Sciphon

A Science Magazine from

Marian Star Center

St. Mary's College (Autonomous), Thoothukudi.

Learn . Launch . Lead

Issue - 14

May - 2022

Scientist of the month

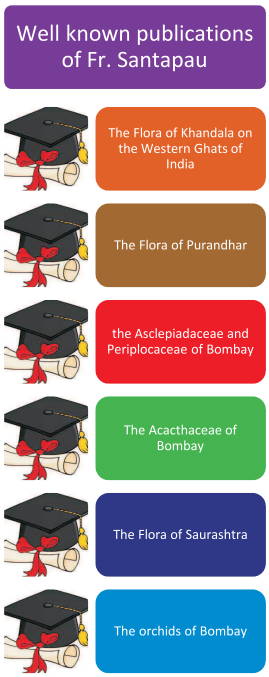
Fr. Hermenegild Santapau

Early Life

- Hermenegild Santapau (1903-1970) was a Spanish born Indian Jesuit priest and botanist, known for his taxonomical research on Indian flora.
- He was credited with the Latin nomenclature of several Indian plant species.
- A recipient of the Order of Alphonsus X the Wise Award from the Spanish Government and the First recipient of Birbal Sahni Medal by Botanical Survey of India (BSI).
- He was honoured by the Government of India in 1967, with the award of Padma Shri, the fourth highest Indian civilian award for his contributions to the society.

Contributions

- Fr Hermenegild Santapau was associated with the National Institute of Sciences of India, the Linnaean Society, London, the Indian Botanical Society.
- Fr. Santapau served on some of the committees appointed by the Council of Scientific and Industrial Research (CSIR), Indian Council of Medical Research (ICMR) and the Indian Council of Ayurvedic Research.



- In 1954, the Government of India nominated Fr. Santapau as chief Botanist for one year for the revival of the Botanical Survey of India. He served as Director, BSI from 1961-67.
- He was asked by the Government of India to head the Indian contingent to the tenth International Botanical Congress, Edinburgh, in 1964.
- He was also an official delegate at the International Standards Organisation meeting in New Delhi in 1964.

Ms. S. Pauline Jenifer

Assistant Professor of Botany

St. Mary's College (Autonomous), Thoothukudi

Sponsored By Department of Biotechnology, Ministry of Science & Technology, Government of India, New Delhi.

Let's Explore...

Thomas and Teresa were amazed at the magnificent nature and its ways of protecting mankind in so many ways. Let's see what they learn today.

Teresa : Ugh Thomas, the mosquitoes are biting so much! I can't bear this. I hope we don't end up having malaria.

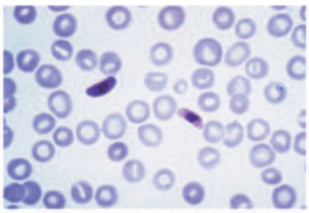
Thomas: Do you know how malaria is caused?

Teresa : Of course Thomas, we learnt at school yesterday. Malaria is caused by the parasite Plasmodium and it is transmitted by the bite of mosquitoes.

Female Anopheles Mosquitoes

Thomas: Yes, it is specifically transmitted by the female Anopheles mosquito. There are also five main species of the parasite namely *Plasmodium falciparum*, *P. malariae*, *P. vivax*, *P. ovale* and *P. knowlesi* among which *P. falciparum* causes the most severe form of malaria.

Teresa : I know that it is important to use mosquito nets and repellants to prevent malaria. But what if a person do gets malaria due to mosquitoes? What medicine is given to cure malaria?

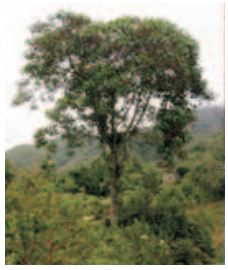


Plasmodium falciparum in blood cells

Thomas: Quinine obtained from the bark of Cinchona tree is used to treat malaria. Do you know that quinine was an accidental discovery?

Teresa: Really? How was it discovered?

Thomas: In the 20th century many people died due to malaria as there was no cure for it. There was once a villager in the Andean mountainous region, suffering from malaria, who was lost in the jungle. He felt thirsty and suddenly he came across a pool of water that was situated below the bark of a particular tree. He drank water from it which was bitter to taste. After sometime to his surprise the fever totally vanquished. He thought he would die but he lived and passed on this message to the other villagers. The villagers came to know that the tree contained certain compounds that cured malaria.



