for S3 & S5 by mid of october, orientation & anti-ragging classes for first years
5.	18-10-2022, 3.30pm	entry level test for first years, add on course, organic farming for MOOC course
6.	28-10-2022, 3.30pm	UCC exhibition visit planning, Botany association inauguration, portions completed update, S5 2nd internal planning
7.	22-12-2022, 3.30pm	Discussion on council meeting minutes, S3 2nd internals, S3 & S5 attendance, Open house for S3 & S5, even semester paper allocation, Portions completed update
8.	03-01-2023, 3.30pm	council meeting discussion, attendance completion, S1 & S3 second internal, S6 study tour
9.	31-01-2023, 3.30pm	portions completed update (even semesters), flower show visit, valuation camp
10.	06-02-2023, 3.30pm	S6 study tour and class adjustments, S1 modal exams, S6 first internal
11.	20-03-2023, 9.30am	S6 internals, retests, attendance, practical & project, College Day 22-23, MOOC registration, S2 & S4 special classes, Botany association day.

## Alumni Interaction

Sl. No	Date and Time	Name of the Alumni	Topic of the session
1	26-01-2023, 11 am	P K Ramachandran Jr. RPC Rubber Board	Significance of conserving ecosystems: Sacred grooves

### Alumni Meetings brief Report: Alumini meet 2022-23

The Alumni Association of Bharata Mata College, Thrikkakara was conducted on the auspicious Republic day of 26th January 2023, named as "BOSA" in the presence of Rev.Fr.Dr. Abraham Oliyapurath, Manager. Johnson K.M. Principal, Jortin Antony, Secretary (Bosa) and other faculty members and many enthusiastic former students of the college. On behalf of this, Botany department arranged alumni meet at the department @ 10.30am and the welcome address was given by Dr. Newby Joseph and total 34 former students attended the event. After the welcome speech everyone introduced themselves and shared their experiences while studying at the college, and life afterwards. The departmental meeting ended at 12 PM and all alumni moved to common meeting. Many of the enthusiastic ex-students were present for the formation of the Alumni association. Several cultural programs were conducted by the college for the Alumnus.



The Parent-Teacher Association (PTA) gathered each class separately. PTA provides parents and teachers with the opportunity to exchange views, work together with the development of students as well as college. General feedback from parents is sought and elections take place. The Head of the department and all subject teachers represent the college.

### Open House Meetings

Sl No	Class	Date and Time
1	III DC Botany	3rd November 2022, 12.30-4.30pm
2	II DC Botany	25th January 2023, 2.30 - 4.30pm
3	I DC Botany	25th January 2023, 2.30 - 4.30pm





## Student achievements - co curricular / Sports activities

Name of the Student	Class	Achievement
Thansy Mujeeb	Second year	Inter Collegiate Video contest, 1st Anti narcotics Photography, 1st Millet mela by FSSAI, Millest poster making, second
Kavya	Second year	Inter Collegiate Video contest, 3rd
Surya Babu	Second year	Best student coordinator, Hindi week celebration
Nijo George	Second year	Best student coordinator, Hindi week celebration
Arjun KM	Second year	Ek Bharat Sreshta Bharat
Tincy Thomas	First year	Leaf painting , 1st Poster - Anti Drug 3rd
Kurian Elias	Third year	Interdepartmental quiz 1st
Sneha Alias	Third year	Interdepartmental quiz 1st
Vidhya V Vanchipurakkal	First year	Arts Fest Bharatanatyam, 2nd
Sneha Alias	Third year	Poetry English 2nd
Antony Thomas	Third year	Pencil drawing 2nd
Dilsa Sidhique	Third year	Thiruvathira- 2nd
Sreekutty M	Third year	Thiruvathira- 2nd
Ardra Aji	Third year	Thiruvathira- 2nd
Gouthami	Third year	Thiruvathira- 2nd
Vidhya V	Third year	Thiruvathira- 2nd
Bhadra Narayanan	Third year	Thiruvathira- 2nd
Nikhitha Sanu	Third year	Thiruvathira- 2nd
Sreelekshmi KS	Third year	Thiruvathira- 2nd
Gadha Gopi	Third year	Thiruvathira- 2nd
Arya Babu	Third year	Thiruvathira- 2nd
Ruksana CA	First year	Thiruvathira- 2nd



