INNOVATIVE ACTIVITIES

DEPARTMENT OF CHEMISTRY

Academic Year: 2019-20

Activity: Preparation of Herbal Shampoo

Herbal shampoo is prepared from soap nuts collected from the tree Sapindus mukorossi which is present in college campus.

The aim of this program is to make girl students self supported and to encourage in making domestically useful products in daily life in good quality and at lower price.

Academic Year: 2020-21

Activity: Preparation of Hand Sanitizer

The aim of this program is to know the benefits of sanitizer in battling germs effectively and conveniently.

Prepared hand sanitizer is distributed in the college which is essential during pandemic situation.

Academic Year: 2020-21

Activity: Working Model for Waste Water Treatment

Wastewater treatment is a process to treat sewage or wastewater to remove suspended solid contaminants or impurities and convert them into effluent, before they reach natural water bodies, such as lakes, rivers, and oceans.

Public water systems often use a series of water treatment steps that include coagulation, flocculation, sedimentation, filtration, and disinfection.

Academic Year: 2021-22

This activity is an income generation program where the learners are taught methods and skills to prepare different products which are useful in our day to day life. This helps people to help themselves. This is one of the best alternate ways to earn/increase income to become economically independent.

It is a need to teach the students skills to start self-employment. It is the best way to become economically independent.

Academic Year: 2021-22

Activity: Making of eco-friendly dhoopsticks from the offered flowers collected from temples in Karimnagar.

Aim of this program is to prepare natural dhoop sticks and to cleanse the atmosphere and feel pleasant. We are aiming to prepare useful material from unwanted material.

Collecting offered flowers to God in temples and converting them in to useful dhoop sticks and distributing them to the same temples is our main aim.

Department of Biochemistry Innovative practices
Year: 2017-18

Model title: tRNA structure
Student names: Ayesha shaheen, Fakeha kousar, Maliha Fathima, Atika Ummul khair, Fazeelath Farheen

Year: 2018-19

Model title: cellular respiration
Student names: G Madhuri, K Madhumitha, K Sahithi, K Samyuktha K Anusha

Year: 2019-20

Model title: Bio molecules
Student names: M.Shivani, A.Vyshnavi, B.Shalini naik, K.Prasanna, P.Niranjani, G.Geetha S.Shravanthi

Year: 2020-21

Model title: Balanced diet
Student names: J Pravallika , G Ruchitha G sharanya, P sripriya Afsha fathima, P Akshitha

Year: 2021-22

Model title: Best time for having different foods
Student names: D Sushmitha , D Prasanna, E Sai sri, Rabiya Amber, Nasera butool, Juveria Khanam

Department of Botany Innovative practices

MICROGREENS (2018-2019)

Microgreens are vegetable greens (not to be confused with sprouts or shoots) harvested just after the cotyledon leaves have developed with one set of true leaves. They are used as a nutrition supplement, a visual enhancement, and a flavor and texture enhancement. Microgreens are used to add sweetness and spiciness to foods. Microgreens are smaller than “baby greens” because they are harvested very soon after sprouting, rather than after the plant has matured to produce multiple leaves.

The most popular varieties are produced using seeds as follows:

Cauliflower, broccoli, cabbage, radish,Lettuce, endive, chicory,dill, carrot, fennel, celery,garlic, onion, leek,amaranth, quinoa, beet,spinach,melon, cucumber and squash etc..

Micro-greens are rich in Iron,Magnesium,Copper,Anti-oxidants,Vitamins,Minerals&various elements.

They reduce the risk of the diseases like Heart disease,Alzheimer’s disease,Diabetes&certain Cancers.

Sowing of different seeds for the development of Micro-greens

Developed Micro-greens after 7 days.

Display of Micro-greens by the Students.

Production of Azolla (Biofertilizer) 2019 to 2020

Biofertilizers are biological preparations of efficient microorganisms that promote plant growth by improving nutrient acquisition. They enhance soil productivity by fixing atmospheric nitrogen, and stimulating plant growt h. Nitrogen-fixing cyanobacterium Anabaena azollae (Nostocaceae family) is a floating pteridophyte, which contains as endosymbiont . Azolla has been **used as "green manure" in several countries to fertilize rice paddies and to increase rice yields**. Azolla–Anabaena is capable of fixing nitrogen at higher rates than legumes and is able to growth successfully in waterlogged habitats having low level of nitrogen.