Teresa : But I heard that the Jesuit missionaries were the frontiers in spreading this cure to the world!

Thomas: Of course, Jesuits learnt of this medicine many years later from the villagers. There was also a Spanish noblewoman named Cinchona who was suffering from malaria. She was given medicine using the bark of this tree and was cured. In honour of her name, the tree came to be called as Cinchona bark.

Cinchona bark and flower

Teresa : Isn't quinine an alkaloid substance?

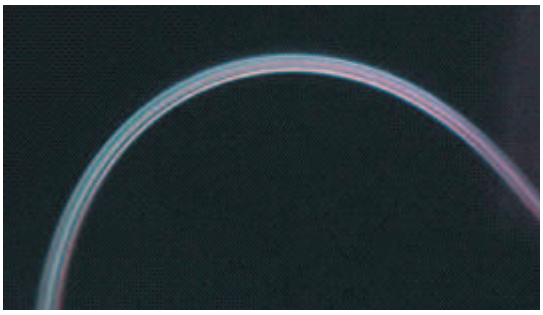
Thomas: Yes Teresa, it is an alkaloid and commonly used as an antimalarial drug. Its derivatives such as hydroxychloroquinine are used to treat rheumatoid arthritis and lupus.

Teresa: Well, that was indeed interesting to learn! An accidental discovery indeed saved the lives of millions of people.....

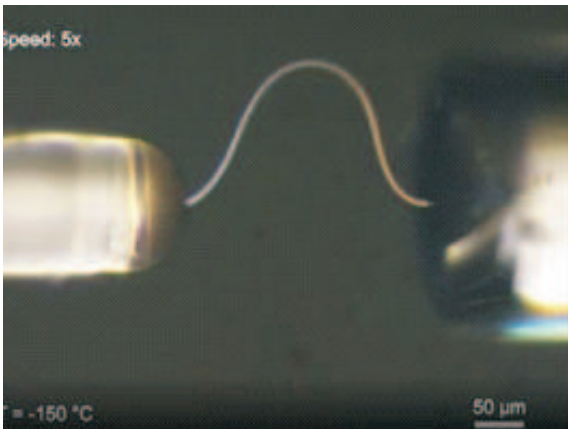
Thomas and Teresa say
"*Plasmodium falciparum* is considered to be more dangerous than the other species as it is able to infect RBC's of all ages and also because of its ability to subvert the physiology of its host during the blood stages of its development"

Ms. J. Esther Mereen
Research scholar, Department of Zoology
St. Mary's College (Autonomous), Thoothukudi

Can Ice bend?



How is it possible?



To create the flexible ice, the scientists applied an electric voltage to a needle kept inside a cooled chamber. The needle is electrified and attracted water vapour around it. The attracted vapour crystallized into very thin ice whiskers at the tip of the needle. The ice formed was a few micrometres in diameter which is a fraction of the width of a typical human hair.

The researchers tested the physical properties of these newly created ice microfibers and found that they were far more elastic than any other known configuration of water ice. “Previously, the largest elastic strain experimentally observed in ice was about 0.3 percent, but now we have 10.9 percent in ice microfibers, much more bendy than any ice before”, says Limin Tong, one of the researchers in Zhejiang University.

This property allowed researchers to bend the tiny strands of ice almost into a complete circle of tiny radius of just tens of micrometers without breaking it. When the bending force was released, the fibers sprang back to their original shape.

Usually ice contains defects- tiny cracks, pores or misaligned sections of crystal. But these lab-grown microfibers were composed of an almost flawless arrangement of ice crystals. Furthermore, bending the fibres compresses the ice on its inner edge. The new measurements indicate that the compression induces the ice to take on a different structure. Ice is known to morph into a variety of phases depending on pressure and temperature. Thus, the new bendy ice discovery could give researchers a new way to study ice's properties when squeezed.