## Faculty Attended Programmes

FDPs/ STTPs/Workshops/Seminars / Conference/ Webinar

Total Number of FDPs/ STTPs : 2

Total Number of Workshops :2

Total Number of Seminars / Conference : 2

Total Number of Webinar :4

Name of faculty	Name of Programme	Date/s	Conducting Agency	FDPs/ STTPs/ Workshops/ Seminars / Webinar
Dr. Newby Joseph	FDP AGAM	17-19th May 2022	IQAC, BMC	FDP
Dr. Newby Joseph	A hands on workshop on MOODLE	3 May 2022	FDP & IQAC BMC	Workshop
Dr. Newby Joseph	Plant functional biology conference	25th -26th October 2022	Dept.of Botany (Sir Syed College), Kannur University & KSHEC	International Conference
Dr. Shahina NK	FDP AGAM	17-19th May 2022	IQAC, BMC	FDP
Dr Shahina NK	A hands on workshop on MOODLE	3 May 2022	FDP & IQAC BMC	Workshop
Dr. Shahina NK	Multidisciplinary online International conference QUAES-TIO-2022-23	15 th Dec 2022	Research cell &IQAC St Stephan's College Uzhavoor in association with MG University	International Conference
Dr. Shahina NK	Climate Change & You: Is it now or never for India?	September 11, 2022	GBRI	Webinar

Dr. Shahina NK	World Fungus Day Lectures-Online	October 2 , 2022	Sri Venkateshwara University, Tirupathi and MycoAsia Journal of Modern Mycology	Webinar
Dr. Shahina NK	Building, Using and Teaching the tree of life- angiosperm systematics	February 2, 2022	SB College Changanassery	Webinar
Dr. Shahina NK	"Medicinal plants and their trade: How safe are raw herbal drugs?"	14th May 2022	Dept. of Botany & IQAC, St. Joseph's College for Women, Alappuzha	Webinar

## Research Contributions

### Publications – Faculty

Name of the Faculty	Type of Publication (Contribution to Book, Research Publication, Conference Proceedings)	Listing of the publication (ISBN BOOK, UGC Care List1, Scopus, Web of Science)	Title of the Paper or Book Chapter	Journal Name or Publisher Name	ISSN or ISBN Number
Ms Kalyanikrishna	Research article	Scopus, UGC CARE	Image analysis workflows to reveal the spatial organization of cell nuclei and chromosomes	Nucleus	1949-1042

Dr. Shahina NK	Research article	UGC CARE list 1	"Immune-Stimulants and Adaptogenic Properties of Selected Wild Edible Mushrooms Collected from the Western Ghats, India".	International Journal of Pharmaceutical Sciences and Drug Research,	975-248X online
Dr. Shahina NK	Contribution to Book	ISBN BOOK	Ectomycorrhizal Fungal Diversity in family Dipterocarpaceae	Biodiversity of Western Ghats, Vimala College Publication, 2023	ISBN: 978-81-960780-0-3
Dr. Shahina NK	Contribution to Book	ISBN BOOK	Health Promoting and Pharmacological Compounds from Mushrooms	Biology, Cultivation and Applications of Mushrooms Springer , 2022	ISBN 978-981-16-0256-0 ISBN 978-98 1-16-6257-7 (eBook)
Dr. Newby Joseph	Contribution to Book	ISBN BOOK	Ectomycorrhizal Fungal Diversity in family Dipterocarpaceae	Biodiversity of Western Ghats, Vimala College Publication, 2023	ISBN: 978-81-960780-0-3
Dr. Shahina NK	Contribution to Book Conference proceedings (Under process)	ISBN BOOK	Mycorrhizal Association of Verbenaceae and Lamiaceae Plants:	A Systematic Study Aureole 2023	ISSN 2249-7862 Under process