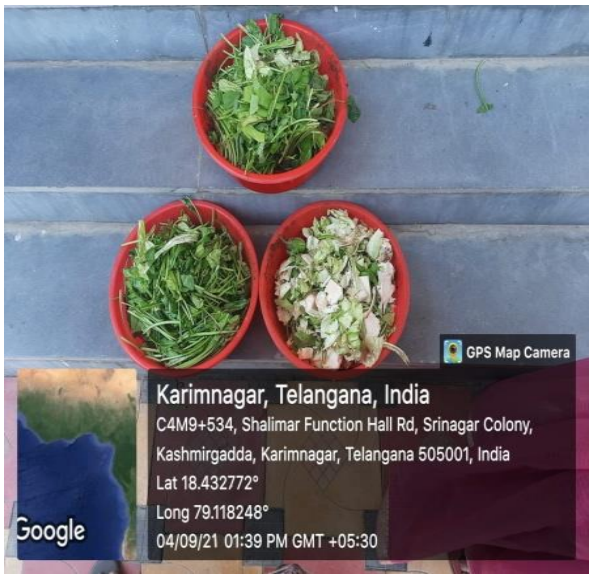
Production of Azolla Biofertilizer by students

Preparation of Compost from Kitchen waste 2021 to 22

Decayed Organic material is called compost. It is used as a organic fertilizer. Composting is simply the process of breaking down the organic matter(food waste) in the presence of air and water, using micro organisms.

Compost preparation from kitchen waste(Hostel)

Students collected kitchen waste from hostel and pouring into a pit



Covering with dry leaves and soil and formation of compost

Students with compost

GENETIC CODE WHEEL

GENE OF FORTUNE

Genetic code Wheel is prepared by the students of B.Sc. IIyear N.Poornima,N.Spandana,N.Nandini ,Rajasri,Shivajyothi ,R.Kavyasri under the guidance of K.Sunitha on the occasion National Science day 28.2.2020

Objectives:

To introduce the concepts of the genetic code, understand easily about the Codons of Amino acids .

About the concept

This is another way to present the genetic code to learn codons of aminoacids easily

This is the Circular Genetic Code represented in the form of wheel.

Inner circle (circle 1)– first nucleotides of triplet codon of an amino acid

Circle 2 -2nd nucleotide of the codon

Circle 3-3rd nucleotide of the codon

4th circle shows the name of the aminoacid

Letters in the circles connected by the arrow

Lettrs lined along the gives you the codon and the aminoacid name represented by the codon

The genetic code is a mapping of 64 codons to 22 actions, including polypeptide chain initiation, termination, and incorporation of the twenty amino acids

The genetic code describes the connections

Between

the nucleic acids and the genetic information on one hand

and

the protein structures on the other hand.

As already stated, and what also is rather common knowledge,

a sequence of nitrogen bases on the messenger RNA,

is translated to a sequence of amino acids setting up a protein with special function in the intricate functions of a cell.

Then, three RNA bases are to be interpreted as the information of one amino acid. We show the scheme for this in the form of a genetic code

This design include genetic code, single and three letter amino acid abbreviations, and the characteristics of amino acids.

Because the code sets the relationship between nucleotides and amino acids at the translation stage, the picture shows RNA nucleotides rather than a DNA; that is, thymine is replaced by uracil. In the central circle of the table, the first nucleotides of codons are shown; in the next one, the second nucleotides, and then comes the third. On the outer side of the circle are the amino acids. In the genetic code, there are three meaningless codons: UAG, UAA, and UGA, which perform termination function. They correspond to the symbol “Stop.”

Genetic code. The first letter of a codon is located in the central circle, the second in the first ring, and the third in the second ring. In the outer ring, the names of amino acids are recorded. Stop means Termination—stop codon.

It is seen that several codons correspond to every amino acid. For example: four codons to Alanine, two codons to Arginine.

Codon table can be used to translate a genetic code into a sequence of amino acids.The standard genetic code is traditionally represented as an RNA codon table, because when proteins are made in a cell by ribosomes, it is messenger RNA (mRNA) that directs protein synthesis.

