

March 2021



GARDENIA

THE POTPOURRI SPECIAL ISSUE

BOTANY DEPARTMENT



National Education Society's
**RATNAM COLLEGE OF ARTS,
SCIENCE AND COMMERCE**
NES COMPLEX, NATIONAL HIGH SCHOOL MARG,
BHANDUP - WEST, 400078

When the flower blooms, the bees come uninvited – Ramakrishna

This is our second issue of Gardenia -the Botany Department's unique newsletter. Yet again, we have some very interesting articles full of insights and practical takeaways.

Our student editor has well described her hands-on experience on the cultivation of Spirulina which is a biomass of blue-green alga. The article will not only make you appreciate this beautiful creation of nature but also indicates how we are taking efforts to provide the best exposure to our students under the leadership of our Founder President Dr. R.Varadarajan.

When Sri. Ramakrishna Paramahansa, the 19th century Hindu mystic talked about gardens, he certainly would have had Marigolds in mind. It will be wonderful if you can plant these ubiquitous and beautiful flowers, and relish their beauty! Our article gives a lot of details.

Marigolds can certainly help brighten your day during these times when we all are stuck at home due to the pandemic. We also give details of the RT-PCR Technique used to detect the COVID-19 virus. Know more about this tool and get empowered.

Our team has also gone out of the way to think creatively to help you use Potpourri – a mixture of dried, naturally fragrant plant material. It's time you can use nature to brighten up your home and workplace.

Nature is not only a destination for peace, but it is a healer as well. Listening to water flowing over the pebbles or sea waves would have given you that immense joy. Nature, especially the forests, has also been the tool for improving our mental and physical health for centuries. Our detailed piece on Forest Therapy is timely and gives a lot of info on how to embrace nature to make your daily life stress-free.

My compliments to Mrs. Mamta Yadav and Mrs. Shweta Belose for motivating the student contributors of this Newsletter.

“Technology is just a tool. In terms of getting the kids working together and motivating them, the teacher is the most important.” — Bill Gates

Students are encouraged to take up research based projects and are sent for training programs. The College and the Department are extremely thankful to DBT-Star Status Scheme which is instrumental in developing Scientific fervor amongst students. Sincere thanks to Principal, Dr. Mary Vimochana for always being with teachers and students.

Wishing you all wonderful and safe times !!



Dr. Sunita Chahar
Head of the Department

EDITORIAL DESKS

As an editor and designer of this newsletter, I would like to tell everyone that putting a magazine together is indeed not a cakewalk. A year ago, we were accustomed to creating and designing the newsletter, Gardenia, for the Botany Department. This newsletter is published twice a year.

As this newsletter has come together, I would like to express my deep and sincere gratitude to the team members and Mrs. Mamta Ma'am for providing invaluable guidance.

I, along with my editorial team, have spent days making this magazine stand out. It gives us immense pleasure to declare that the second edition of Gardenia is here. It includes all the pen-down emotions and talents of the young minds mingled with the illation of the Department's achievements. I would love to tell you what else this edition contains, although I want you to explore the edition with all your excitement.

Lastly, I would like to thank all my editorial team members for helping me pull this through. I express my considerable

appreciation to all the authors of the articles in this magazine. A special thanks to our Head of Department, Mrs. Sunita Chahar madam, Mrs. Shweta Belose madam, and Mrs. Mamta Yadav madam for guiding and encouraging us all three years.

KSHAMITA BAVISKAR

Editor & Designer



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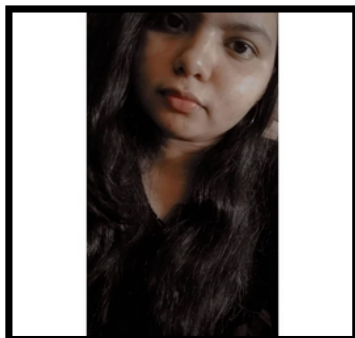
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KALPANA SHIGVAN
Potpurri



AARTI SINALKER
Potpurri



DISHA PURABIA
Forest Therapy



REENA SAHU
Forest Therapy



BHOOMI PATEL
Let's Grow : Marigold



SHRUTI PATEKAR
Let's Grow : Marigold



PREETI GUPTA
RT PCR

MRS. MAMTA YADAV
Chief Editor

INDEX

CONTENTS

| | |
|--------------------------------------|----|
| <i>Nature's Treasure : Spirulina</i> | 01 |
| <i>Let's Grow : Marigold</i> | 03 |
| <i>RT-PCR Technique</i> | 04 |
| <i>Potpourri</i> | 06 |
| <i>Forest Therapy</i> | 09 |
| <i>Test Your Knowledge</i> | 12 |
| <i>Activities & Competitions</i> | 17 |
| <i>Creative Corner</i> | 19 |

Beyond the Books

Love gaining extra knowledge?

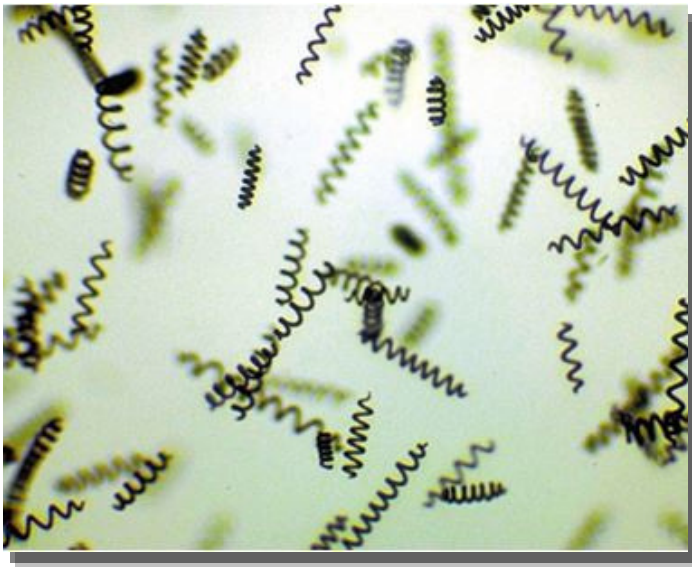
or

Love reading articles?

We have some amazingly penned articles by students of the third year. Explore Beyond the Books section and get enlightened about various topics.



