District Level Inter-Collegiate Research Festival Avishkar-2022 A success story

Innovative cell

A success story organized by Shri Pundlik Maharaj Mahavidyalaya Nandura (Rly). Tq. Nandura., Dist. Buldana.



ABOUT AVISHKAR

His Excellency, the then Governor of Maharashtra, Shri. S.M. Krishna has initiated a novel inter university research project competition named 'AVISHKAR' in the year 2006. This activity, unique in its nature and Savitribai Phule Pune University has taken special efforts to increase the participation of the talented students from rural and urban areas. His Excellency, the then Governor of Maharashtra, Shri. S.M. Krishna has initiated a novel inter university research project competition named 'AVISHKAR' in the year 2006. This activity, unique in its nature and Sant Gadge baba Amravati University, Amravati has taken special efforts to increase the participation of the talented students from rural and urban areas.

Guidelines of the Participants Projects can be in the form of live demonstration /models / posters and should be based on innovative ideas, in given six categories.

- I. Humanities, Languages, Fine Arts, etc.
- II. Commerce, Management, Law
- III. Pure Sciences
- IV. Agriculture and Animal Husbandry
- V. Engineering & Technology
- VI. Medicine and Pharmacy Each college/institution can send separate entries for four levels of: UG Level PG level Post PG level (M. Phil /PhD) Teacher level.

Aims and Objectives of AVISHKAR:

To inculcate research culture among students.

To encourage original and novel thinking.

To provide an opportunity for expression of academic talent.

To promote interaction among academia, R & D Institutes and Industries.



Eligibility Rules:

- 1. Only bona-fide, full time students, who is enrolled for a degree or post graduate degree or diploma course of a minimum duration of one academic year and whose examination is conducted by the University subsequent to passing of the 12th class examination will be eligible for participation in this competition.
- 2. Students of open Universities shall be considered to be bona-fide students and shall be eligible to participate provided they fulfil other terms and conditions. However, students enrolled in correspondence courses in the institutions / Centers of Universities, Casual students, external students and students pursuing bridge courses shall not be eligible.

All the participants in Avishkar shall fulfill one of the following conditions as per the category of participation. Undergraduate:

General Instruction: Students pursuing bachelor's degree programme in the participating university or its conducted/affiliated colleges or recognized institutes who are below the age of 25 are eligible to participate in any of the six disciplines under this category depending upon the area of his/her research work irrespective of the faculty/stream/subject in which he/she has enrolled for the degree or diploma in the participating university.

Post-Graduate: Any students who has completed his / her bachelor's degree and pursuing post graduate studies in the participating university or its constituents/affiliated colleges or recognized institutes who is below the age of 30 is eligible to participate on any of the six disciplines under this category depending upon the area of his/her research work, irrespective work of the



faculty/stream/subject in which he/she has enrolled for the post graduate degree/diploma in the participating university.

Post-PG: Any person having a post graduate degree/diploma and has registered for a diploma/degree such as M. Phil., Ph.D., D.Sc., D.Lit., etc or is pursuing Post-Doctoral Research in the participating university or its constituents/affiliated colleges or recognized institutes is eligible to participate in any of the six disciplines under this category depending upon the area of his/her research work, irrespective of the faculty/stream/subject in which he/she has enrolled without any stipulated age limit.

Teacher: Only those teachers working in the University departments or affiliated colleges/institutions of Savitribai Phule Pune University who are pursuing their M. Phil. /Ph.D. will be allowed to participate in Avishkar in this category.

General Instruction: A Student shall not be allowed to represent more than one university during a single academic year. Provisional admission to a course in a participating university or college shall not make the student eligible to represent the university in Avishkar. In case of a student migrating from one university to another his/her migration case will be considered eligible only after his/her admission in the new university is regularized and he/she is certified as a bonafide student by the new university.