## Student Projects

Roll no:	Name of students	Topic of Project	Research Supervisor
200021023397	AJITH PAUL	Alternanthera brassiliana as larvicide	Newby Joseph
200021023398	AKSHAYA RAMESH	Effect of vehicular Pollution on biochemical aspects of Alternanthera sp.	Kalyanikrishna
200021023399	ALEENA BINOY	Morpho-anatomy of Alternanthera sessilis (L.) R. Br. ex DC and Alternanthera betzickiana (Regel) G.Nicholson (Amaranthaceae) and its significance in drug identification	Surya S
200021023400	ALEENA JACOB	Status of Mycorrhizal Colonisation on Different Medicinal Plants Collected from Ernakulam District	Shahina NK
200021023401	ANJANA RETHEEPAN	Alternanthera sessilis as larvicide	Newby Joseph
200021023402	ANTONY THOMAS	Effect of Vehicular Pollution on leaf properties of Alternanthera sp.	Kalyanikrishna
200021023403	ARATHI M D	Assessment of AMF association and its effects on Amaranthaceae plants	Shahina NK
200021023404	ARYA. K. V	Phytochemical analysis of Alternanthera sessilis (L.) R. Br. ex DC.	Surya S
200021023405	ASHIN M.P	Alternanthera brassiliana as larvicide	Newby Joseph
200021023407	DEVIKA VINIL	Investigation on APTI in roadside Alternanthera sp.	Kalyanikrishna

200021023408	DILSA SIDHIQUE	Status of Mycorrhizal Colonisation on Different Medicinal Plants Collected from Ernakulam District	Shahina NK
200021023409	FATHIMA FASAREIN P S	Phytochemical analysis of <i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Surya S
200021023410	MANI.V	<i>Alternanthera brassiliana</i> as larvicide	Newby Joseph
200021023411	MARIYA ROSE PHILIP	Effect of vehicular Pollution on biochemical aspects of <i>Alternanthera</i> sp.	Kalyanikrishna
200021023412	MEENAKSHI K.G	Status of Mycorrhizal Colonisation on Different Medicinal Plants Collected from Ernakulam District	Shahina NK
200021023413	MOHAMMED SAIF C	Phytochemical analysis of <i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Surya S
200021023414	NAZRIN FAIZAL	<i>Alternanthera sessilis</i> as larvicide	Newby Joseph
200021023415	NOURIN FAIZAL	Effect of vehicular Pollution on biochemical aspects of <i>Alternanthera</i> sp.	Kalyanikrishna
200021023416	REVATHY RAJEEV	AMF interaction and its effects on invasive Asteraceae plants	Shahina NK
200021023417	SNEHA ALIAS	Morpho-anatomy of <i>Alternanthera sessilis</i> (L.) R. Br. ex DC and DC and <i>Alternanthera betzickiana</i> (Regel) G.Nicholson (Amaranthaceae) and its significance in drug identification	Surya S
200021023418	TREASA JOSEPH	<i>Alternanthera sessilis</i> as larvicide	Newby Joseph

200021023419	ADITHIYA B VINU	Allelopathic effect of <i>Alternanthera sessilis</i> in selected pulses	Newby Joseph
200021023420	ANJALA ASHRAF	Effect of Vehicular Pollution on leaf properties of <i>Alternanthera</i> sp.	Kalyanikrishna
200021023421	APARNA P A	AMF interaction and its effects on invasive Asteraceae plants	Shahina NK
200021023422	ATHIRA M SUNIL	Phytochemical analysis of <i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	Surya S
200021023423	BINTA BHASKARAN	Allelopathic effect of <i>Alternanthera sessilis</i> in selected pulses	Newby Joseph
200021023424	FIBINA NASRIN K R	Effect of Vehicular Pollution on leaf properties of <i>Alternanthera</i> sp.	Kalyanikrishna
200021023425	HANZA M.H	Assessment of AMF association and its effects on Amaranthaceae plants	Shahina NK
200021023426	JOYAL XAVIER	Morpho-anatomy of <i>Alternanthera sessilis</i> (L.) R. Br. ex DC and DC and <i>Alternanthera bettzickiana</i> (Regel) G.Nicholson (Amaranthaceae) and its significance in drug identification	Surya S
200021023427	KURIAN ELIAS	Larvicidal potential of aqueous, propanoic and petroleum extract of <i>Alternanthera bettzickiana</i> on common Kerala mosquitoes	
200021023428	NAMITHA JAMES	Investigation on APTI in roadside <i>Alternanthera</i> sp.	Kalyanikrishna