NATURE'S TREASURE: SPIRULINA



Training is a learning opportunity that adds skills and improves working knowledge of best practices used in experiments.

Our Head of the Botany Department, Dr. Sunita Chahar, provided this opportunity where five students gained hands-on experience on cultivation of spirulina. I actively participated in this program. This training was at ICAR-CIFE Institute, Versova. It was a five-day training program that took place under DBT-Star Status Scheme. It was a combination of three days of online training and two days of the hands-on practical session.

What is *Spirulina*?

Spirulina (*Arthrospira*) is a biomass of cyanobacterium (blue-green alga). It is microscopic, multicellular, and filamentous. Its name derives from the spiral nature of its filaments. It is originally from saltwater lakes

in Mexico and Africa but today is predominantly grown in artificial ponds.

Did you know that *Arthrospira* is edible and has many health benefits?

This tiny alga is a package of nutrients. A single tablespoon (7 g) of dried *spirulina* powder contains Vit. B1, Vit. B2, Vit. B3, Copper, Iron, etc. Spirulina contains more than 12 times the



protein of an equivalent serving of beef. Studies show that it may lower cholesterol and blood pressure, provide allergy relief, have anti-inflammatory effects, etc.

What did we learn at the institute of CIFE?

We got the chance to see how to maintain the outdoor and indoor mother culture precisely. They showed us a self-made tubular bioreactor of a hosepipe and FRP tank. We learned how to work in a laminar airflow, extracting phycocyanin. Also, we gained experience on equipment used in industry such as incubator, spectrophotometer, and centrifuge. We also came across the use of the Spread plate technique of inoculating bacterial colonies.

Special thanks to our college and the DBT department for providing us such a great opportunity.

KSHAMITA BAVISKAR

T.Y. B.Sc.



Tagetes patula
(French Marigold)



Tagetes tenuifolia
(Signet Marigold)



Tagetes erecta
(African Marigold)



**BHOOMI PATEL &
SHRUTI PATEKAR**

T.Y. B.Sc.

LET'S GROW: MARIGOLD

Marigolds are beloved to bring color and pollinators to the garden.

Marigold seeds germinate quickly, within just a few days, and flower in about eight weeks.

Marigolds are a great companion in your vegetable garden and help protect your veggies from predators and pests.

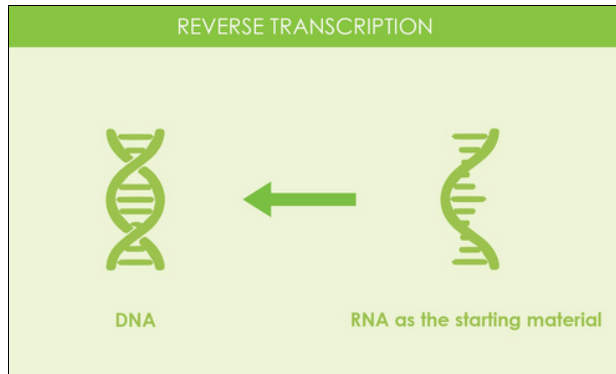
Brighten Up Your Garden With Marigold

| | | | |
|-----------------------|---|---|--|
| Can be Grown | All over India. | | |
| Height / Spread | There are varieties available from 6 inches to 4 feet tall, and 6 inches to 2 feet wide. See 'Types' for more specific information on sizes. | | |
| Exposure to light | Full Sun. | | |
| Soil pH | 5.6 to 6.5 | | |
| Sowing Time | Mid-September to Mid-October. | | |
| Germination Time | 5-7 days. | | |
| Flowering Time | November to March. | | |
| Color | Marigolds are available in shades of orange and yellow; some with highlights of red, gold, copper or brass. | | |
| Types | There are approximately 50 species of marigold, but the 3 most common are: | | |
| | <i>Tagetes patula</i> (French marigold) | <i>Tagetes erecta</i> (African marigold) | <i>Tagetes tenuifolia</i> (Signet marigold) |
| | The most common type found in local nurseries, these range in size from 6 to 12 inches tall and 6 to 9 inches wide. They are compact annuals with double flowerheads up to 2 inches across. | These are the tallest variety of marigolds and range in height from 1 to 4 feet, and have a 1 - 2 foot spread. Their large flowerheads can reach up to 5 inches across, are densely double and pompon-like. | Upright annuals that grow up to 12 inches tall and wide. Flowerheads are single and are usually 1 inch in size. The flowers are edible and often used as a bright topper for salads, pasta and vegetables. |
| Where to plant | Most marigolds prefer to be located in an area with full sun but will tolerate some shade. | | |
| Sow directly in pots. | | | |
| Pinching | Dead flowers should be pinched to make the plant bushier and get more flowers. | | |

" A silent moment in a garden is therapeutic which has healing powers."

RT-PCR TECHNIQUE

RT is the process of making a double stranded DNA molecule from a single stranded RNA template through the enzyme reverse transcriptase.



It is called reverse transcription because it is a process in opposite or reverse of transcription.

PCR

Polymerase chain reaction or PCR is a laboratory technique used to make multiple copies of a segment of DNA. PCR is very precise and can be used to amplify, or copy a specific DNA target from

a mixture of DNA molecules.

PCR is a technique to make many copies of a specific DNA region in vitro (in a test tube rather than an organism).

How does real time RT-PCR work with the COVID-19 virus?

A sample is collected from the parts of the body where the COVID-19 virus gathers, such as a person's nose or throat.

The sample is treated to proteins and fats and extract only the RNA present in the sample. This extracted RNA is a mix of the person's own genetic material and, if present, the virus's RNA.