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Avishkar Cell



Dr. Dilip Hande
Principal



Dr. Smita Tarale Co-ordinator-IQAC



Dr. S. V. Mukhamale Avishkar College Co-ordinator



Asst. Prof. Supriya Gedam



Dr. Alaka Anil Mankar



Asst. Prof. S. B. Bhoye



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Dr. D. V. HandePrincipal
Shri Pundlik Maharaj Mahavidyalaya, Nandura (Rly).



From the desk of Principal, Avishkar-2022

The journey of the success story begins with the Govt of Maharashtra initiating novel Research Competitions Name Avishkar in 2006. The Culture of research is very vital in the higher education system. There is a need to develop scientific temperament & research culture in the University and the affiliated colleges. India is poised to become a knowledge superpower in next few decades. It has demographic advantage and innovative minds compare to many developing and developed countries. However, these strengths have to be properly nurtured and effectively utilized. There has to be a focused effort at every level of education system for achieving global excellence in research. The research aptitude has to be inculcated in the students from their young age. The potential researchers need to be provided adequate facilities and funds for carrying frontline innovative research. We have nominated by Dr. Sachin V. Mukhamale of Shri Pundlik Maharaj Mahavidylaya Nandura affiliated the Sant Gadge Baba Amravati University, Amravati for organization of Buldana district level Avishkar. On this background, Shri Pundlik Maharaj Mahavidylaya Nandura has taken important initiatives to introduce research culture amongst the students and teachers of affiliated Colleges and Institutes since these years. I am happy that our college has implemented this activity in the best possible manner and maintained the rank since its inception which has resulted into an overall championship since these years, our students has also made a mark at the National research project competition. A winner and runner are selected for University Level Avishkar -2022, held at Department of Physics, Sant Gadge Baba Amravati University district level Intercollegiate research cell Avishkar also University Level Innovative Science Making Model Exhibition-2022, held at Sant Gadge Baba Amravati University, Amravati Affiliated Shri Shivaji Science and Arts College Chikhali, Buldana, Maharashtra won the second prizes during the year 2022-23 and the consonant prizes during the year 2021-22. Our college have also promoted and guide to the selected students and teacher's coordinator to provide them with necessary help and guidance to enhance their abilities to present their work in an effective manner. I would like to congratulate winners and their teachers for their achievements in the Avishkar Competition.



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Dr. S. V. Mukhamale Avishkar College Co-ordinator Shri Pundlik Maharaj Mahavidyalaya, Nandura (Rly)



From the desk of College Coordinator, Avishkar-2022

Government of Maharashtra launched a major initiative, called 'Avishkar' in 2006 to inculcate the research interest among University and College students. Avishkar is a research project competition among the students, Students compete at the college University and state level. The winners are suitably awarded. I am extremely happy to note that our students from various rural areas of buldana districts and College have emerged first rank winner and runner district level intercollegiate research cell from this year avishkar-2022 program. Not only this, our students have won the second prize this year 2022 at the University level Innovative science making model Competition' organized by Amravati university Physics Teacher Association and Shri Shivaji Science and Arts Chikhali joint program. also. India has done reasonably well in scientific research. We had the galaxies of scientists like C.V. Raman, Homi Bhabha, Vikarm Sarabhai, Ramachandran and so on who have made India proud with their scientific discoveries. India has a very large pool of scientific and technical manpower. There is a huge number of budgetary provisions for scientific research. But still the outcome is not impressive. The brightest students were earlier attracted towards research. Currently the majority of this breed is moving away from basic subjects and is driven to professional courses which bring better financial gains within a short span of time. In the process the quality research and technology which is vital for national development suffers. We realize the importance of highquality research for technology development for nation building. We also realize the importance of knowledge of basic subjects and strengthening of concepts for formulating innovative research proposals. Therefore, at the district level we have launched many initiatives to promote research culture. It gives me an immense pleasure to present the memory of the student's research projects participated in the Avishkar competition during the year 2022-2023. This activity is unique in its nature and gained a momentum during this years. We have tried best to maintain the performance of students in various competitions. This was possible due to my involvement in organizing research project competitions at district and University level this year 2022 with the University and college Avishkar cell.