200021023429	NIKHITHA SANU M	Assessment of AMF association and its effects on Amaranthaceae plants	Shahina NK
200021023430	RADHAKUMARI	Phytochemical analysis of Alternanthera sessilis (L.) R. Br. ex DC.	Surya S
200021023431	SAHALA EBRAHIM	Allelopathic effect of Alternanthera sessilis in selected pulses	Newby Joseph
200021023432	SAMEENA V.S	Investigation on APTI in roadside Alternanthera sp.	Kalyanikrishna
200021023433	SHIRFANA P R	AMF interaction and its effects on invasive Asteraceae plants	Shahina NK
200021023434	SUHAILA M HUSSAIN A	Phytochemical analysis of Alternanthera sessilis (L.) R. Br. ex DC.	Surya S

## Student Progression

Sl No	Name of the Student	NAME	Institution Placed	CTC
1	19B1114	RAZANA P S		2 lakh
2	19B2131	MARIYA MARTIN .K	Optimal Global solutions. Hyderabad	320,000

## Publications - Students

Name of the Faculty	Type of Publication (Contribution to Book, Research Publication, Conference Proceedings)	Listing of the publication (ISBN BOOK, UGC Care List1, Scopus, Web of Science)	Title of the Paper or Book Chapter	Journal Name or Publisher Name	ISSN or ISBN Number
Dr. Shahina NK	Conference proceedings	ISSN	Mycorrhizal Association of Verbenaceae and Lamiaceae Plants: A Systematic Study	Aureole 2023	ISSN 2249-7862