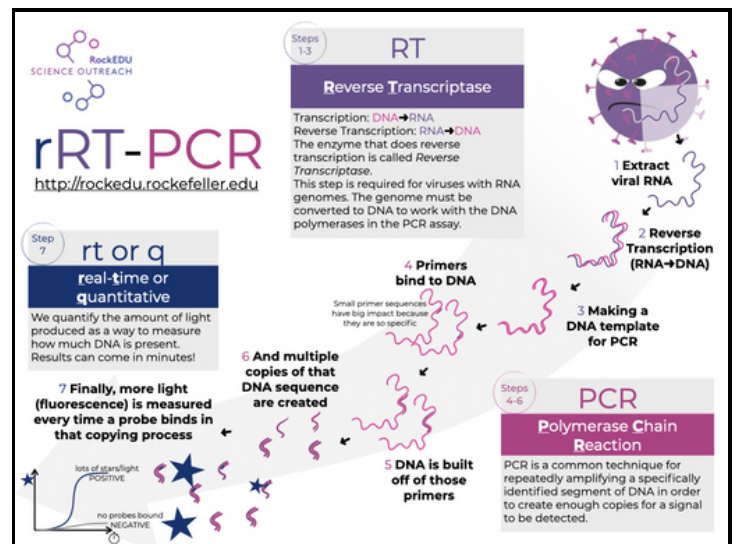
The RNA is reverse transcribed to DNA using a specific enzyme.

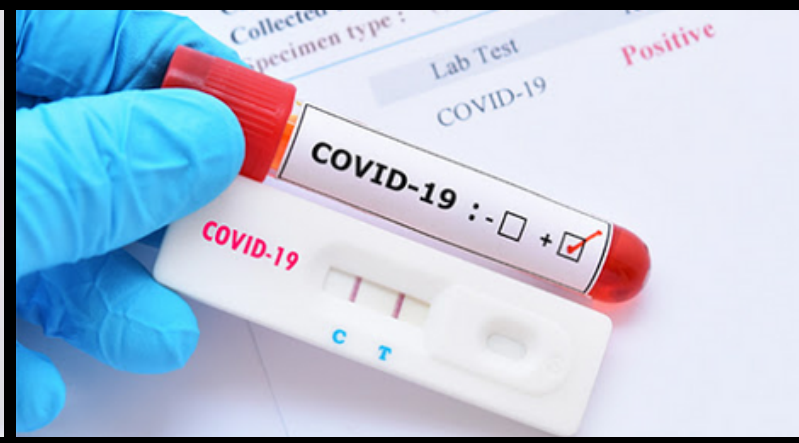
Scientists then add additional short fragments of DNA that are complementary to specific parts of the transcribed viral DNA. If the virus is present in a sample, these fragments attach themselves to target sections of the viral DNA. Some of the added genetic fragments are used for building DNA strands during amplification, while the others are used for building the DNA and

adding marker labels to the strands, which are then used to detect the virus.

The mixture is then placed in an RT-PCR machine.

The machine cycles through temperatures that heat and cool the mixture to trigger specific chemical reactions that create new, identical copies of the target sections of viral DNA.





The cycle is repeated over and over to continue copying the target sections of viral DNA. Each cycle doubles the previous number: two copies become four, four copies become eight, and so on. A standard real time RT-PCR set-up usually goes through 35 cycles, which means that, by the end of the process, around 35 billion new copies of the sections of viral DNA are created from each strand of the virus present in the sample.

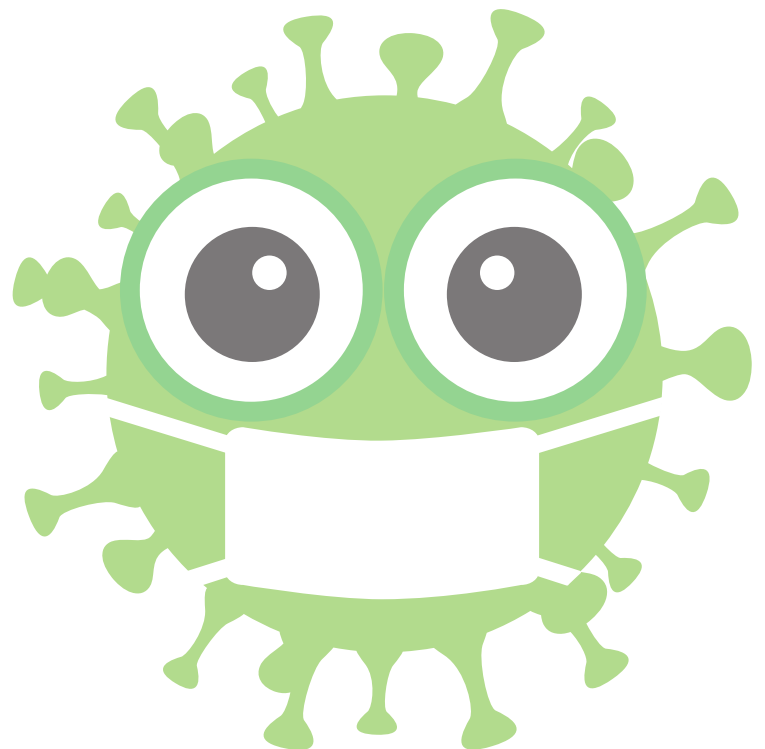
As new copies of the viral DNA sections are built, the marker labels attach to the DNA strands and then release a fluorescent dye, which is measured by the machine's computer and presented in real time on the screen.

The computer tracks the amount of fluorescence in the sample after each cycle. When a certain level of fluorescence is surpassed, this confirms that the virus is present.

Scientists also monitor how many cycles it takes to reach this level in order to estimate the severity of the infection: the fewer the cycles, the more severe the viral infection is.

PREETI GUPTA

T.Y. B.Sc.



" Health is not valued till sickness comes. " - Thomas Fuller



“The smell is a potent wizard that transports us across thousands of miles along with all the years we have lived.” - Hellen Keller

Everyone knows about chemical therapies available in the market, but have you ever heard about healing with aromatic substances? Yes, You read it correctly, healing with aromatic substances naturally available is called **Aromatherapy**. Aromatherapy is a bit costly, although we can get it at our houses using **“Potpourri”**.

What is Potpourri?

Potpourri is a mixture of dried, naturally fragrant plant material. It provides a gentle natural scent inside buildings, most commonly in residential settings. It is usually placed in a decorative bowl or tied in a small sachet made from sheer fabric. Potpourri is used inside the home to give the air a pleasant smell.

History

In the early 17th Century France, fresh herbs and flowers were collected starting in spring and continuing throughout the summer. The herbs and flowers were left for a day or two to become limp, then layered with coarse sea salt. The aging mixture was agitated occasionally as new

POTPOURRI





What does Potpourri mean?