Sant Gadge Baba Amravati University, Amravati Avishkar Cell-2022

A Research Convention for Students - Aavishkar-2022

Time	Event	Venue	
	Day - 1 - 16th Decem	ber	
10.00 am	Registration Department of SGBAU, An		
11.30 am	Inauguration of Avishkar-2022	Auditorium, Department of Physics, SGBAU, Amravati	
12.30 pm onwards	Evaluation by experts	,	
01.30 to 02.00 pm	Lunch	Department of Physics, SGBAU, Amravati	
02.00 to 05.00 pm	Evaluation by experts		
5 pm Onwards	Results Announcement for Oral Presentation	Auditorium Department of Physics, SGBAU, Amravati	



Day 2 - 17th December

Programme Schedule – 16th to 17th December, 2022

09.00 am onwards		Humanities, Social Sciences, Education, Arts,	Department of Home Science, SGBAU, Amravati	
onwarus		Fine Arts		
		Commerce, Management & Law	Department of Business Administration (MBA) SGBAU, Amravati	
	Oral	Pure Sciences	Department of Biotechnology, SGBAU, Amravati	
	Presentations	Agriculture & Animal Husbandry	Department of Botany, SGBAU, Amravati	
		Engineering & Technology	Department of Chemical Technology SGBAU, Amravati	
		Medicine & Pharmacy	Department of Microbiology SGBAU	
1.30 to	Lunch		Department of Physics,	
2.00 pm			SGBAU	
2.30 pm	Announcement of Final Result			
	And		Auditorium Department of Physics, SGBAU	
	Valedictory			



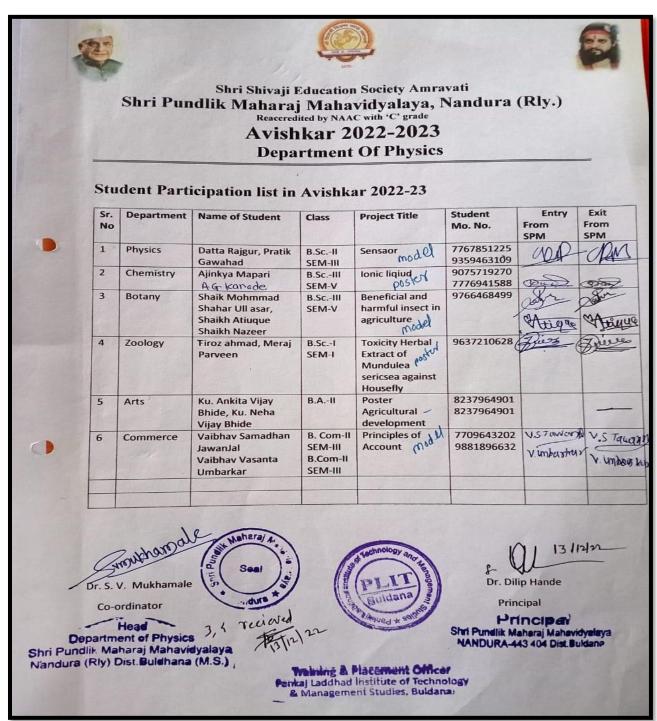
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Sant Gadge Baba Amravati University Amravati AVISHKAR-2022(Buldhana District) All the Honorable Principals are requested to send Maximum Students as per the following Table: Number of Number of Group per Level of Participation Students per college college 10 Under Graduate (UG) 4-Students 1-Group Post Graduate (PG) 1-Student 1-Student Post PG (PPG) In each category related to your conege stream Avishkar-2022 Coordinator Shri Pundlik Maharaj Mahavidyalaya Nandura (Riy) Dist. Buidhana (M.S.)