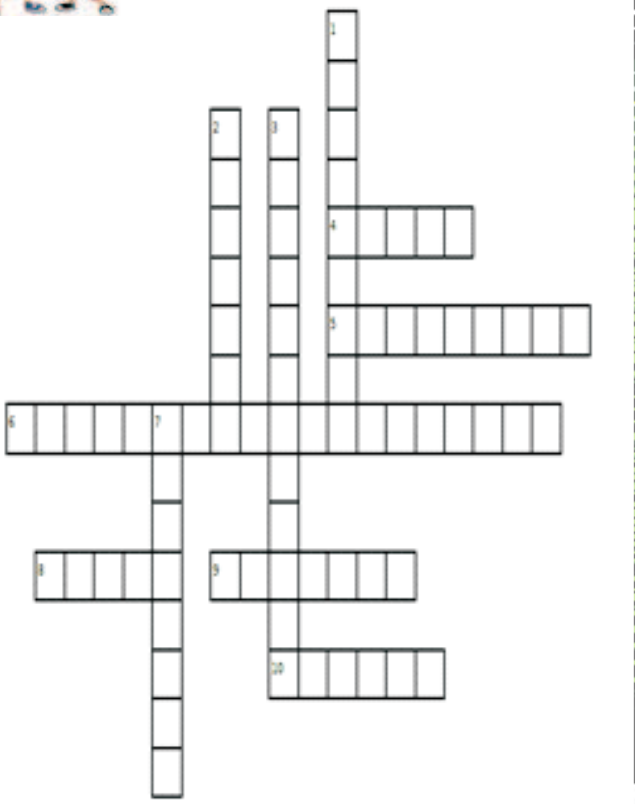
Doesn't it exist before?

Yes, it exists in nature and is hardly recognized. Thin strands of ice are also formed in snowflakes, naturally. Unlike the ice in the experiment, snowflakes don't consist of single, flawless ice crystals. But small sections of the flakes could be single crystals, the researchers say. That suggests that tiny bits of snowflakes might also bend.

This new type of ice is not just super elastic, but also excellent at transmitting light along the length of each fiber. In the paper, the researchers suggest that these properties might one day allow these strands of ice to help study air pollution.

M.Anisha Nashrin
Alumnae
St.Mary's College (Autonomous)
Thoothukudi

CONUNDRUM WITH PHINEAS AND FERB



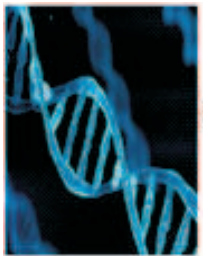
Down :

1. National Reptile of India
2. Baby frog is known as _____
3. Instruments used to record the motion of the ground
7. Nose holes are called as _____

Across :

4. Which animal is known as the 'Ship of the Desert"?
5. Name the largest mammal
6. Inventor of telephone
8. Which place is called as the Roof of the World
9. Largest planet of our Solar System
10. Vitamin C deficiency causes

PICTURE CONNECT



Ms. Selvaananthi A
Research Scholar
Department of Botany
St. Mary's College (Autonomous)
Thoothukudi

NEET Questions with answers

Physics Questions

1. A long solenoid has 1000 turns. When a current of 4 A flows through it, the magnetic flux linked with each turn of the solenoid is 4×10^{-3} Wb. The self-inductance of the solenoid is

a) 2 H b) 1 H
c) 4 H d) 3 H

Answer : b) 1 H

Solution :

Here, N = 1000, I = 4 A, $\phi_0 = 4 \times 10^{-3}$ Wb

Total flux linked with the solenoid, $\phi = N \phi_0$

$= 1000 \times 4 \times 10^{-3}$ Wb = 4 Wb

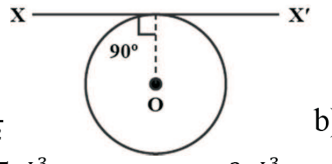
Since, $\phi = LI$

Therefore, Self-inductance of solenoid,

$$L = \frac{\phi}{I} = \frac{4\ \text{Wb}}{4\ \text{A}} = 1\ \text{H}$$

1. A thin wire of length L and uniform linear mass density ρ is bent into a circular loop with centre at O as shown.

The moment of inertia of the loop about the axis XX′ is



a) $\frac{\rho L^3}{8\pi^2}$ b) $\frac{\rho L^3}{16\pi^2}$

c) $\frac{5\rho L^3}{16\pi^2}$ d) $\frac{3\rho L^3}{8\pi^2}$

Answer: d) $\frac{3\rho L^3}{8\pi^2}$

Solution:

Mass per unit length of wire = ρ ,

Therefore, Mass of wire = ρL

Since the wire of length L is turned into a circle,

$$2\pi R = L \Rightarrow R = \frac{L}{2\pi}$$

$$\text{M.I. of loop about given axis} = MR^2 + \frac{MR^2}{2} = \frac{3}{2} MR^2$$

$$\text{M.I. of loop} = \frac{3}{2} \times (\rho L) \left(\frac{L}{2\pi}\right)^2 = \frac{3}{8} \cdot \frac{\rho L^3}{\pi^2}$$

Dr. Sr. Jesse Fernando
Head and Associate Professor of Physics
St. Mary's College (Autonomous)
Thoothukudi

Chemistry

1. What is the correct electronic configuration of the central atom in K4[Fe(CN)6] based on crystal filed theory?

1) $t_{2g}^4\ e_g^2$ 2) $t_{2g}^6\ e_g^0$
3) $e^3\ t_2^3$ 4) $e^4\ t_2^2$

Ans : 2

Explanation: During crystal field splitting in octahedral field, the d orbitals split into two sets as t_{2g} and e_g orbitals. -CN is a strong filed ligand. Therefore, electron pairing takes places.

2. Which will make basic buffer?

1) 50mL of 0.1M NaOH + 25mL of 01M CH_3COOH
2) 100mL of 0.1M CH_3COOH + 100mL of 0.1M NaOH
3) 100mL of 0.1M HCl + 200mL of 0.1M NH_4OH
4) 100mL of 0.1M HCl + 100mL of 0.1M NaOH

Ans: 3

Explanation : A solution containing a weak base and its salt is called a basic buffer. Formed NH_4Cl and unreacted NH_4OH are present. This forms a basic buffer.

Dr. B.Divya
Assistant Professor of Chemistry
St. Mary's College (Autonomous)
Thoothukudi

Botany

1. Which one of the following is wrong for fungi?

(A) They are eukaryotic
(B) All fungi possess a purely cellulosic cell wall
(C) They are heterotrophic
(D) They are both unicellular and multicellular

Solution : (B)

2. Conifers are adapted to tolerate extreme environmental conditions because of

(A) Broad hardy leaves
(B) Superficial stomata
(C) Thick cuticle
(D) Presence of vessels

Solution: (C)

Dr. B. Maria Sumathi
Assistant Professor of Botany
St. Mary's College (Autonomous), Thoothukudi

Zoology

1. During absorption of fats, the micelles get coated with protein that are called as

a. Haustra b. Chylomicrons
c. Epiploic appendages d. Essential fatty acids

Ans : b

2. Given below is a list of some fatty acids.

i. Stearic acid ii. Oleic acid
iii. Linoleic acid iv. Linolenic acid
v. Archidic aci

How many of them are unsaturated essential fatty acids

a. two b. three
c. four d. five

Ans : a

(only linoleic acid and linolenic acid are essential fatty acids)

Dr. R. Sripriya
Assistant Professor of Zoology
St. Mary's College (Autonomous), Thoothukudi

தமிழும் அறிவியலும்

பழமொழி : கழுதைக்குத் தெரியுமா கற்பூரவாசம் !
விளக்கம் : கழு தைக்க தெரியுமாம் கற்பூரவாசம்.

கழுதை ஒரு வகையான கோரைப்புல் அதில் தைக்கப்டும் பாயில் படுக்கும் போது நாசியில் கற்பூர வாசனை அடிக்கும். குழந்தைகளை அந்த பாயில் படுக்கப்போட்டால் பூச்சிகள் கிட்டே வராது. மற்படி கழுதைக்கும் மாட்டுக்கும் இச்சொற்றொடரோடு தொடர்பே இல்லை காலத்தால் மருவியதே

கோரை (Coco - grass) Cyperus Rotundus

புல் இனத்தில் ஒரு வகை நாணல். நாணலானது தண்ணீர் அதிகம் இருக்கும் இடங்களில்தான் அதிகமாக வளரும். இதனால் இயற்கையாகவே நாணலுக்கு குளிர்ச்சித் தன்மை உண்டு. அந்த நாணலின் ஒருபகுதிதான் கோரைப்புல்.