The word "potpourri" comes into English from the French word "pot-pourri." The French term has two connotations. It is the French name for a Spanish stew with a wide variety of ingredients called "olla podrida," the specialty of Burgos town. The word was taken and copied by the French military during the Napoleonic occupation of Burgos. However, the word "pot" in French has the same meaning as in Spanish and English, while "pourri" means rotten. In English, "potpourri" is used to refer to any collection of miscellaneous or diverse items.

layers of flowers and herbs were added to it. Often the mixture would ferment or even mold as the summer went by. In fall, spices are added to the unsightly grey mix until you can smell a pleasant fragrance, then scent preserving fixatives are added. The acquired potpourri is then transferred into unique pots having perforated lids to perfume rooms. Modern homes avoid having containers of moldy substances laid around. Botanical potpourri can be made from a variety of retail establishments and online directly from countryside herb farms.

Lifespan

The scent of potpourri will last anywhere from 2 months to years, depending on the blend you choose, where it is placed and how it is used. By keeping it in a place that is free from direct sunlight and breezes, it will last longer.

Containers

Do not choose metal or utensils as bowls or jars for potpourri. They can often alter the original fragrance of the mixture by reacting with them. Go for a wooden, glass, or ceramic container to hold the potpourri.

Plants Used

There are many plant species that are used for potpourri. Researchers have identified 300 species from 95 families, including fungi and lichens.

Naturally scented plants used in traditional potpourri include:

- Jasmine flowers and oil
- Jujube flowers and blooms
- Lavender leaves and flowers
- Lemon balm leaves and flowers
- Lemon peel
- Cloves

- Fennel seed
- Orange peel
- Mint leaves and flowers
- Rose flowers, hips or oil
- Rosemary leaves and flowers.

Uses

- Used as Perfume.
- Used as room decor.
- Used in Aromatherapy.
- Used as customised gifts.
- Used for Invigorating the Room.

AARTI SINAKLAR & KALPANA SHIGVAN

T.Y. B.Sc.



**"You don't need
Motivational Quotes or
videos to get inspiration.
A soothing fragrance in
your environment can work
better."**

10 ESSENTIAL OILS & THEIR BENEFITS

1 CHAMOMILE
This is a very gentle oil with anti-inflammatory properties. It helps to calm and reduce anxiety and stress, so is great if you are feeling down or overwhelmed. Or, if you have headaches or trouble sleeping, chamomile might be able to help you there, as well.

2 EUCALYPTUS
This is an excellent oil to help decongest the skin or to help with colds or mucous. If you are sick, put eucalyptus in your diffuser to help decongest and feel clear. It can also help relieve muscular aches and acts as a natural insect repellent.

3 LAVENDER
Perhaps one of the most popular essential oils, lavender is bacterial, anti-fungal, helps heal burns, bites, rashes, and wounds, and is awesome at promoting healthy sleep and reducing anxiety.

4 LEMON
Fresh and bright, lemon essential oil has anti-microbial properties used to treat colds, flus, bronchitis, and asthma. It's also an immune stimulant and is a great circulatory oil to use for things like varicose veins and hemorrhoids. It will help your home smell fresh and clean!

5 MARJAROM
This amazing oil does all sorts of things, such as lowering blood pressure, relieving colic, acts as an anti-spasmodic to help indigestion, and can even open your sinuses. It's also shown to help eliminate snoring and act as a gentle sedative.

6 PEPPERMINT
Definitely another favourite oil, and for good reason! It's got great abilities to help relieve pain related to muscles and joints, and also helps with digestion, relieving nausea, diarrhea, gas, vomiting, and the like. It's also amazing for headaches and migraines!

7 SWEET ORANGE
This is a great oil for children. It helps to settle kids, relieving digestive complaints and helping them to sleep better. It's often recommended for constipation or diarrhea, and can act as a mild anti-depressant.

8 ROSEMARY
Rosemary doesn't just add flavour to food! The oil helps to raise low blood pressure and is great for circulatory problems. It also can help promote focus and concentration if you're having trouble buckling down and doing some work.

9 SPRUCE
This is also great for circulation and also for treating asthma, bronchitis, colds, flu, coughs, and general respiratory weakness. Are your adrenal glands suffering? If they are, spruce can help restore depleted adrenals and reduce stress.

10 TEA TREE
Last but definitely not least. Tea tree oil is an anti-bacterial, anti-fungal oil that has been known to treat things like acne, athlete's foot, blisters, burns, cold sores, dandruff, skin rashes, warts... the list goes on and on.



FOREST THERAPY

Nature's beauty encourages people to go outside, inhale the fresh air, listen to the birds, take a walk, or watch the wind animate the branches of the steadfast neighboring trees. The pull toward the natural world is present even in usual times. Due to this pandemic, as

we are confined indoors, often spending hours in front of inanimate screens, the urge to be outside is ever more acute. One way to satisfy these urges while improving our health and well-being is forest therapy, a practice growing in popularity around the globe.

History

What exactly is forest bathing? The term emerged in Japan in the 1980s as a physiological and psychological exercise called *shinrin-yoku* (forest bathing or taking in the forest atmosphere), which is considered a form of nature therapy. Researches on the physiological effects of *shinrin-yoku* began in Japan in 1990 and continue till today.

Sometimes referred to as ecotherapy (a term coined by Howard Clinebell in 1996), having the intention of improving an individual's mental or physical health. The principle of eco-psychology, which looks at how we feel interconnected with the mother earth, is the basis of ecotherapy.

The effects of nature therapy can be related to two well-known theories, the Stress Reduction Theory (SRT) and the Attention Restoration Theory (ART).

Examples of nature therapy include Forest Bathing or *Shinrin-yoku*, Horticultural therapy, and Grounding or Earthing.

In the 6th century BCE, Cyrus the Great planted a garden in the middle of a city in an effort to increase human health. In the 16th century CE, Paracelsus wrote: The art of healing comes from nature, not from the physician.

Forest Therapy in India

Forest Therapy abides a combination of therapeutic leisurely walks on gentle paths under the forest canopy, honing your intuition, and experiencing the forest like never before. We draw upon awakening our senses with mindfulness meditation practices and Qi Gong meditation along with Deep Breathing exercises.

