

NEWSLETTER



ST. ALOYSIUS' COLLEGE

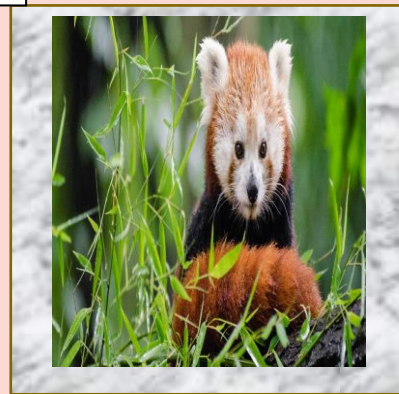
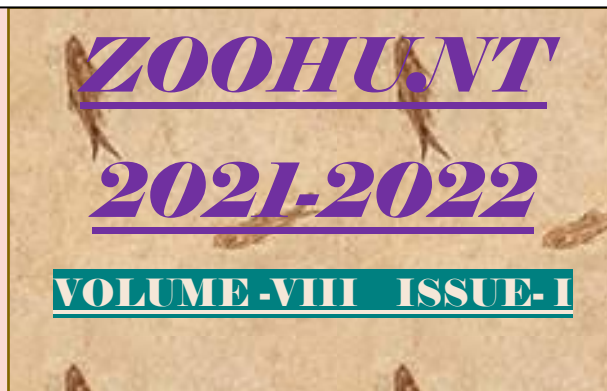
(AUTONOMOUS), JABALPUR(M.P.)

Reaccredited 'A+' Grade by NAAC (CGPA 3.68/4.00)

College with Potential for Excellence (CPE) by UGC

DST-FIST Supported & Star College Scheme by DBT.

DEPARTMENT OF ZOOLOGY



HOD'S DESK

Dear Readers,
It gives me immense pleasure that the Department of Zoology is releasing the annual newsletter, "ZOOHUNT" - Vol. VIII.

The newsletter imparts the good insights through the activities being conducted by the Department of Zoology and also helps build the coordination between the students and the teachers as well, which holds a paramount importance in this intensive competitive world. The newsletter also showcases the testimonials of the department.

I am gladsome to the teacher editor, Dr. Runa Paul as well as the student editors – Ms. Aditi Singh for their spirited contributions and endeavours to make this edition enlightening.

I extend my heartfelt thanks to all the fellow teachers and the students for the successful divulgation of the newsletter. Regards,

Dr. Priyanka Sinha

ZOOLOGY

Zoology is both descriptive and analytical. It can be approached either as a basic science or as an applied science. A worker in basic zoology is interested in knowledge of animals for its own sake without consideration of the direct application of the information gained. In contrast, workers in applied zoology are interested in information that will directly benefit humans and animals (medicine, for example).

HIGHLIGHTS

- NEWSFLASH
- FACULTY MEMBERS CORNER
- DEPARTMENTAL ACTIVITIES
- STUDENT'S CORNER
- STUDENT'S ACHIEVEMENT

The 2021 Nobel Prize Laureates

David Julius and Ardem Patapoutian were awarded the 2021 Nobel prize in Physiology or Medicine "for their discoveries of receptors for temperature and touch".



CREDIT: Ill. Niklas Elmehed © Nobel Prize Outreach

EDITORIAL BOARD

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• Rev.Dr. G. Vazhan Arasu, Principal St. Aloysius' College, Jabalpur.

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STUDENT EDITORS:

• Ms. Aditi Singh

FACULTY CORNER

NEW SPECIES OF SPIDER AND MILLIPEDE DISCOVERED



Carrhotustholpettyensis, the new species of spider.

Spider from Wayanad sanctuary, and millipede from CU campus. A team, led by researchers of Department of Zoology, Christ College, Irinjalakuda, discovered a new species of spider from the Wayanad Wildlife Sanctuary & a new species of millipede from the University of Calicut campus, Tenhipalam. *Carrhotustholpettyensis*, the new species of spider was found from the moist deciduous forest of Tholpetty range of the wildlife sanctuary in Western Ghats, a robust biodiversity hotspot. This nocturnal jumping spider retreats to hide under leaves during day time and comes out only in the night for feeding. So far 287 species of jumping spiders are reported from India. It has been named after the forest range Tholpetty.

Delarthhumanomalans, the new species of millipede.