இதிலிருந்துதான் பாய் தயாரிக்கப்படுகிறது. கோரைப்புல்லில் இருந்து தயாரிக்கும் பாய்களால் மட்டும்தான் உடலுக்கு நன்மை சேர்கிறதா என்றால் முழுமையாக இல்லை இப்போது பாயை சாதாரண பருத்தி நூலில் நெய்கிறார்கள். முன்னர் செய்யும் பாய்களும் அதை நெய்யப் பயன்படுத்தும் நாலும் கூட மருத்துவ குணம் கொண்டதாகத்தான் இருந்தன. கற்றாழை குருத்துகளை எடுத்து இருபுறமும் கைப்பிடியுள்ள தரஸ்கு என்ற கருவி மற்றும் பலகையை வைத்து அதில் இருந்து மறல் எடுப்பார்கள்.

அதை மூட்டையாகக் கட்டி கதிர் என்ற கருவி மூலம் நூல் தயாரிக்கப்படும். அந்த நூலைத்தான் கோரைப்புற்களை நெய்யப் பயன்படுத்துவர். இதன் மூலம் இரண்டுமே சேர்ந்து உடலுக்கு அதிக மருத்துவக்குணத்தைக் கொடுக்கிறது.

மேலும் கழு கோரைப்புல்லை கொண்டு பின்னப்பட்ட பாய்களில் படுத்து உறங்கினால் இயற்கையாகவே அதனுடை மணமான கற்பூர வாசத்தினை நம்மால் உணர முடியும். அதன் மருத்துவ குணங்கள் உடல் நலனைக் காக்கும்.

கழு தைக்க தெரியுமா கற்பூர வாசனை என்ற சொலடை மறுவி கழுதைக்கு தெரியுமா கற்பூர வாசனை என்றானது.

ஆனந்தி. செ
தாவரவியல் முன்னாள் மாணவி
தூய மரியன்னை கல்லூரி , தூத்துக்குடி

How do you weigh the planets?

Have you ever wonder how we have all these measurements for planets when it seems impossible to measure objects in space, much less objects as massive as the planets. However, things changed with Lord Henry Cavendish's experiment in 1797. Through his findings, scientists now calculate a planet's weight by the time it takes for objects to orbit the planet and the distance of those objects from the planet. Cavendish set up an experiment with two 150 kg lead balls (planets) and two smaller spheres (moons).

He measured the gravitational pull between these elements. Through his experiment, Cavendish discovered the missing piece of Newton's gravitational puzzle, which was the value of G – the amount that relates the gravitational force between two bodies to their masses and distance. With the new value of G, Cavendish was also the first man to attempt weighing a planet. He used Newton's equation with the value of G to calculate that the Earth's mass is six billion trillion tonnes.

Ms. A, Selvaananthi
Research Scholar, Department of Botany
St. Mary's College (Autonomous), Thoothukudi

10 Rarest Elements on Earth

S.No.	Name of the Element	Formula	Atomic number	Atomic Weight	Common Use
1.	Astatine	At	85	210	Used in nuclear medicine
2.	Oganesson	Og	118	294	Scientific research
3.	Berkelium	Be	97	247	Scientific research
4.	Francium	Fr	87	223	Scientific research in the field of chemistry and atomic sciences
5.	Protactinium	Pr	91	231	Scientific research
6.	Promethium	Pm	61	145	Promethium – 147 used in luminous paint, atomic batteries and thickness measurement devices
7.	Californium	Ci	98	251	Used to help start up nuclear reactors
8.	Americium	Am	95	243	Used in commercial ionization chambers and smoke detectors
9.	Curium	Cm	96	247	Used for power source in artificial pace maker.
10.	Neptunium	Np	93	237	Precursor in Pleutonium production

Ms. A. Lourdes Celciya
Alumna
Department of Physics
St. Mary's College (Autonomous)
Thoothukudi

