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# CHINNARA CHETANA

## Shade for the cyclists and energy from the Sun too

Hyderabad has a special 23 km long dedicated cycle lane. And it is fully covered to provide shade for the cyclists. But that is not all. The roof has solar panels that generate electricity that is enough to light up 32,000 lights along the 800 km of the city's roads (16 MW)! This electricity may not run the cycles on this road, but the solar panels sure cool down this stretch. And along this smooth road, people can rent bicycles.

While Britain and South Korea have similar roads, this is a first for India. If roofs of all buildings in our country are covered with solar panels, imagine the amount of renewable energy we can generate! If lakes and canals are similarly covered, it not only generates more electricity but also considerably reduces water evaporation. Global temperatures are rising because we have been burning ever more fossil fuels. If we have to reduce this effect, we have to use more and more solar energy.

**Did you know** that the green kitchen at Adamya Chetana that supplies hot mid-day meals to tens of thousands of school children every day has been using Solar energy for long for its energy needs. It was one of the first such solar electricity installations in Bengaluru.



(Photo courtesy: 'Telangana Today')



## World Wetlands Day – February 2

School children across countries go out on a picnic on Feb 2nd. With notebook, camera and binoculars in hand, they head to a nearby lake, river bank, tank or sea shore. They investigate if these wetlands are in good shape. They verify if birds, aquatic birds, frogs, fish, crabs, water snakes, tortoises and other life are thriving or not. These wetlands should have water all year round. The ecosystem here should be healthy. Only then is our long-term prosperity assured. Children should understand this. Various competitions like picture write-up, speech, rangoli, essay writing, etc, about their observations are organized. Special prizes are also given. Makes it a memorable day.

**Did you know** that extremely rich wetlands are called "Ramsar Site"s? We have 75 Ramsar sites in India. Ranganthittu bird sanctuary is the only such Ramsar site in Karnataka.

## Civet Cat's role in expensive coffee

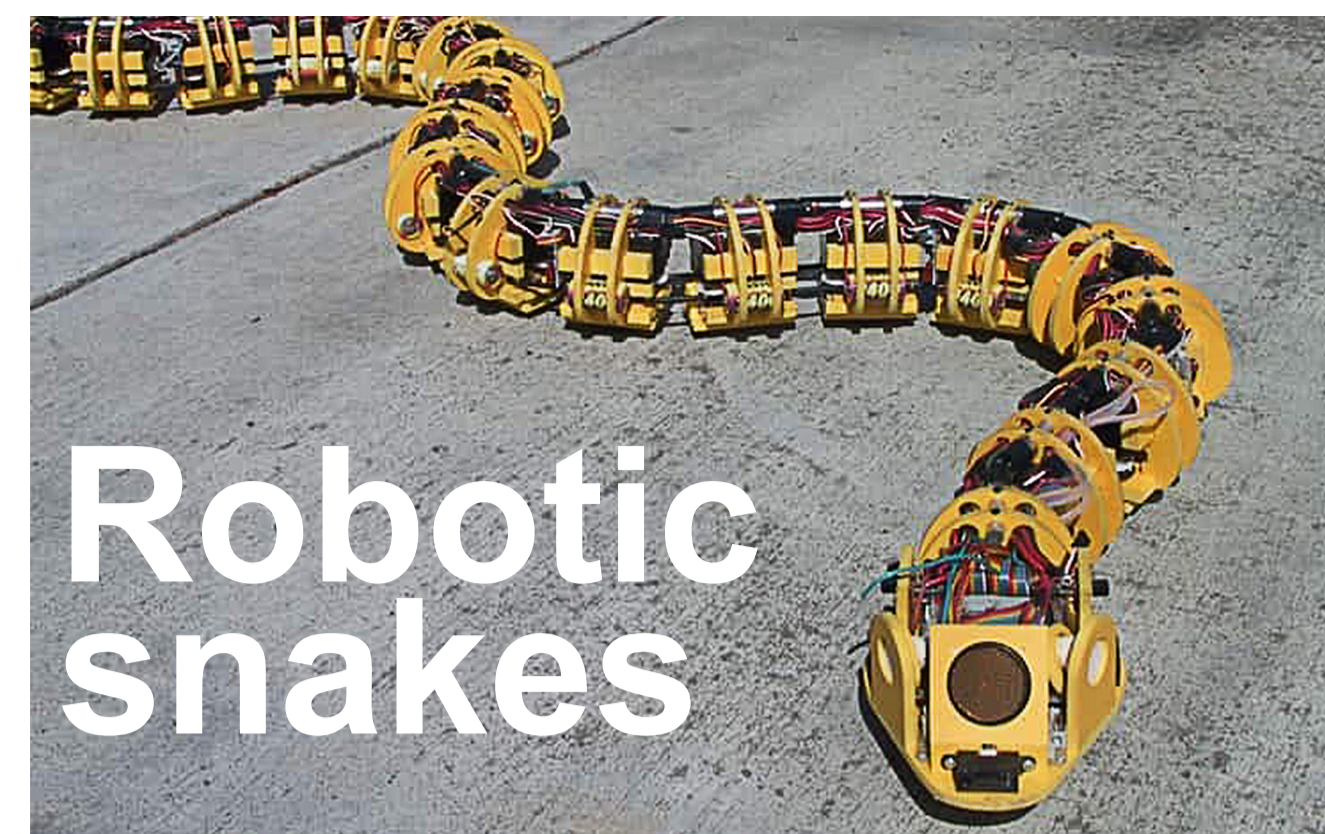
Civet cats live in dense Indian forests. They eat fruits, berries, lizards, small snakes and other insects. Interestingly, they have special glands under their tails that secrete a musky fragrance. When these cats excrete

after eating coffee berries, the beans are excreted but now, they have special fragrance. Coffee produced from these beans commands a hefty price. Such coffee beans from civet cats are dried, roasted and powdered. Coffee prepared from such coffee powder is called "coffee Luvac". In high-end restaurants, a cup of Coffee Luvac can cost thousands of rupees. Civet cats which should be roaming around in the jungle freely are specially reared in cages and fed with only coffee beans in large estates in Indonesia. Elsewhere, hapless civet cats are also hunted for meat.