A new species of millipede from Calicut University campus. This new species, named as *Delarthhumanomalans*, belongs to the family *Paradoxosomatidae*. Its length ranges up to 17 mm in male and 15 mm in female. These flat millipedes live under leaf litter. They hide beneath the soil during the span of the dry period and resurface only in the wet season.-

DR. PRIYANKA SINHA

Newly fish 'Scomberoides pelagicus' Identified

Kochi: CMFRI identifies new fish in Indian waters. The Central Marine Fisheries Research Institute (CMFRI) has identified a new carangid (Vatta) species from the Indian coast. The newly described fish belongs to the 'queen fish' group and is named as '*Scomberoides pelagicus*'. In local parlance, the fish is known as 'polavatta'.

CMFRI confirmed it as a new species after detailed taxonomic and genetic analysis. The new fish is distinct by its deep ovate body, concave dorsal head profile and stout and less numerous gill rakers on the first gill arch compared to the closely related species. There are more than 60 species of carangids in Indian seas, out of which four belong to the 'queen fish'. The new fish is available across coasts in the country, including Kerala and is highly relished and has good demand in domestic markets.



- **DR. RUNA PAUL**

ORCO GENE

Mosquitoes that spread deadly human diseases like malaria, dengue and chikungunya generally distinguish humans from other animals using body odour. Thus altering a gene that helps mosquitoes sniff out humans can help keep the pesky insect off. Experiments on a genetically modified mosquito have shown that a specific gene called *orco* makes the insects prefer humans over other mammals. While a mutant mosquito with *orco* gene shut off might land on a human it flies off without biting just as it would do with a guinea pig. Given the ubiquity of *orco* gene in the insect world, it can be of significant help in development of life-saving repellants.

DR. MANJU DIXIT

SIGNIFICANCE OF VACCINE

a) Getting vaccinated against COVID-19 can lower your risk of getting and spreading the virus that causes COVID-19. Vaccines can also help prevent serious illness and death.

b) All steps have been taken to ensure that vaccines are safe and effective for people ages 5 years and older.

c) If you already had COVID-19, you should still get a COVID-19 vaccine for added protection.

COVID-19 Vaccines Are Safe for Children and Adults: - While COVID-19 vaccines were developed quickly, all steps have been taken to ensure their safety and effectiveness.

i. Hundreds of millions of people in the United States have received COVID-19 vaccines under the most intensive safety monitoring program in U.S. history.

ii. A growing body of evidence shows that the benefits of COVID-19 vaccination outweigh the known and potential risks. CDC recommends an mRNA COVID-19 vaccine (Pfizer-BioTech or Moderna) in most circumstances based on an updated risk-benefit analysis.

Highlights:

❑ COVID-19 Vaccination Is a Safer & reliable Way to Build Protection

❑ COVID-19 vaccines are effective Precautions even after being vaccinated: - When you are up to date on COVID-19 vaccination, you may not always need to wear a mask in public.

Precautions:

1. In general, you do not need to wear a mask in outdoor settings.

2. In areas with high numbers of COVID-19 cases, consider wearing a mask in crowded outdoor settings and for activities with close contact with others who are not up to date on COVID-19 vaccination.

3. You should continue to wear a well-fitting mask indoors in public if you are in an area of substantial or high transmission to maximize protection and prevent possibly spreading COVID-19 to others.

- DR. DAYA SHANKAR GAUTAM



Pfizer & Moderna COVID-19 Vaccines

- Both of these vaccines require special storage and transportation because they need to be kept at extremely cold temperatures.
 - The Pfizer COVID-19 vaccine needs dry ice for storage (-70°C)
 - The Moderna COVID-19 vaccine may be stored in a standard refrigerator (-20°C)

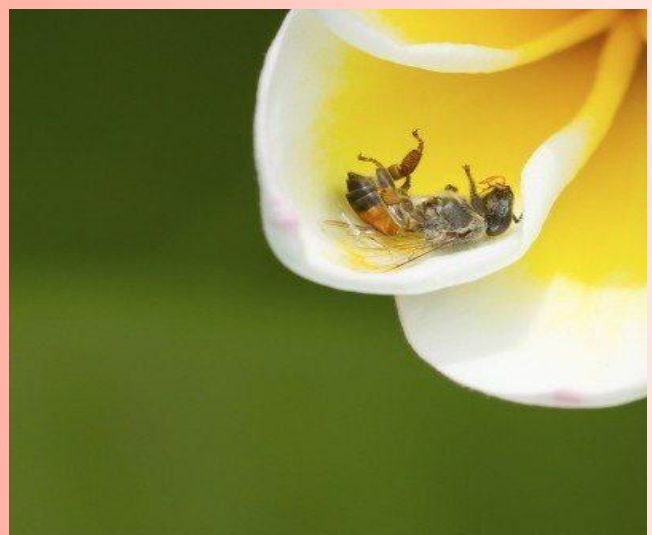


BEE KILLER

Neonicotinoids, A class of pesticides, is extremely dangerous to bees and threatens crops that depend on pollination by bees.

