



BOTANNE 2022 Issue X

August 15th 2023

Vision

To disseminate and apply knowledge of plant science to everyday life for the betterment of the society.

Mission

“Nurturing growth -featuring excellence”



Principal's address

Dear Department of Botany

I am truly delighted to extend my heartfelt appreciation to the exceptional members of the department for their remarkable achievements. Your unwavering dedication, unrelenting commitment, and relentless pursuit of excellence have elevated the department to new heights.

Your exemplary teamwork and willingness to go above and beyond have not gone unnoticed. Whether it is the delivery of outstanding results, or the consistent demonstration of your expertise, each one of you has played an integral role in shaping the department's success story.

Once again, I extend my heartfelt gratitude and congratulations to each member of our department. Your contributions are invaluable, and I am excited to witness the future accomplishments we will achieve together.

विद्या ददाति विनयं विनयात् याति पात्रताम्।
पात्रत्वाद्धनमाप्नोति धनाद्धर्मं ततः सुखम्॥

Editorial board

Faculty members

Dr. P. Usha Shri,
Mrs. P.V. Neeraja,
Mrs. Anitha,
Dr. L. Shyamala,
Ms. P. Namratha

Student members

Medha. M - III BZC R21
Mariya - II BZC R22
Nufayl ul Safa - I NCB R23

Faculty achievements

Award

Dr. P. Usha Shri received Research Excellence award presented in the International research awards on science, technology and Management INSO organized by VDGGOOD professional association India 31/1/23.

Departmental events



Dr. P. Usha Shri HoD Botany delivered a talk on Vanamothsav on Prasara Bharathi on 4/7/2022

Vanmahothsav programme along with NSS on 5/7/22

Raising nursery plants under the theme Active farming on 2/8/22

Orientation for I year R22 organised on 7/9/22

Career Counselling for final year students was organised on 12/8/2022. Dr. Arvind Shetty, Senior scientist from Ruha Life Sciences.

Awareness programme on 21 leaves used in Ganesh Pooja on 27/8/22

Department organized sale of plant sale on 22/11/22

Vegetable carving class on 24/2/23 to develop culinary skills Mr. Ramakrishna Raju celebrity chef of ETV was the resource person Intercollegiate workshop on Bonsai techniques classes from 15th to 17th December 2022. Mr. Govind Raj expert in Bonsai was the resource person.

Field trip to Dhulapally forest on 8/3/23 Guest lecture for II year students on IPR - 28/1/23 Student & Faculty exchange programme in collaboration with Patna Women's college, Patna, Bihar from 13/3/23 to 20/3/23

Out Reach at Department awareness Programme

Microscopic techniques



Mushroom cultivation



Mushroom cultivation



Students' achievements In-house competitions - Winners

Vegetable carving

- Azeez Fatima II BZC I-Prize
- Sameema Fatima II BZC II-Prize
- Amatus salam madeeha II BZC III-Prize

Best out of waste

- K.Harshita II NCB I-Prize
- Uzma Fatima III BZC II-Prize
- P.Bhavana II NCB III-Prize

Innovations in science and technology

- Gayatri II NCB I-Prize
- Beena & Soumya I MSCs II-Prize
- Beena Fatima I MSCs III-Prize

Slogan writing competition (IIC)

- Ananda Laxmi I NCB I - Prize
- R.Gana sree I BZC II - Prize
- Shanvee B.A(PEP) III - Prize

Intercollegiate Competitions - Winners

Organized by Francis College

- Rajshree - III BZC Event - Floral fascinator I prize
- Sai Megha – Floral fascinator - BZC 3rd Prize
- Madeeha - BZC Ikebana with wild I prize



Organized by Osmania University

- Trisha II NCB Elocution I - Prize
- Bhavana II NCB Essay writing II - Prize
- Ratna Medha II BZC PPT III - Prize