We rest at several points along the walk and share our experiences which might help one learn something.

In the past several decades, many scientific studies demonstrating the mechanisms behind the healing effects of simply being in wild and natural areas.

The process of Nature Therapy

MANY TREES GIVE OFF ORGANIC COMPOUNDS THAT SUPPORT OUR WHITE BLOOD CELLS THAT ARE PART OF OUR IMMUNE SYSTEM'S WAY OF FIGHTING CANCER.

- Stressed state: A person is in a state of physical or emotional stress.
- Restoring effects of nature: When a person spends time in nature, it helps in the improvement of physiological relaxation and the immune recovery response.
- Evidence-based medicine (EBM): Nature directly increases the parasympathetic nervous system and heightens awareness, causing relaxation.

Benefits

Tests like Neuroimaging and psychological analysis such as the Profile of Mood States (POMS) demonstrate that nature therapy

(specifically shinrin-yoku) has several physiological and neuropsychological benefits. Spending time in nature can improve immune, cardiovascular, and respiratory functioning. Nature therapy provides :

- emotional healing,
- decreases blood pressure,
- improves sleep cycle,
- reduces stress and aggression,
- pain reduction,
- Boost Immune Functioning,
- Enhance mood and cognition in depressive patients,
- Intensify creative thinking, etc.

Apart from physical and psychological well-being, nature therapy can also help to improve social well-being.



Research and Case Studies

- A 2007 study from the University of Essex in the United Kingdom proves that walking in the country would reduce depression in 71% of participants.
- A 2012 systematic review study showed ambiguous results related to methodological issues across the literature.
- A 2017 systematic review of the benefits of spending time in forests demonstrated positive health effects but not enough to generate clinical practice guidelines or demonstrate causality.
- One of the earliest and most studied forms of nature therapy is forest therapy. A 2020 systematic review of recent forest therapy studies concluded that forest therapy plays a significant role in preventive medicine and stress management for all age groups. Forest therapy has received state-backing in Japan and South Korea.
- In Finland, government-funded researchers recommend a minimum nature dose of five hours a month to reduce depression, alcoholism, and suicide.
- In South Korea, there is a free program of nature therapy sponsored by the local government for firefighters suffering from post-traumatic stress disorder

Future of Forest Therapy

There exists a limited number of available studies to reference for the definitive conclusion regarding the success of nature therapy as a common practice, forms of nature therapy have been deemed sufficient in serving as a complementary therapy for adult medical usage. There are signs of this field being a notable practice among children or within pediatric studies in the future.

DISHA PURABIA &

REENA SAHU

T.Y. B.Sc.

“And forget not that the earth delights to feel
your bare feet and the winds long to play
with your hair” - Khalil Gibran



Test Your Knowledge

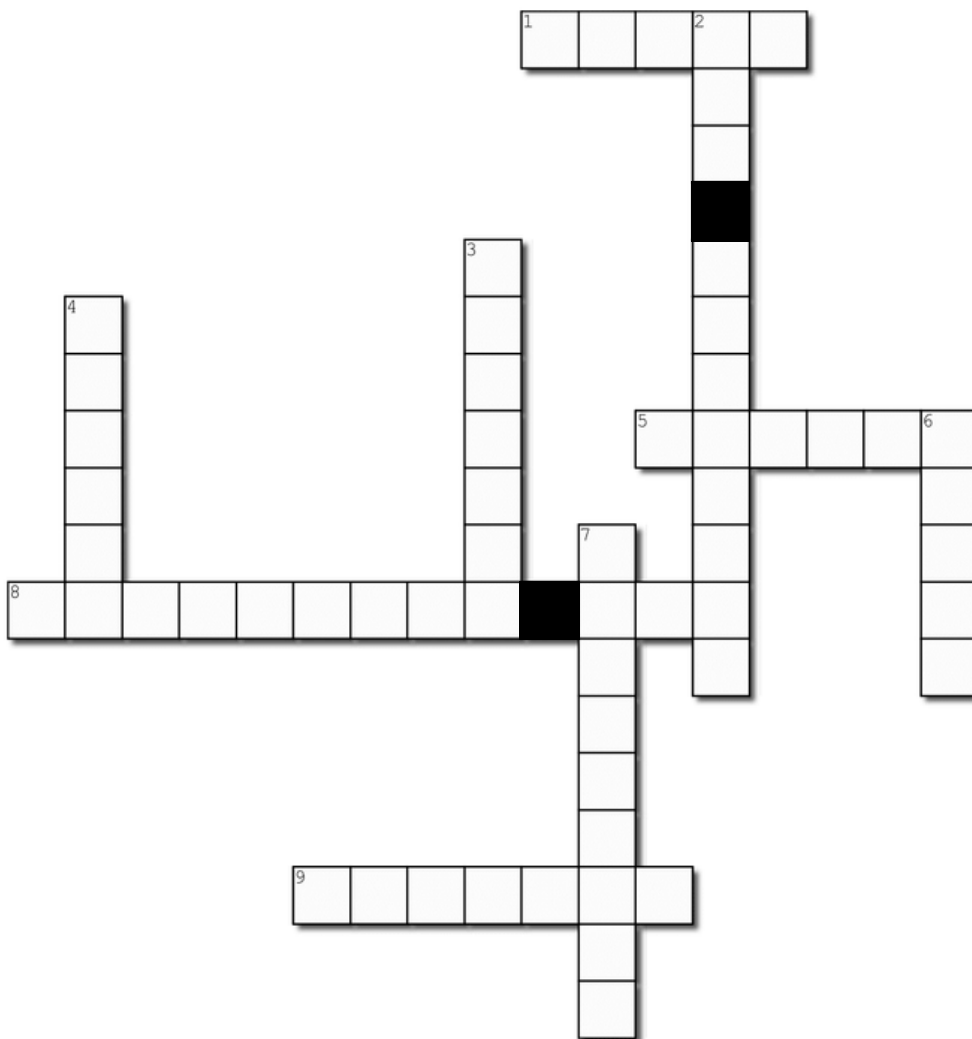
Do you love brain exercises?

Here are some puzzles to boost your thinking and mood. We have also added some fascinating facts about flowers to astonish you.

CROSSWORD

POTPOURRI

Complete the crossword puzzle given below.