The pesticide kills brain cells of bees, hindering their ability to learn, collect food or reproduce.

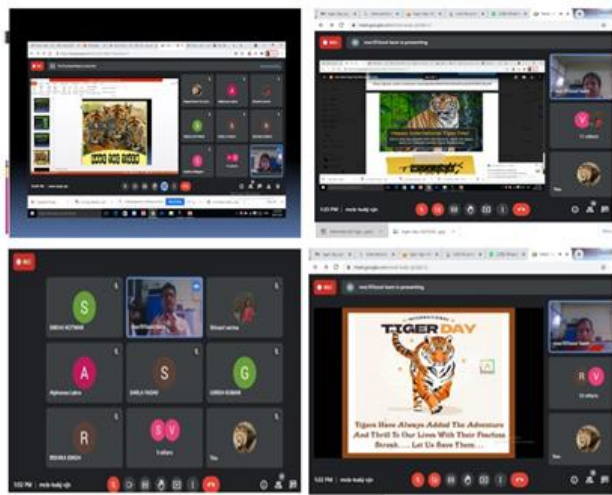
In a study, bees were fed a sugar solution with very low levels of neonicotinoid (2.5 parts per billion), found typically in flowers, and the movements of the toxins to the brain was tracked. It emerged that even one-tenth of these levels were enough to harm bees.



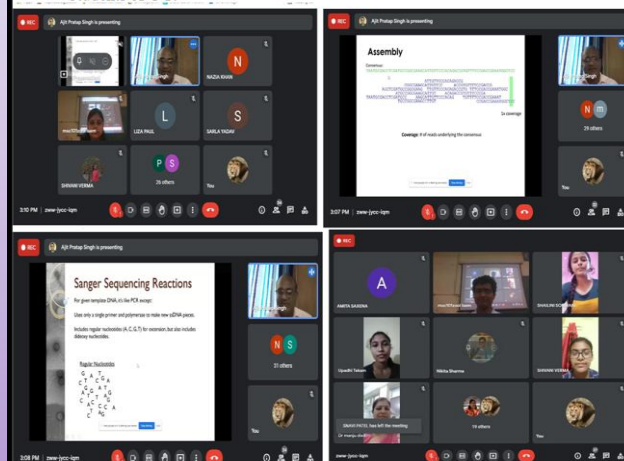
DR. MEGHA TIWARI

DEPARTMENTAL ACTIVITIES

Online International Tiger Day was celebrated on 29th July 2021 Lecture was to create an awareness regarding the dwindling population of the Tiger species. Students of UG and PG were benefited.

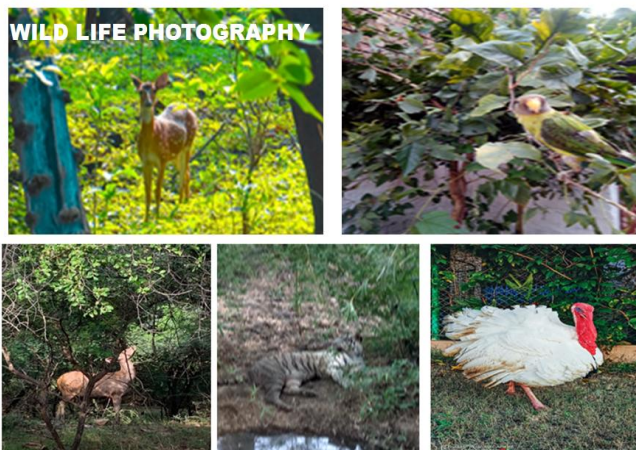


Virtual Guest lecture Sponsored by DBT Star Scheme was organised on the Topic – “Next genome Sequencing” by Dr. A. P. Singh Professor & Director, Animal Biotechnology Centre, Nanaji Deshmukh Veterinary Science University Jabalpur on 25th September 2021, No. of Beneficiaries -45 Students of UG.



Online wildlife week celebrated on 1st to 7th October 2021 under Aloysian Zoological Society. The main objective is to create awareness among the youth about wild animals conservation. The number of registered participants was 56 from across the country.