DEPARTMENT OF MATHEMATICS

INNOVATIVE MODELS

Rotated to Circle to Sphere Model

Probability Finding Model

Fraction Finding Wheel Model

Angle Working Model

Innovative Projects

Department of Physics

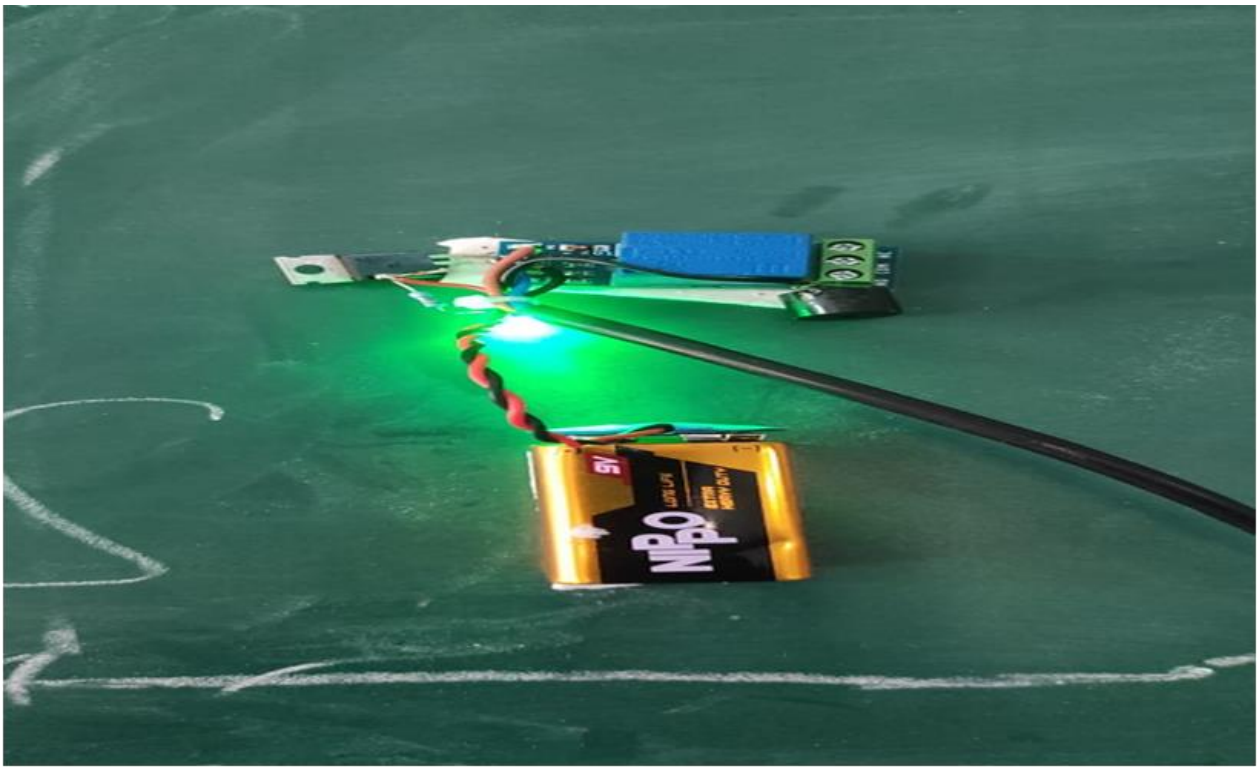
Year: 2017-2018

VACUUM CLEANER

PRINCIPLE: Vacuum cleaners work because of **Bernoulli's Principle**, which states that as the speed of air increases, the pressure decreases. Air will always flow from a high-pressure area to a low-pressure area, to try to balance out the pressure. The suction motor creates vacuum pressure and suction by rotating a motor fan.