Across

1. Opposite of moisturised
5. Delicate, colourful
8. Extract from plant parts
9. Similar to heterogeneous

Down

2. Harmless to environment
3. Opposite of synthetic
4. Enhances the flavour of many dishes
6. Another word for aroma
7. Collection containing different types of things

WORD SEARCH

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | A | E | E | H | R | U | P | S | K | R | A | L | E |
| U | N | R | E | O | G | E | C | U | A | S | U | M | N |
| S | G | O | L | N | G | R | S | A | E | U | T | I | T |
| E | E | S | G | O | E | M | D | I | I | G | H | N | N |
| R | L | E | E | S | E | E | S | A | I | A | Y | M | S |
| A | I | M | L | A | U | N | N | U | V | O | M | U | L |
| E | C | A | D | N | A | H | S | E | R | S | E | I | A |
| D | A | R | L | P | T | I | T | E | S | T | U | N | R |
| E | E | Y | U | A | E | V | D | N | O | E | Y | A | U |
| T | U | A | U | I | S | N | S | V | A | L | S | R | Y |
| S | A | U | P | I | E | I | A | A | S | I | L | E | T |
| S | A | I | K | V | N | S | I | C | H | O | D | G | O |
| S | V | A | A | E | L | Y | E | T | R | V | S | D | R |
| R | E | L | R | A | L | U | D | N | E | L | A | C | A |

DIANTHUS
CALENDULA

THYME
ANGELICA

ROSEMARY
PANSIES

LAVENDER
LARKSPUR

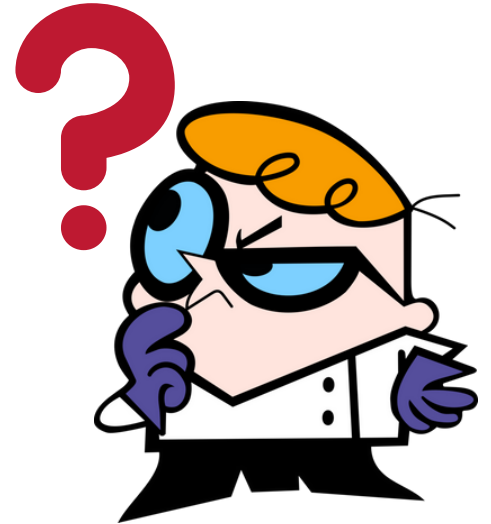
VOILETS
GERANIUM

MAZE



RIDDLES

- i. I am purple in colour and a herb.
My fragrance is pleasant.
I can calm your stress and anxiety.
My extracts are used as oils.
Who Am I?



- ii. I'm yellow but I'm not a banana.
I can be over ten feet tall but I'm not a giraffe.
I have seeds but I'm not a lemon.
I can provide oil but I'm not canola.
I'm a plant but I'm not a rose.
What Am I?

- iii. I can be red, pink, yellow, orange or white, but I'm not a crayon.
I smell nice but I'm not perfume.
I get put in water but I'm not dirty clothing.
I have a stem but I'm not a wine glass.
I get seen a lot on Valentine's Day but I'm not a stuffed animal.
What Am I?

FUN FACTS



Flowers did not always exist; they first appeared 140 million years ago. Before that, ferns and cone bearing trees dominated the earth.



Some plants produce toxic substances that kill other plants around them - the sunflower is an example.



Some plants such as orchids do not need soil to grow - they get all of their nutrients from the air.



Several centuries ago in Holland, tulips were more valuable than gold.



The Bird of Paradise is a beautiful, oddly shaped plant that resembles a colorful tropical bird.



Broccoli is actually a flower.

Activities & Competitions

Do you think science is all about just being a bookworm? Ugh!

The Botany Department students have defined the boundaries of science in a modern direction. During the academic session of the year, 2020 - 21, students of the botany department have participated in several activities, online competitions, and training programs. Instead of stopping, the pandemic has only strengthened the wings of the glorious souls.

Here's a little glimpse of the champions of our department sparkling their glitters in diverse fields.



COMPETITIONS



Digital Poster Making Competition

In house faculty trained students on “How to make digital poster” to celebrate World Science Day. Students learned the concept of digital poster & submitted their own posters for the competition organized to celebrate World Science Day. The topics given for the competition were as follows:

- COVID - 19
- Women Empowerment in Science
- Pollution Control
- Biodiversity
- Sustainable Development



Some Prize-Winning Posters

Slogan Writing & E-Poster Making Competition

Nature Club of the Botany Department in collaboration with Happie Foundation, organized a Slogan Writing and e-Poster Making Competition to Celebrate ‘Van Mahotsav’ from 1st- 7th July 2020. The competition was divided into three categories i.e. for students of VIII-XII, Undergraduates, and Post Graduates. The theme of the competition was ‘Conservation of Forest’. The rules and regulation along with registration forms were sent into various social media groups to attract wide participation. A total of 56 students from 24 schools and colleges participated in the event.



E-Quiz

On the occasion of World Environment Day on 5 June 2020, the Department of Botany organized an e-Quiz competition for UG & PG students on the topics related to Environmental Science. In Total 431 students responded with one student from Germany, giving it an international touch. Students who scored above 80% were given certificates. A total of 196 certificates were given.



Annual Research Convention : ‘Aavishkar’

Two S.Y.B.Sc. (Botany) Students Ms. Shruti Rane and Ms. Shivani Khetam participated in the 15th Intercollegiate Annual Research Convention ‘Aavishkar’ 2020-21, under the Pure Science category and presented their project work on “Structural Defense Mechanism in Plants”.

ACTIVITIES



Workshop on Paper Bag Making

The Department of Botany organized an Online Workshop on Paper Bag Making. The resource person was Mr. Amol Chavan, who is Paper Artists from NGO – Paryavaran Dakshata Manch. He showed three different styles of paper bags. The take away from this workshop was to learn the importance of Eco Friendly products & Ban on Plastics.