WILD LIFE PHOTOGRAPHY



One month online/offline certificate course on Microtomy was organised on 13/09/21 to 13/10/21. The total number of registered students was 28 (UG+PG). The participants who registered for the course were from the Career College, Bhopal, Sri Sathya Sai College for Women, Bhopal, Amolakchand Mahavidyalaya, Yavatmal, Maharashtra, Avinashilingam Institute for Home and st. alloysius Science & Higher Education for Women, Coimbatore, Tamil Nadu and St. Aloysius' College (Autonomous), Jabalpur.



Lecture on different topics of Microtomy

Faculty development programme Sponsored by DBT Star Scheme was organised for school teachers
Date- 29/10/2021, No. of Beneficiaries- 14

Lecture on Principle Working & Application of Phase Contrast Microscope



Demonstration of live planktons in pond water using Phase Contrast Microscope

Date- 29/10/2021, No. of Beneficiaries- 14



Online Faculty Development Program (National Level)
"Biopharmaceuticals Technology & Probiotics" 8th -14th November 2021, DBT Star Sponsored

Topic: PCR - Principle & Working
Session Incharge: Dr. Daya Shankar Gautam



Topic: Study of Insect Haemocytes using Phase Contrast Microscope
Session Incharge: Dr. Priyanka Sinha & Dr. Mamta Gokhale



Topic: Study of Cell Viability % using MTT Assay WSR OBLT
Session Incharge: Dr. Mamta Gokhale & Dr. Daya Shankar Gautam



Topic: Antibacterial activity of aqueous extract of Carica papaya leaves against *Aeromonas hydrophila* bacteria using Rotatory Vacuum Evaporator
Session Incharge: Dr. Runa Paul

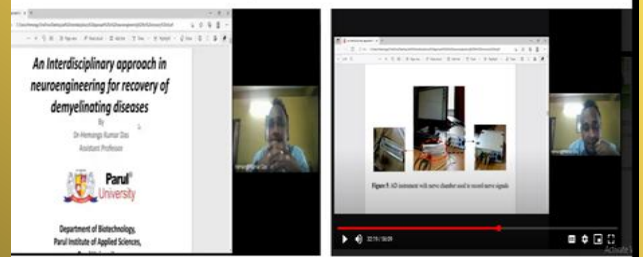


Guest Lecture Sponsored by DBT Star Scheme

Topic -An interdisciplinary approach in neuroengineering for recovery of demyelinating diseases

Speaker - Dr. Hemanga Kumar Das, Parul University, Vadodra

Date -8th November 2021, **No. of Beneficiaries-** 65



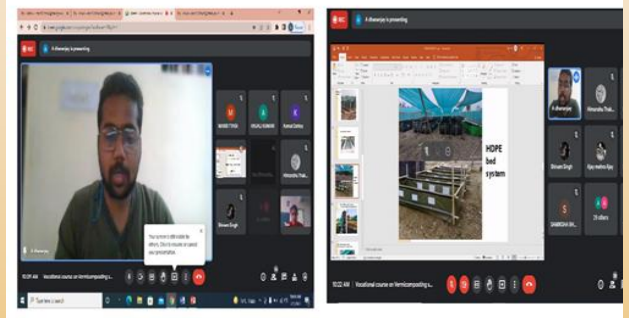
One month Certificate course on "Innovative Zoological Practices"
Date- 17/01/2022 to 17/02/2022, No. of Beneficiaries- 25



DBT Star Sponsored, One day seminar was organized on the topic-
"Vermicomposting as an Eco Tool in Sustainable Solid Waste Management and One Step Towards Entrepreneur".

Speaker - Mr. A Dhananjay Founder Tridev Organic Solution.

Date -1st February 2022, **No. of Beneficiaries -** 60 UG Students



Outreach Activity - Sponsored by DBT Star Scheme

Department of Zoology organized Cancer awareness program in Vidya Bharati Saraswati Shishu Mandir School, Garha Jabalpur, in collaboration with Red Ribbon club of St. Aloysius College(Autonomous), Jabalpur.