Paper publications

Student's paper publications

1. Samreen Fatima Quantitative estimation of Indole-3-acetic acid in shoot tips and young leaves of *Tecoma stanns* and *Ixora coccinia* from polluted and control regions
2. Afsha Anjum, Khanting Longvah Syeda Yusra Anwar, Saleha Fatima Abeer Zubedi. Estimation of Ascorbic acid content in different Ripe and Unripe Fruits
3. Mou Batalik, Sejal Sudhir kulkarni, Syeda Maria Fatima Hafsa Madiha Comparative study in the presence of Calcium content in Green vegetables(Braccoli,Spinach)
4. Amreen Zara Shakeel Syeda Safa Khaja Uzma Fatima Determination of Vitamin C content in selected vegetables
1. Indole-3-acetic acid in shoot tips and young leaves of *Tecoma stanns* and *Ixora coccinia* from polluted and control regions.
2. Dr. P. Usha Shri Effect of Microwave irradiations on germination of *Trigonella foenum-graecum* High Technology Letters
3. Dr. P. Usha Shri "Morphological and physiological changes in the *Sorghum bicolor* plants under zinc treatment"
4. Mrs. Anitha Estimation of Ascorbic acid content in different Ripe and Unripe Fruits
5. Mrs. Anitha Comparative study in the presence of Calcium content in Green vegetables(Braccoli, Spinach)
6. Mrs. Anitha Determination of Vitamin C content in selected vegetables.

Faculty paper publications

1. Dr. P. Usha Shri, Mrs.Roja and Mrs. Anitha Quantitative estimation of

Paper presentations

In two day international conference on science for survival: to explore the unexplored dimension organized by IQAC and Department of Botany, GCW Udhampur, Jammu & Kashmir, India, on 10th and 11th February 2023.

Student's paper presentations

1. B.Nissi Blossom Paper Presentation in International Conference on Comparative study of Ascorbic Acid content in selected Fruits and Vegetables
2. Umme Ruma Paper Presentation in International Conference on Comparative study of Protein in selected Fruits and Vegetables.

Faculty Paper Presentations

1. Dr. P. Usha shri Paper Presentation in Role of non-enzymatic antioxidants in mitigating Zinc stress in *Sorghum bicolor* plants. Mrs. P. V. Neeraja Ancient herbal healing systems of India.
2. Mrs. S. Roja Comparative study of Protein in selected Fruits and Vegetables.
3. Mrs. Anitha Comparative study of Ascorbic Acid content in selected Fruits and Vegetables.

4. Dr. L. Shyamala Evaluation of air pollution tolerance index of selected

plants at commercial roads of Golconda fort in Hyderabad city.

Visitors at the Department

Dr. Sr. Antony Mary and Dr. Sr. Vijay Rani visited the department and appreciated the department for its good work



Articles Medicinal Plants

Euphrasia officinalis



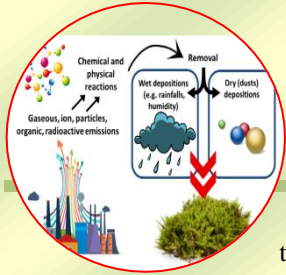
Euphrasia officinalis is commonly called as Eyebright plant belongs to Scrophulariaceae, significant constituents of the plant are iridoid glycosides, acubin, catapol, euphraside, curostoside, geniposide, 7, dihydrogenipoliside.