## Students went for Higher Education

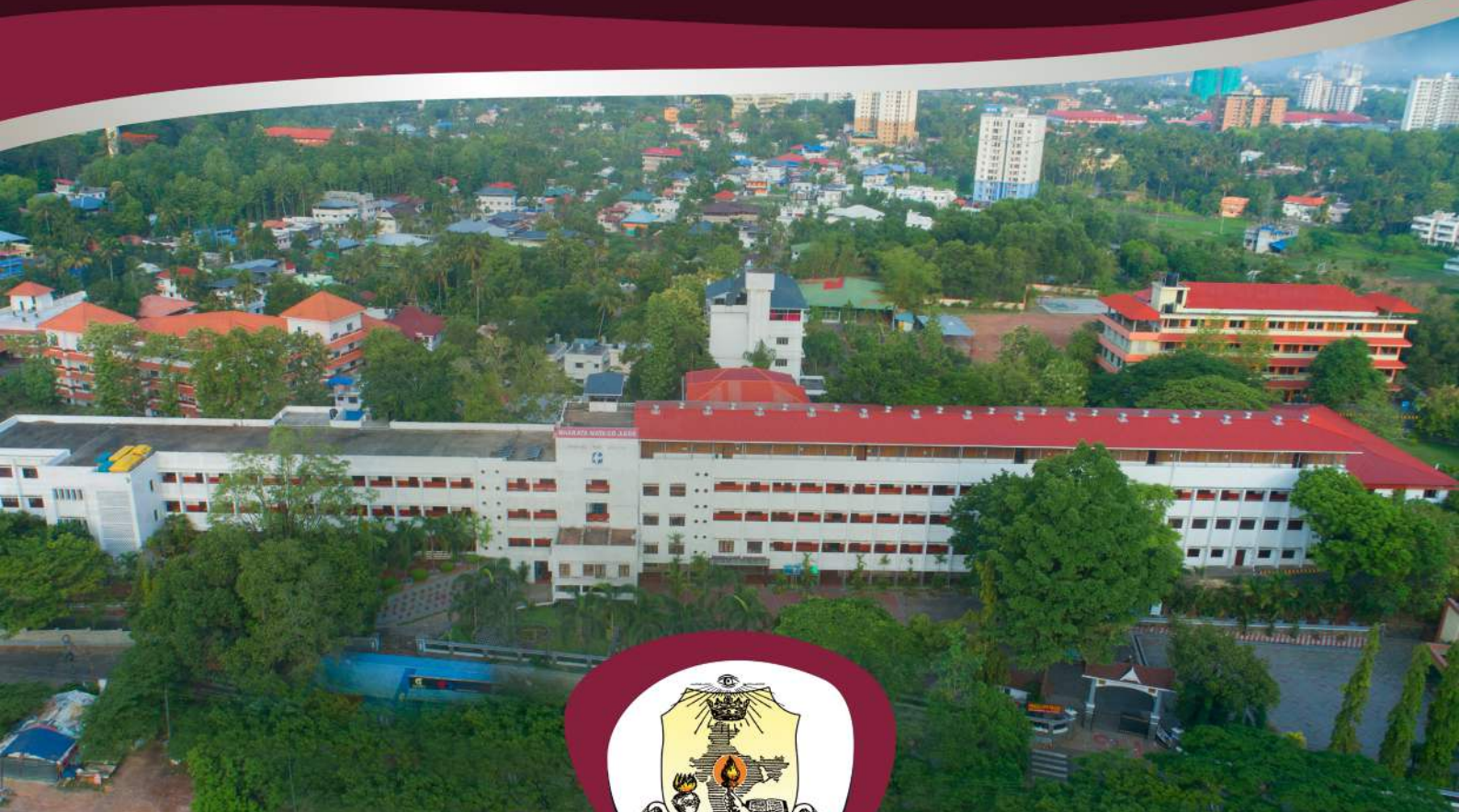
Sl No	Name of the Student	Institution opted for Higher Education	Course Name
1	19B1101	AAMILA T A	CMS college
2	19B1104	ANGEL SAIJAN	Amritha Viswa Vidya Peetham
3	19B1105	ARYA P P	St Peters Kolenchery
4	19B1106	CHRISTY FRANCIS	Sri Sabareesa College, Kottayam
5	19B1107	JITHIN MADHU	ITI Kalamasseri
6	19B1115	RENIM SULTHANA MURAD	MES Marampally, Aluva
7	19B1119	SONY FELIX V.F	CMS College, Kottayam
8	19B1121	VRINDHA JAYACHANDRAN	MA college Kothamangalam
9	19B2123	BHANUSREE B	BB Ambedkar University, Lucknow
10	19B2129	MALAVIKA A	St. Joseph's University, Bangalore
11	19B2132	MEGHNA M SURESH	Rajagiri School of Social Sciences
12	19B2133	MERIN K.S	St. Joseph college of teacher education for Women
13	19B2136	VISHNUDAS K M	Sri Sabareesa College, Kottayam

## Teaching Learning Innovative practices in the department

Innovative Practices	Outcome
Lecture method	Hands on experience, Peer-to- peer Learning Experiential learning, Collaborative Learning Audio-Visual presentations through LCD and Virtual classrooms
Interdisciplinary Lectures	Aware students with the latest relevant technologies in different computing fields.
Major/Mini Projects	Prepare students to develop live projects on their own.
Student Seminars	Motivating students for self-Study and Group Study.
Course Assignments	Encourage student collaboration through supplement learning
Communication Skills	Improve the presentation and speaking skills in group discussion as well as in interviews faced.
Seminars/ Webinars/ workshops	Engages students by using real-world chal- lenges, problems, and scenarios to evoke critical thinking, problem-solving, collabora- tion, and self-management
Online Tutorial	Enhance the overall comprehension of students in a more dynamic way
Virtual Lab	Exposure of Programming & Lab practices
NPTEL Lectures	Promote self-learning and to share knowl- edge among students Creative Teaching
	Encourage creative contribution of the students
Video Tools	Develop ability to listen , understand the concepts better.
Classes Outside the Classroom	Best learning in friendly atmosphere
Field trips	Help bridge the gap between education in the classroom and hands-on experience.







# **BHARATA MATA COLLEGE**

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