Date -7th Feb 2022 **No. of Beneficiaries-** 150 School Students



Dr. Daya Shankar Gautam, Assistant Prof. of Department of Zoology delivering lecture on Cancer-Cause, Symptoms & Prevention

Educational Excursion to Bandhavgarh Tiger Reserve

Date-19/02/2022 to 20/02/2022, No of Beneficiaries-28 UG Students



Wild Animals in Core Zone



On the occasion of National Science Day, Department of Zoology organised, DBT Star scheme sponsored Zoomania, Under the banner of Srijan Bio Rangoli on the theme Animal Human Relationship, Poster Competition on the Theme of Save wildlife and Health Awareness Programme for girls students & female staffmembers.



STUDENT'S CORNER

NEW SPECIES OF "SKIPPER FROG" DISCOVERED

This discovery has been made in a collaborative effort by scientists of zoological survey of India (ZSI) and the National Institute of Science Education and Research (NISER) Bhubaneswar. The latest study has been published in Zootaxa. This species has been discovered on the western plains of India. This discovered species is Jaladhara SKITTERING FROG. Scientific name of this is Euphlyctis. Jaladhara. It is first spotted in the thattekad Bird sanctuary in Kerala in 2017. It has distinct morphological characters and high genetic distance. The new species look similar to the common Skittering Frog. They were the first vertebrate organism to get affected due to water pollution and due to their primitive body plant.–

RANJANA JHARIYA, M.Sc. IV SEM

"SKIPPER FROG"



10 SUSPECTED DINOSAUR EGGS FOUND IN MADHYA PRADESH

*Archaeologists had discovered what could be dinosaur's eggs 145- 66 million years ago in the **SENDHWA** district of Madhya Pradesh. These eggs were found by the team comprising archaeologists and forest officials in a forest during a ground survey conducted at the behest of the archaeology department.*

*These are large in size and the biggest one weighs around 40kg and there are many 25kg also and 3 of them are likely to be displayed in the **Indore, museum**. The team of department of archaeology said that there is a possibility of getting more eggs in the area.*

-SHEPHALI SAXENA, M.Sc II SEM

DINOSAUR EGGS



WILDLIFE CONSERVATION

The practice of preserving the wild species along with their habitat is known as wildlife conservation. Different wild animals and plants are on the verge of extinction. In order to save them from being extinct, there is a need for wildlife conservation. Lots of causes are identified as a threat to wildlife. Among them overexploitation of human beings, poaching, hunting, pollution, etc. are regarded as the vital factors. A report of the International Union for Conservation of Nature says that more than 27k wild species are at risk of extinction. Both national and international government efforts are required to save wildlife. In India, there are wildlife protection laws, but still, it is not working as expected. In order to protect wildlife, we need to protect their habitat at first. Due to the rapid increase in the human population on this earth, the wild birds and animals are losing their natural habitat daily. Humans should ponder over this issue and try to save it for future generations

- SETU SAHU B.Sc. I Year

SEASPIRACY

If you are wondering how detrimental eating fish is, sea for yourself. I would like to lay your eyes on how commercial fishing devastates marine animals and reveals the depths of cruelty in the global fishing industry.

Extinction of tuna- Dolphins are being killed because they are guilty of eating too many bluefin tuna (a rare fish). But the truth is due to the massive scale of industrial fishing fewer than 3% of bluefin tuna are alive today.

Bycatch: the dramatic side effect of fishing, that are caught by fishing nets 'accidentally'. It represents 40% of the world's catch, killing 300,000 small whales and dolphins, 250,000 sea turtles, and 300,000 sea birds every year.

Plastic: who is truly responsible? Yet another shocking finding is that more than 46% of the plastic in the Great Pacific Garbage Patch –the world's largest floating accumulation of plastic located in the Pacific Ocean – is made up of fishing nets.

Seaspiracy: Intensive fishing is the biggest threat to marine life 2.7 billion fish are caught and killed every year. 100 million sharks are killed every year. This says that humans are the most violent animals, not even sharks. 5 thousand fish are killed every minute. By 2048 our oceans could be EMPTY. Every day you have the power to choose to leave the suffering of the fish and the seas off your plate.