YEAR: 2018-2019

DOOR SECURITY ALARM



PRINCIPLE OF DOOR SECURITY ALARM: One piece attaches on the door frame, and the other attaches parallel to the first piece on the door itself. The two parts create a closed circuit when the door is shut. As the door opens, the magnet and switch separate, breaking the circuit. When the circuit breaks, the sensor signals the central control panel

YEAR :2019-2020

PROJECTOR

PRINCIPLE OF PROJECTOR:

A projector or image projector is an optical device that **projects an image (or moving images) onto a surface, commonly a projection screen**. Most projectors create an image by shining a light through a small transparent lens. The idea behind a projector is that **light rays coming from an object pass through a magnifying lens placed in a certain distance**. This creates a bigger projected image. This image will be inverted, but this can be fixed by placing a mirror between the object and the lens.

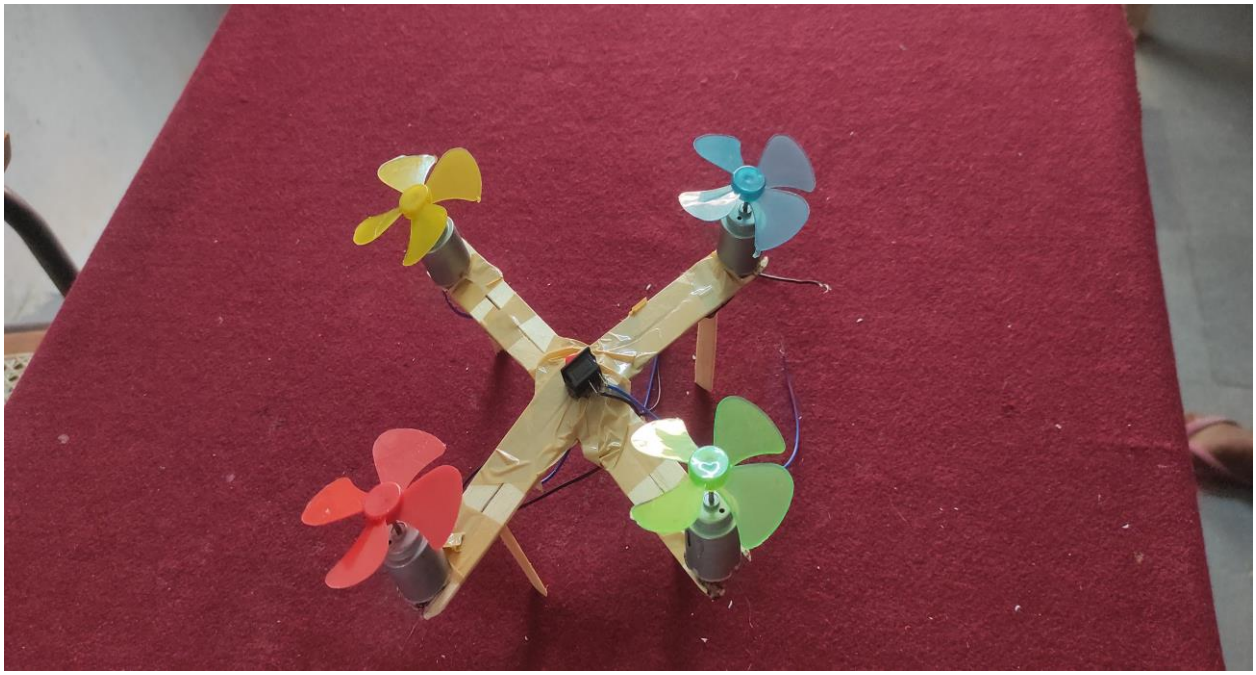
YEAR: 2020-2021

HAND MADE COOLER

PRINCIPLE OF COOLER: Air coolers are also known as evaporative or purified coolers, and it **cools the atmosphere by evaporating water**. When air flows through water, some particles on the water's surface will be blown away. These particles carry heat with them and cool the air. This is the main mechanism behind air coolers.

YEAR: 2021-2022

WORKING MODEL OF DRONE



PRINCIPLE OF DRONE : High fluid pressure at the bottom and low pressure at the top of the propeller causes an upward force which is called a lift. This force is responsible for lifting the weight of an aero-plane or drone. The amount of lift force depends on the angle of inclination of the aero foil or propeller.

Department of zoology Innovative practices:

Aquarium Preparation: To prepare the aquarium models from waste materials like plastic bottles,glass bowls and car tiers materials.