FUN AND INTERSTING FACTS ABOUT INDIA

India is that the wettest inhabited place on Earth India has over 300,000 mosques and over 2 million Hindu temples Chenab Bridge is that the highest rail bridge within the world Rajasthan includes a Temple of Rats You can drive on the world's highest motorable road Home of a mysterious skeleton lake. Located within the Himalayas at about 16,470 feet, the glacial Lake Roopkund has become famous for the human skeletons found within the lake and surrounding areas The popular game “Snakes and Ladders” originated in India India was the primary country to mine diamonds Hinduism is that the oldest religion within the world, and it's not a real polytheism India has 22 recognized languages Ranked the second-most populous country within the world Most Indians eat with only their fingers The village of Shani Shingnapur is legendary for not having a door or lock on one house. “Indian food” has become one among the foremost widespread cuisines within the world India has the best population of vegetarians Holi is way quite a colourful powder festival Holi is way over a colourful powder festival During war II, the Taj Mahal was disguised as a bamboo stockpile In some places in India, Coke and Pepsi are used as pesticides North Sentinel Island is one in all the last “untouched” places on Earth India has one in every of the bottom divorce rates within the world Tea is that the national beverage of India Around 70% of the world's spices come from India India has this tallest statue within the world. Measuring 600ft (182m) tall, the Statue of Unity is currently the tallest statue within the world. The Amritsar Golden Temple serves free meals….for thousands.

Ms. Anumeena
Alumna
Department of Botany
St. Mary's College (Autonomous)
Thoothukudi

FEW ALGAL FACTS:

1. Take a breath: half the oxygen you breathed in was made by algae. We don't think much about algae, except when we see yucky, slimy scum on a pond. But algae first oxygenated Earth's atmosphere. If all Earth's algae died tomorrow, we would soon expire, too.
2. Swallow a single drop of ocean water and you'll swallow thousands of microscopic algae. There are more algae in the oceans than stars in the Universe.
3. Algae are the base of the marine food chain: without algae, there would be no fish or any other sea animals.
4. All plants evolved from algae. Without plants to eat, fish would never have evolved to become land animals, including us.
5. Farmers have been feeding a little seaweed to their animals' feed for at least two thousands years, recognising its health benefits. They have long added a little seaweed to soil where it acts as a biostimulants, increasing crop yield by 10 to 30 percent. The seaweed additive market is $450 million and, while still in its infancy, employs many hundreds of harvesters in Canada, Maine, and northern Europe.
6. Coral reefs depend on algae. Symbiotic algae that live inside corals (which are animals) create sugars through photosynthesis. Those sugars provide 90 percent of the corals' energy needs.
7. Certain algae called zooxanthellae (“zoox”) live inside corals, which are animals. The algae produce sugars that they pass to the corals, providing 90 per cent of their energy needs, while the corals provide nitrogen and shelter to the algae. Without this symbiosis, we would not have corals reefs, which are highly valuable to mankind. Seventeen percent of the world's protein comes from reefs. One billion people depend on reefs for food, protection from storms, or employment.

8. Warming oceans cause corals to eject their zoox, which produce lethal superoxides in higher temperatures. Ninety-three percent of all coral reefs are damaged by the loss of zoox. Sixty percent of the Caribbean's reefs have already disappeared. Many experts believe coral reefs will be extinct by mid-century, at the latest.

9. Our brains are dependent on the iodine and omega-3 oils that algae contain. When we don't eat algae (or sea creatures that dined on algae) we run the risk of thyroid deficiency and lower IQs. Some scientists attribute the expansion of the hominid brain to access to seaweed and algae-eating fish.

10. Agar, the medium that coats the bottom of petri dishes and is an irreplaceable part of medicine and science, is also an algae-derived hydrocolloid. Shortages of the seaweed *Gelidium* threaten laboratories worldwide. There is no substitute.

11. Algae are in your kitchen and bathroom. Listed as carrageenan or alginate, you'll find them in ice cream where they prevent ice crystals from forming, in chocolate milk to keep cocoa suspended, and in salad dressing to keep the components mixed. Algae gel your toothpaste, thicken your body lotion, and coat tablets to hold the ingredients together. And that's just the start!

12. Oxybenzone and similar sunscreens that wash off our bodies are deadly for corals and other marine life. Hawaii and other states are banning these sunscreens. Algae have evolved protection from UV rays, and algae-based sunscreens hold promise.

13. The US Navy has run ships and planes on non-polluting fuel made from the oils in algae. The price of algae oil has dropped radically and new technology will drive it down further. If the price of fossil fuels reflected the cost of their environmental damage, we would be flying jets on algae fuel.

14. Algae can substitute for oil and natural gas in plastics. A Mississippi company called Algix is making the soles of running shoes and other products with EVA made from algae. In 2019, they will use more than 5 million kilos of pond scum. Ten billion pairs of running shoes are made annually; the potential for algae plastics is big.