8- In traditional medicine it is used in Homeopathy as the mother tincture as well as in lower concentrations this plant medicine has been used to treat

eye problems and maintain eye condition from as early as 14th century, It is also used to make teas for treatment of stomach diseases as well as oral powder for allergic reactions and useful for measles when there are profuse. (Mrs. Anitha)

Plants as biomonitors of air pollution

Monitoring of air pollution using plants is cost effective and environmentally friendly technique that substitute physical and chemical analytical methods of air pollution monitoring systems. Biological methods allow direct assessment of risk associated with an exposure. Plants play an important role in monitoring and maintaining the ecological balance by actively participating in the cycling of nutrients and gases like carbon dioxide, oxygen to provide enormous leaf area for impingement, absorption and accumulation of air pollutants to reduce the pollution level in the air environment. Green plants have been used as air pollution indicators for many years. An indicator plant is one which exhibits symptomatology when exposed to phytotoxic concentrations of a pollutant. It has been well established that vegetation canopies can act as sink for the air pollutants on not only gaseous pollutants but also the particulate pollutants. Sensitivity and response of plants to air pollutants is variable. The plant species which are more sensitive act as biological indicators of air pollution whereas tolerant plants can be used for urban greening with an aim of improving the air quality. The response of plants to air pollution at physiological and biochemical levels can be understood by analyzing the factors that determine resistance and susceptibility. Tolerant plants are potentially enough to



collect the dust suspended in the atmosphere and dilute the concentration of toxic and harmful gases. Plants absorb CO₂ from atmosphere and in turn release oxygen in the photosynthetic activity. After absorbing the air pollutants trees change them to harmless metabolites through various Physiological processes. So increasing vegetation in the cities towns and industries holds great potential to combat air pollution. Tolerant plants such as *Samanea saman*, *Azadiracta indica*, *Dalbergia sissoo*, *Ficus religiosa*, *Pongamia pinnata*, *Sterculia foetida*, *Terminalia catappa* are considered for Green Belt Development. (Dr. L. Shyamala)

The elephant tree

The Baobab tree is also called the “upside-down tree (their branches look like Roots).” Also goes by “elephant tree.” They are among the most long-lived of vascular plants and have large flowers that are reproductive for a maximum of 15 hours. *Adansonia digitata L. (Malvaceae)* is commonly known as Baobab tree native to Africa and most are located on the west coast of the Indian Ocean, the island of Madagascar is considered to be the home of baobabs. Over time, the Baobab has adapted to its environment. It is a succulent, which means that during the rainy season it absorbs and stores water in its vast trunk, enabling it to produce a nutrient-dense fruit in the dry season when all around is dry and arid. This is how it became known as “The Tree of Life. The uses of the great Baobab tree are remarkable ;the leaves, bark, and seeds have been used to treat “almost any disease,” including malaria, tuberculosis, fever, microbial infections, diarrhoea, anaemia, toothache, and dysentery .Baobab trees are not only useful to humans, they are key ecosystem elements in the dry African savannas. Importantly, baobab trees keep soil conditions humid, favour nutrient recycling and avoid soil erosion .In Hyderabad ,the Baobab tree is known as Hatian Jhad Baobab tree which is 400 years old tree which makes it the oldest tree in Hyderabad. The tree originated from Madagascar in Africa and is believed to have been brought to India by Arab. (Mariya II BZC).

Euphorbia tirucalli (commonly known as Indian tree spurge, pencil tree, pencil cactus, fire stick, milk bush is a tree native to Africa that grows in semi-arid tropical climates. A hydrocarbon plant, it produces a poisonous latex that can cause temporary blindness. The pencil tree is a shrub or small tree with pencil-thick,

green, smooth, succulent branches that reaches heights of up to 7 metres.

Toxicology - The milky latex from *E. tirucalli* is extremely irritating to the skin and mucosa and is toxic. Exposure to it can cause temporary blindness. Skin contact causes severe irritation, redness and a burning sensation. If ingested, it can cause burns to the mouth, lips and tongue

Medicinal value - *Euphorbia tirucalli* is used as alternative medicine in many cultures. Attempts have been made to use it to treat cancer, excrescence, tumors, warts, asthma, cough, neuralgia, rheumatism, and toothaches. It is useful in whooping cough, gonorrhoea, asthma, leprosy, dropsy, dyspepsia, enlargement of spleen, colic, jaundice and stone in bladder. (Dr. P. Usha Shri)