## Rock salt, table salt, saltpetre, Jugeom salt

Are there different types of salt? How many types are there? We know white salt or table salt, rock salt extracted from the mines, saltpetre, etc. We normally use iodized white salt. Salt prevents bacteria growth. That is why we store raw mangoes, gooseberries, etc. in salt jars. They last longer. Long time ago, salt used to be so rare and expensive that it was used as a currency. There are many tribes in Africa that do not use salt in their food. A Karnataka king called Mangarasa who loved cooking wrote a treatise on cooking called "Soopa Shastra" in 1508. Therein, he describes hundreds of ways of cooking



## Robotic snakes

The word robot brings a picture of human like machines in front of our eyes. But can you imagine how useful robots designed like snakes can be? They can move in narrow spaces and crevices. They can crawl inside pipes. In the event of natural disasters like cyclones or earthquakes, they can go inside collapsed buildings to check for trapped people, pets or property. They can help communicate with people trapped in tunnels. NASA engineers are working on designing such snake-like robots. They can help explore other planets, satellites by crawling through sand, ice sheets, boulders, etc. A robotic snake like this may even help in checking if there is an actual snake in an unoccupied dark room!

## Death for speaking the scientific truth

Do you know who faced the toughest punishment just for speaking the scientific truth? Italy's Giordano Bruno was the first to propose that stars were just like our sun but were very far off. And that planets orbited those stars too. It was another scientist Copernicus who said that planets revolved around our sun. Bruno also theorised that life may exist on those planets orbiting other stars. But this was against the Christian belief. So, Bruno was prosecuted in a trial that lasted seven years. At the end, on 17th February 1600, Bruno was tied naked to a stake in the middle of a Roman market square and burnt alive.

Astro-physicists now have identified 5,576 planets in star systems beyond our Solar system. They are called 'exoplanets'.

February is a month to remember another scientist, a Nobel laureate. Each Nobel prize is usually divided among two or three scientists. It is very rare that a single scientist is awarded a Nobel in any area. Can you imagine then a single scientist winning two Nobel prizes without sharing them with anyone, and that too in two different areas? American chemist Linus Pauling (born 28th February 1901) won a Nobel in Chemistry and also a Nobel peace prize!

but does not refer to salt at all. But these days, all of us use salt in our food. Some people consume too much salt which may increase the blood pressure. Doctors advise that salt should be consumed in moderation.

In South Korea, salt is filled in bamboos, covered with mud and then heated and cooled repeatedly. This produces a special salt called Jugeom salt. Koreans believe that this bamboo salt has a unique taste and has medicinal properties. This Jugeom salt costs thousands of rupees per kg and is considered to be the costliest salt in the world.

We use salt produced from sea water in our food daily. We are also dumping huge amount of plastic waste in to the seas every day. This plastic disintegrates in to very small pieces called micro-plastic. This micro-plastic has been detected in the salt we eat. This is harmful to us. We should reuse plastic and avoid dumping waste plastic in to the sea.

Subhashita

क्षणशः कणशश्चैव विद्यां अर्थं च साधयेत् ।  
क्षणे नष्टे कुतो विद्या कणे नष्टे कुतो धनम् ॥ ।

Knowledge should be gained through continuous efforts - minute by minute.  
Money should be earned by utilizing each and every resource.  
If you waste time, how can you gain knowledge?  
If you waste resources, how can you accumulate wealth?

## Amazing Aloe Vera



Aloe Vera grows even in the driest of the places. How much do you know about this hardy plant that can survive on very little water? If you cut open its fleshy leaves, you find a cool gel like substance. When applied on the skin, this gel smoothens the skin.

It can be used as a hair styling gel or even as lotion for boils on the skin. Aloe Vera extract is also used in the manufacture of a variety of shampoo, hair conditioners, creams, and other beauty products. If the flesh of Aloe Vera leaf is consumed, it is supposed to aid digestion. Aloe Vera is regarded very highly in the traditional Indian system of medicine. This Aloe Vera plant with all these uses is now being used as a "capacitor" to store electricity. Do you grow Aloe Vera in pots?

## Quiz

We all celebrate February 28th every year as the National Science Day in the honour of Indian scientist and Nobel laureate Sir C. V. Raman. He was born on 7th November 1888 and passed away on 21st November 1970. But then why do we remember him on February 28th?

Answer to the last month's quiz: Our question was 'Why is water stored in earthen pots cooler than that stored in metal or plastic vessels?'

Answer: Earthen pots have numerous small invisible holes. Water seeps slowly through these holes and reaches outside surface where it evaporates. When it evaporates, it uses heat energy in the water. So, water in the earthen pot slowly loses heat energy in it thus cooling it.

## Adamya Chetana

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