Students provide the aquariums to fishes and which is a biological entity. Each of its elements – water, glass, light, sand, gravel, plants, fish, make a harmonious whole, with the same ecological balance as exists in nature

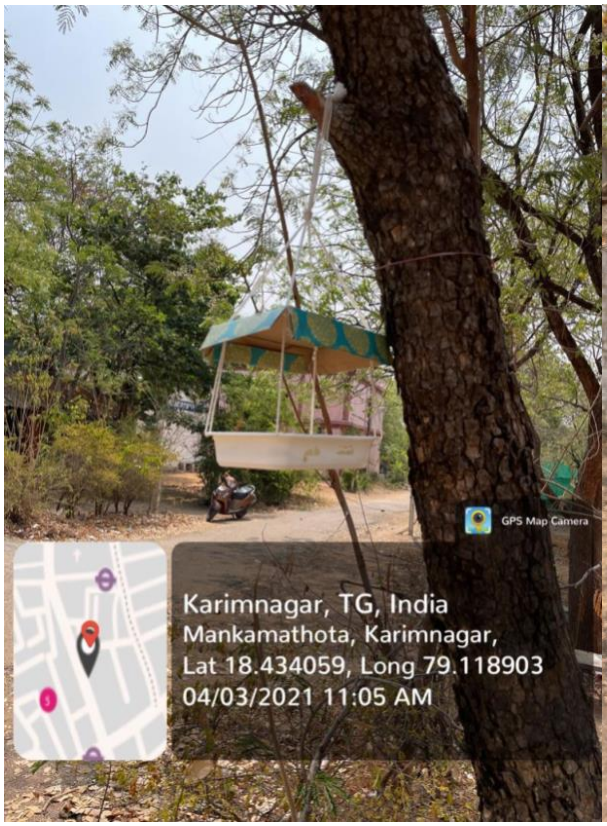

GPS Map Camera
Karimnagar, Telangana, India
C4M9+JR5, Womens College Rd, Kashmirgadda,
Karimnagar, Telangana 505001, India
Lat 18.433986°
Long 79.119185°
11/09/19 11:25 AM GMT +05:30
Google

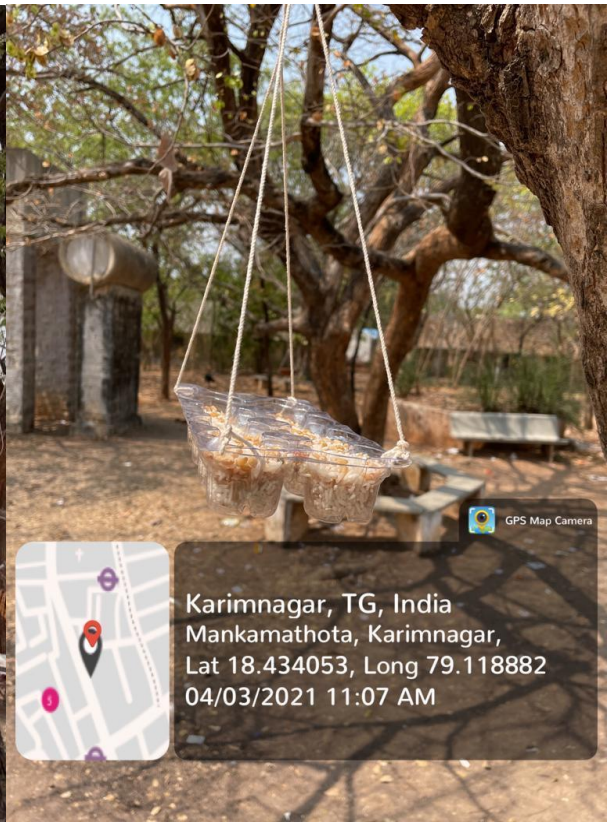

GPS Map Camera
Karimnagar, Telangana, India
C4M9+JR5, Womens College Rd, Kashmirgadda,
Karimnagar, Telangana 505001, India
Lat 18.433986°
Long 79.119185°
11/09/19 11:21 AM GMT +05:30
Google