Online Lecture Series

Inhouse faculty of department of Botany conducted Online training / Lecture series on "How to handle Microbes in Lab" with ppt for S.Y. B.Sc. (CB) & T.Y. B.Sc. (AC) Students. The topics selected for training were : Presentation series on "How to handle Microbes"

- PPT 1 : " Microbes around Us."
- PPT 2 : Sterilization techniques, Instruments used, & Lab safety wear.
- PPT 3 : Media preparation , Slants & Petri-plate pouring
- PPT 4 : Isolation of Microbes
- PPT 5 : Lab safety rules : BSL 1 to BSL 4



Guest Lectures

Department also organized Series of Guest lectures of eminent personalities as well as inhouse faculties on various topics like

- Plagiarism and research integrity by Dr. A. P. Jayaraman, ret.d. Senior Nuclear Scientist, Chairman, National Centre for Science Communicators, President of STEAM Academy.
- Friends or foe: An insight about fungi by Dr. Sasirekha, Mithibai College
- Introduction to soilless culture by Dr. Chanda Mourya, Ruia College
- COVID and Personal Protection' Dr. Shailesh Wagale, Manager - Community Investment, from the NGO, United Way Mumbai
- Career aspects in perfumery & cosmetic industry by Ms. Sara Farooqui from Springfield Aromatics.



Workshop on Spirulina Culture at ICAR -CIFE

Department of Botany deputed five students for 5 days workshop on Spirulina culture at ICAR-CIFE under DBT Star College Scheme.

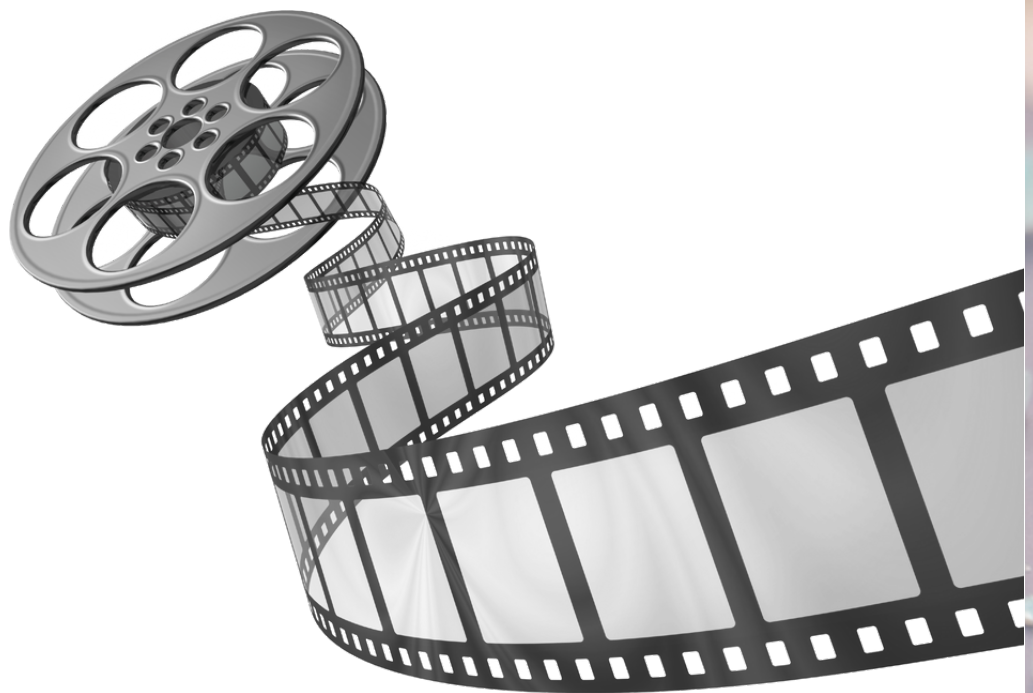
Under the guidance of Dr. S.P. Shukla, Principal Scientist, Aquatic Environmental & Health Management Division. ICAR Central Institute of Fisheries Education, Seven Bungalows, Versova, Andheri (W), Mumbai. Following five students underwent the training:

- Ms. Kshmita Baviskar - T.Y.B.Sc. CB
- Ms. Manasi Pote - S.Y.B.Sc. CB
- Ms. Sakshi Tripathi - S.Y.B.Sc. CB
- Ms. Srushti Rane - S.Y.B.Sc. CB
- Mr. Sanjay Yadav - T.Y.B.Sc. CZ

Students learned Spirulina Pure Culture, Mother Culture preparation, Harvesting Method, Nutritional properties of Spirulina, etc.

Creative Corner

During this pandemic situation, we have plenty of time to be creative and think creatively. This section shows the artistry of few students of third-year B.Sc., get inspired with these beautiful sketches, and be artistic.



ART GALLERY



Pooja Tinani
T.Y. B.Sc.



Pooja Tinani
T.Y. B.Sc.



Shruti Patekar
T.Y. B.Sc.



Shruti Patekar
T.Y. B.Sc.

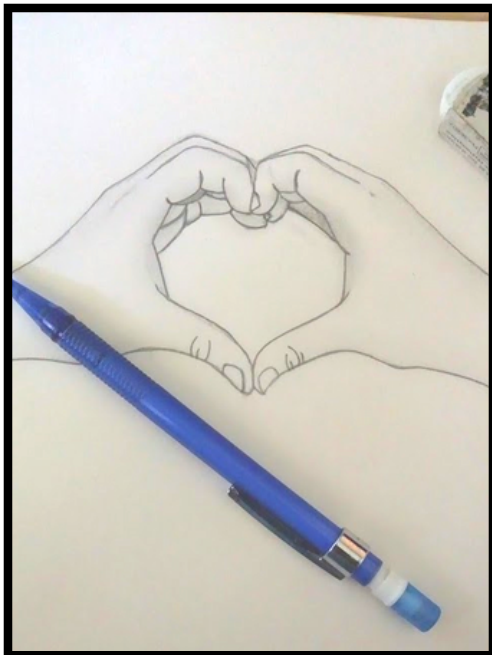
ART GALLERY



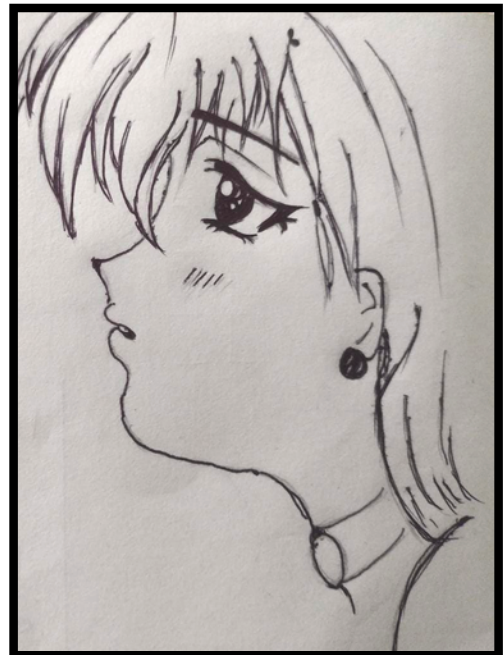
Reena Sahu
T.Y. B.Sc.