15. Harmful algae blooms are getting bigger and lasting longer in our era of climate change and fertiliser run-off. The blooms already cause hundreds of millions of dollars of annual losses to fishermen and tourist economies around the world.

16. Red algae living on the Greenland ice sheet account for 5 to 10 per cent of the ice sheet's shrinkage. The algae turn the snow pink when the slightest melt occurs. This “watermelon snow” absorbs light, which heats the snow, and creates a feedback loop that hastens the disappearance of snow.

17. The burps and flatulence of livestock constitute 15 per cent of the greenhouse gases that mankind emits each year. Australian researchers recently discovered that a little *Asparagopsis* seaweed added to animal feed stops gut bacteria from producing gas. Emissions are reduced by 50 to 85 percent.

18. Can algae combat global warming? Seeding the iron-poor Southern Ocean with iron dust encourages algae blooms that absorb carbon dioxide and sequester it to the ocean floor. Whether the technique is effective is not yet clear; more research is needed.

Ms. Esakkiammal
II M.Sc Botany
St. Mary's College (Autonomous)
Thoothukudi

OUR ENVIRONMENT

World Environment Day is celebrated on 5th June every year. While on one hand scientists suggest that the environment is being severely affected by the growing population, industrial waste and vehicle fumes, the increasing impact of the scorching sun, the sudden monster rains and the resulting flash floods every year indicate that something is amiss in nature.

It is said that due to the problem of global warming, the glaciers will melt and the sea level will rise. Water scarcity has also started increasing in many parts of India due to scarcity of ground water. World Environment Day is celebrated as a day to think and act to improve the welfare of the environment and find solutions to all these problems.

Every human being in this world should come forward to protect the environment. Is there only man in this world?! Why... even animals and birds live. It is not fair for men to ask if they should not do anything! Because no other creature except human beings has any impact on the environment!

To increase oxygen in the environment…

On average, one full-grown tree produces about 260 pounds of oxygen, enough for a family of four.

Usually we enjoy traveling in a personal vehicle such as a two-wheeler. If instead of 100 people traveling in 100 vehicles, everyone travels in one bus, wouldn't it prevent an additional 99 vehicles from spewing smoke?! Also, bicycles can be used as much as possible instead of vehicles that emit smoke. This will keep the body healthy. World Environment Day - Commitments to be made

If we look at what we need to do to protect the environment, the most important thing is to plant at least one tree per person. Next, use water sparingly. manipulation of organic farming systems; For example, installing rainwater harvesting tanks in houses.

Avoid using motor vehicles unless absolutely necessary. By using bicycles instead, the environment is protected and health is likely to improve. Before leaving the house, we need to avoid even small actions like leaving without turning off electrical appliances!

Ms. Abinaya
II M.Sc Botany
St. Mary's College (Autonomous)
Thoothukudi

CHRONICLE OF SMC

Vision

To make young women agents of an egalitarian society through liberative education.

Mission

To empower women through regular and non-formal programmes to make them economically independent and socially aware so that they make better homes and contribute to family and social progress.

2009

Inauguration of Language Lab in Madonna Block

Inauguration of Autonomy

2010

New Arch at the entrance blessed and opened

Renovation of Principal office, Secretary office, Staff office and

Departments of History, Botany, Zoology and Commerce

Renovated Auditorium blessed and opened

CDP TOUCH - Inaugurated by Tmty. P. Geetha Jeevan Hon. Minister for

Social Welfare, Govt. of Tamil Nadu

UGC - Major & Minor Research Project - Botany

2011

Graduation Day addressed by Dr.Tmty. Aruna Sivakami Ananthakrishnan, Vice Chancellor, Mother Teresa Women's University, Kodaikanal

Language lab shifted to New Hostel

New Canteen and Equal Opportunity Centre blessed

Marian Aquarium and Snows Gymnasium blessed Pavement road laid in the campus

Teresa Hostel opened by Dr. G. Srinivas, Joint Secretary, UGC - SERO, Hyderabad

Renovation of Department of Mathematics

Renovation of College Portico

Renovation of II M.Com. class room

Foundation laid for Indoor Stadium with UGC grant

UGC - Major Research Project – History

Renovation of Department of Mathematics

Renovation of College Portico

Renovation of II M.Com. class room

Foundation laid for Indoor Stadium with UGC grant

UGC - Major Research Project - History

Let's pick up where we left off in the next month i ssue…