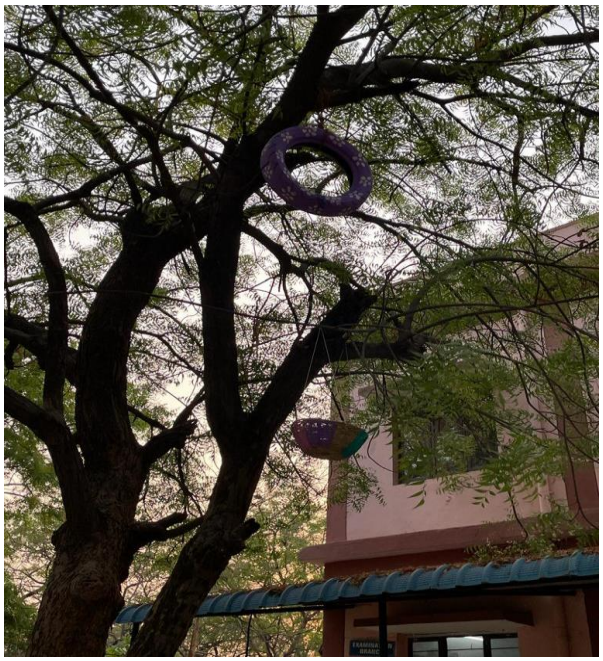
Bird feeder preparation

To prepare the bird feeders from waste materials like plastic bottles,coconut shells sweet boxes, car tiers and pot materials.

Students provide bird feeders to birds and which helps in increasing the biodiversity of bird species and involves in maintainance of ecological balance.







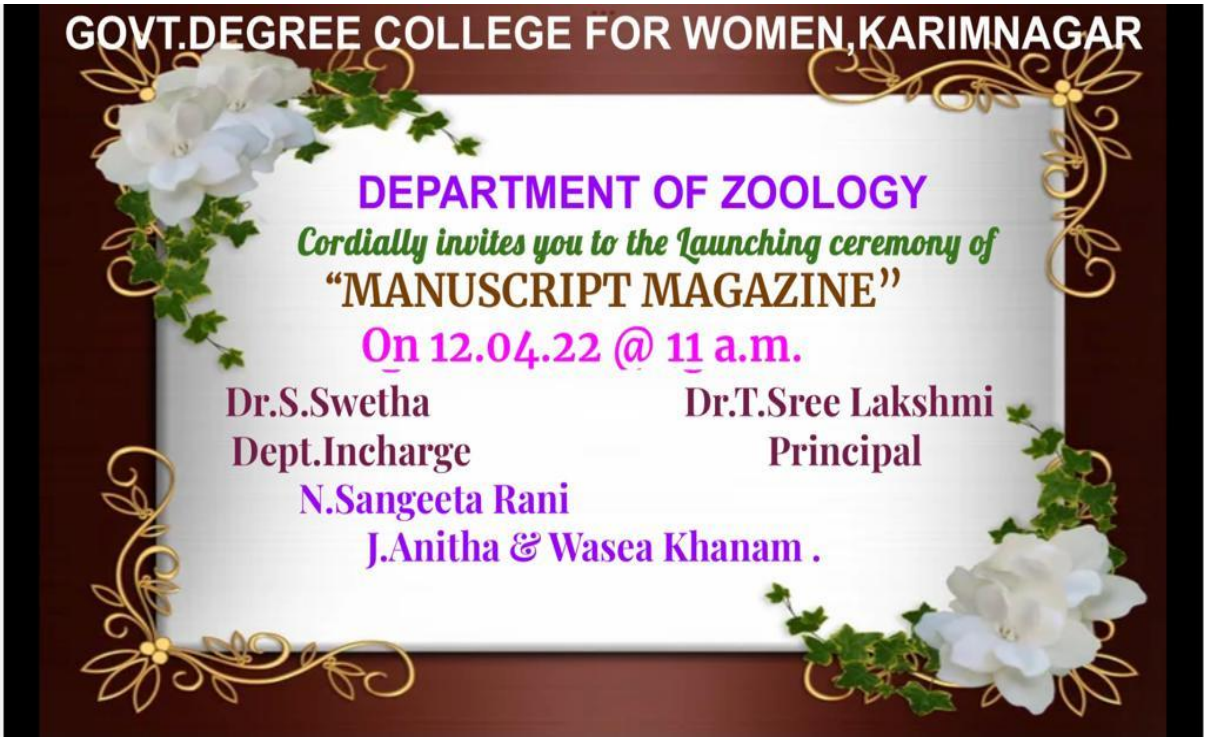

GPS Map Camera
Karimnagar, TG, India
Mankamathota, Karimnagar,
Lat 18.433765, Long 79.119489
04/03/2021 11:14 AM