Reena Sahu
T.Y. B.Sc.



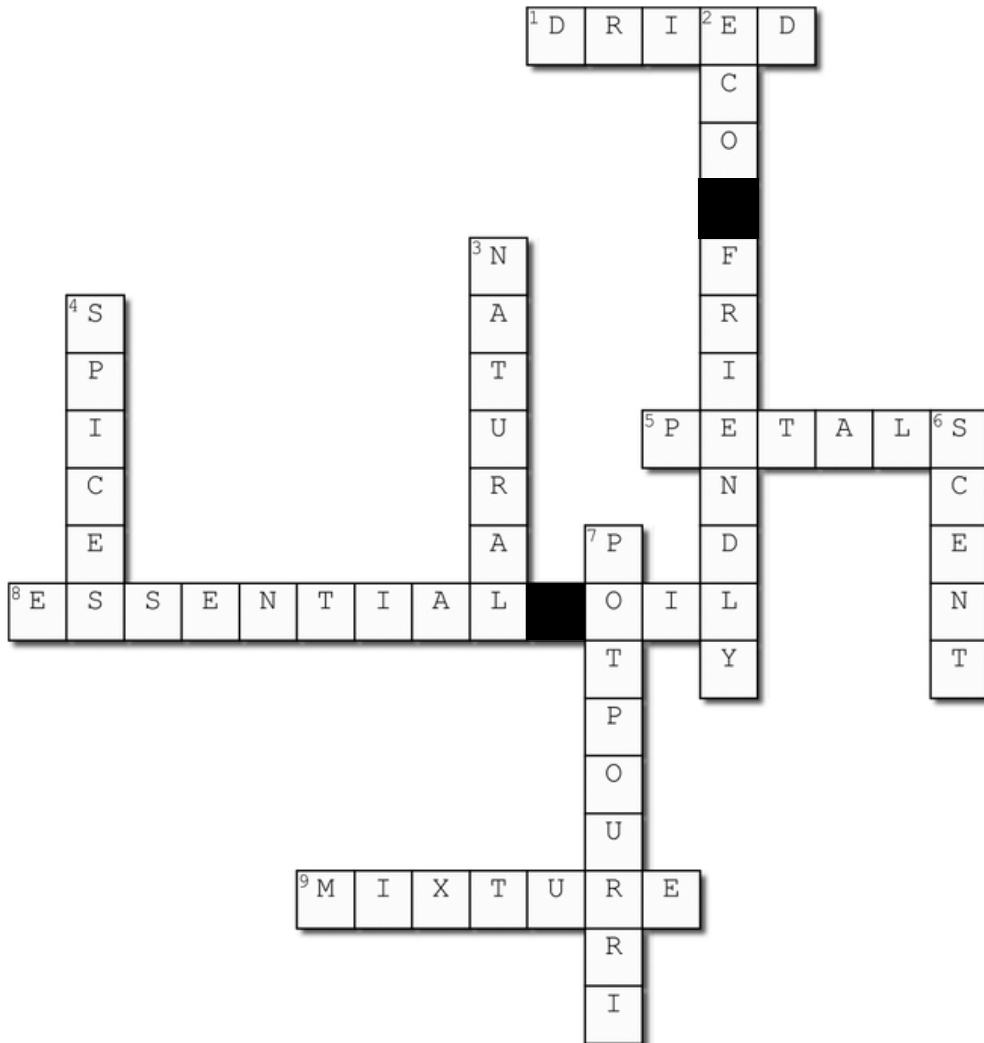
Kshamita Baviskar
T.Y. B.Sc.



Kshamita Baviskar
T.Y. B.Sc.

ANSWERS

CROSSWORD



Across

1. Opposite of moisturised
5. Delicate, colourful
8. Extract from plant parts
9. Similar to heterogeneous

Down

2. Harmless to environment
3. Opposite of synthetic
4. Enhances the flavour of many dishes
6. Another word for aroma
7. Collection containing different types of things

ANSWERS

WORD SEARCH

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | A | E | E | H | R | U | P | S | K | R | A | L | E |
| U | N | R | E | O | G | E | C | U | A | S | U | M | N |
| S | G | O | L | N | G | R | S | A | E | U | T | I | T |
| E | E | S | G | O | E | M | D | I | I | G | H | N | N |
| R | L | E | E | S | E | E | S | A | I | A | Y | M | S |
| A | I | M | L | A | U | N | N | U | V | O | M | U | L |
| E | C | A | D | N | A | H | S | E | R | S | E | I | A |
| D | A | R | L | P | T | I | T | E | S | T | U | N | R |
| E | E | Y | U | A | E | V | D | N | O | E | Y | A | U |
| T | U | A | U | I | S | N | S | V | A | L | S | R | Y |
| S | A | U | P | I | E | I | A | A | S | I | L | E | T |
| S | A | I | K | V | N | S | I | C | H | O | D | G | O |
| S | V | A | A | E | L | Y | E | T | R | V | S | D | R |
| R | E | L | R | A | L | U | D | N | E | L | A | C | A |

DIANTHUS
CALENDULA

THYME
ANGELICA

ROSEMARY
PANSIES

LAVENDER
LARKSPUR

VOILETS
GERANIUM

ANSWERS

MAZE



RIDDLES

- i. Lavender ii. Sunflower iii. Rose

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FOREST THERAPY

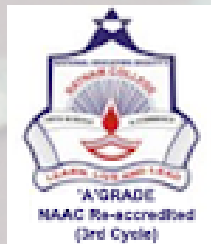
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