YOU CAN MAKE A DIFFERENCE TODAY

-SHRUTT RUIA (B.Sc I YEAR)

AMAZING FACTS

1. Hippos are considered more dangerous than lions as despite of weighing as much 4000 kgs ,they can run 30 kilometers an hour , which is also faster than humans.
2. The most venomous fish in the world is the 'Stonefish' as it has venomous sacs in each of its 13 spines, which can even stop a human heart.
3. The 'Goblin Shark', discovered in 1897, is known as a living fossil as it is the only extant representative of family 'Mitsukurinidae', a lineage some 125 million years old
4. The only mammals to undergo menopause are the human females, elephants and humpback whales.
5. Elephants have a specific alarm call that means 'Watch Out, Humans Out'.
6. The bat is the only mammal that can fly. The leg bones of a bat are so thin that out of the 1,200 species only two the Vampire bat and the Burrowing bat can walk on the ground.
7. The 'Waggle dance' is used by scouting bees to describe a new place to live.
8. Spiders don't have muscles in their legs.They extend them using system of hydraulics powered by their blood pressure. When they die,spiders' legs are curled up because the blood pressure is gone.
9. Whale fossils are found in the Egyptian desert, called the Valley of the whales. –

CHARCHITA SHOYAM, B.Sc. I YEAR

VERMICOMPOSTING

We might have seen earthworms and some other worms often in our gardens, if we visit a farmer's land, they are found in plenty of number. Firstly, the earthworms lives in soil, burrowing with the help of their prostomium which makes spaces and air gaps in the soil which really helps for the aeration of the soil and also mixes water and other substances which is essential for the growth and development of the crops. They are also commonly known as farmer's friend. Apart from this, worms also help in production of organic fertiliser by the process of vermicomposting which is a widely used technique these days as it greatly improves the quality of the soil and is a sustainable approach towards farming methods.

- For vermicomposting, first we need a bin, old wooden, plastic or styrofoam containers around you for the bin. These bins need to have small holes for the purpose of aeration and for the excess liquid to drain out. Keep the bin few inches above the ground with the help of blocks or bricks.

- For small scale vermicomposting, it is very ideal to turn kitchen waste into high quality soil fertilisers. Worms decompose the organic matter without the additional physical effort.

- The best place for worm bins need a consistent temperature and moisture level. Keep it away from the living areas of the house and place it in an empty room.

- The most important step is to buy worms or collect them in a container and keep it safe. Cut or tear the newspaper or waste paper, cardboard into small pieces and place it inside the bin upto 7 inches high which will serve as bedding that holds moisture well.

- Sprinkle or pour a little water on the bedding to make it damp. Pour some soil (devoid of stones and debris) on top of the bedding and spread it evenly.

- Now spread the food waste like fruit and vegetable peels, paper scraps and other biodegradable material throughout the soil bedding. Close the lid of the bin and wait for 5-10 days before opening it.

- After 5-10 days, open the lid of the bin and make a hole in the middle of the bedding. Put all the worms slowly into this hole till it fills up. Now you can keep adding your food waste everyday into this bin by opening the lid just once a day.

- Check the bin every week to see how much bedding is left. When all the bedding gets converted into compost, blackish brown manure like substance, you can harvest this compost out and replace with new bedding and re-add the worms into it as explained in the above steps. This harvested compost can be now used in your home garden,

- SURABHI SAHA, B.Sc. I Year

STUDENT'S ACHIEVEMENTS

Downloads
← → ↺



Girish K. Pathak, M.Sc. IV Sem, participated in quiz competition to celebrate the World Ozone Day -2021 organized by Indian Institute of Tropical Meteorology (IITM) Pune and was in top -15 winner



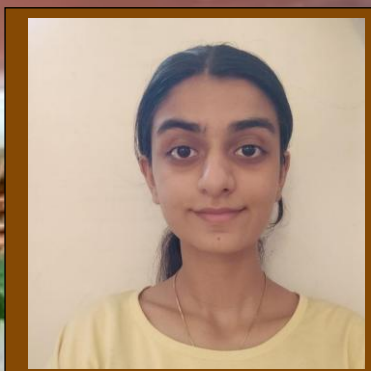
Surabhi Saha, B.Sc. I Year, Secured III position in Essay Writing Competition organized by Kadam Institute on 25th Feb 2022 at Rani Durgawati Museum, Jabalpur



Amity Saxena, M.Sc II Sem Participated in Bagh Sakha T-Shirt Drawing competition Organized by "Madhya Pradesh Tiger Foundation Society", got Second Prize memento and cash prize of Rs 800/-



Aditi Singh, M.Sc. IV Sem Participated in Bagh Sakha T-Shirt Drawing Competition 2021, Organized by "Madhya Pradesh Tiger Foundation Society", got Special prize memento and cash prize of Rs. 300/-



Mehak Bharadwaj, B.Sc III Year Participated in Confluence 2.0v , 2nd International Student Faculty Exchange Programme Organised by St. Aloysius' College, Jabalpur and Secured First position in Debate Competition on 24th – 25th September 2021