GPS Map Camera
Karimnagar, TG, India
Mankamathota, Karimnagar,
Lat 18.434056, Long 79.118877
04/03/2021 11:06 AM


Rice Bran Oil

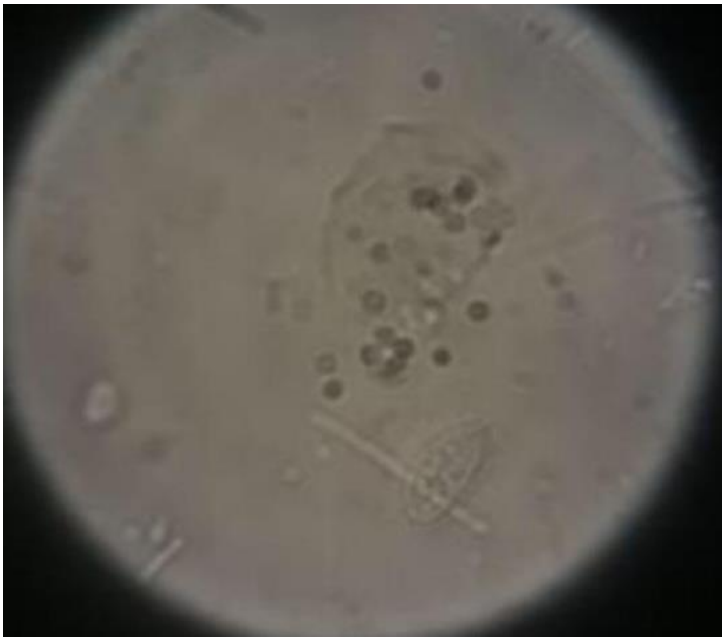
Manuscript magazine –Articles are written by the students and preserve in Manuscript magazine

And it is launched on 12-04-2022.Articles are published in half yearly. It is organized by Department of Zoology.



Infusoria culture:

Students cultured protozoans by introducing the vegetable peel in water and maintain itfor several days and observed ciliates and vorticella in the cultured sample.



QR Codes for Endangered species: QR Code was given to some of the endangered species of India and keep the pictures in the classrooms and labs of zoology department.By scanning

the QR code a student can get the total information of endangered species such as scientific name,Conservation status.Thus QR CODE enables the students to aquire the knowledge of endangered species of india.

జంతు చిత్రాలకు క్యూఆర్ కోడ్

శాతవాహన విశ్వవిద్యాలయం, న్యూస్‌టుడే: జీవ వైవిధ్య పరిరక్షణలో భాగంగా ప్రభుత్వ మహిళా డిగ్రీ కళాశాల జంతుశాస్త్రం అధ్యాపకులు దేశంలో అంతరించి పోతున్న జాతులకు సంబంధించి చిత్రాలకు క్యూఆర్ కోడ్‌ను రూపకల్పన చేశారు. ఇందుకు సంబంధించిన చిత్రాలను ప్రిన్సిపల్ డాక్టర్ శ్రీలక్ష్మి బుధవారం ఆవిష్కరించారు. అధ్యాపకులు ఎన్.సంగీతరాణి, శ్వేత, సంతోష్ కుమార్, అనిత పాల్గొన్నారు.

చిత్రాలను ఆవిష్కరిస్తున్న ప్రిన్సిపల్

Honorable commissioner of collegiate Education Sri. Naveen Mittal garu scan the QR Codes of Endangered species of India.

ROLE-PLAY ON DARWINISM

On Feb 28, 2022, the Zoology students of B.Sc .Ist and III rd year performed a role-play on Darwin about THEORIES OF EVOLUTION. Industrial melanism were well-explained in a unique, innovative, and straightforward manner. The event highlighted the importance of creativity in changing young minds. The entire performance was videotaped and uploaded on YouTube. The link of the video is https://youtu.be/c6o7V7XVOzk