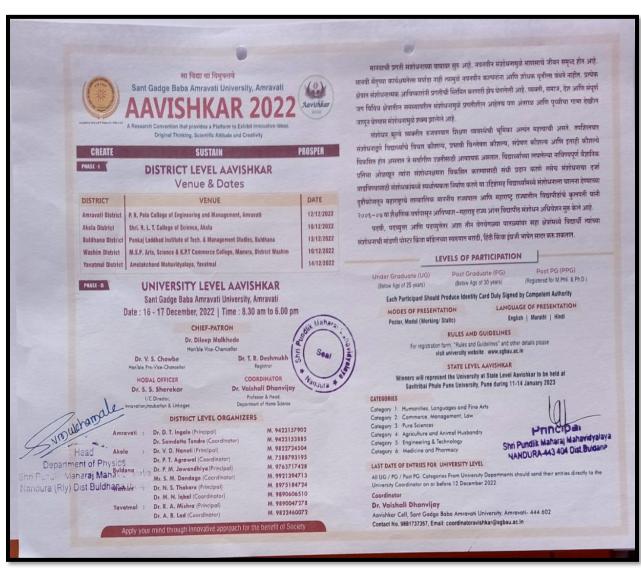


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Prospect of Avishkar -2022





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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI Agvishkar Cell



A RESEARCH CONVENTION FOR STUDENTS AAVISHKAR 2022

Time	Event	Venue
	Day - 1 - 16th Decem	ber
10.00 am	Registration Department of SGBAU, Am	
11.30 am	Inauguration of Avishkar-2022	Auditorium , Department of Physics, SGBAU, Amravati
12.30 pm onwards	Evaluation by experts	Department of Physics, SGBAU,
01.30 to 02.00 pm	Lunch	
02.00 to 05.00 pm	Evaluation by experts	Amravati
5 pm Onwards	Results Announcement for Oral Presentation	Auditorium Department of Physics, SGBAU, Amravati

Day 2 - 17th December

09.00 am onwards	Oral Presentations	Humanities, Social Sciences, Education,Arts, Fine Arts	Department of Home Science, SGBAU, Amravati
		Commerce, Management & Law	Department of Business Administration (MBA) SGBAU, Amravati
		Pure Sciences	Department of Biotechnology, SGBAU, Amravati
		Agriculture & Animal Husbandry	Department of Botany, SGBAU Amravati
		Engineering & Technology	Department of Chemical Technology SGBAU, Amravati
		Medicine & Pharmacy	Department of Microbiology SGBAU
1.30 to 2.00 pm	Lunch		Department of Physics, SGBAU
2.30 pm	A	it of Final Result nd lictory	Auditorium Department of Physics, SGBAU

Coordinator Aavishkar Cell SGBAU

Organizing Secretary Aavishkar 2022 SGBAU





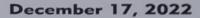
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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI



A RESEARCH CONVENTION FOR STUDENTS

AAVISHKAR 2022



INVITATION

To,

Respected Sir/ Madam,

We solicit your august presence at the Inaugural and Valedictory Functions and Activities under University Level Research Convention "AAVISHKAR - 2022"

INAUGURAL FUNCTION

Chair Person

Dr. Dileep Malkhede

Hon'ble Vice-Chancellor
Sant Gadge Baba Amravati University, Amravati

Chief Guest

Dr. Vinayak Deshpande

Hon'ble Vice-Chancellor
G. H. Raisoni University, Amravati

Guest of Honour

Dr. V. S. Chowbe

Hon'ble Pro-Vice Chancellor Sant Gadge Baba Amravati University, Amravati

Date: December 16, 2022 | Time: 11:30 am

Venue

Auditorium, Department of Physics

Sant Gadge Baba Amravati University, Amravati

RSVP

Dr. T. R. Deshmukh Registrar

trar I/c. Director, IIL

Dr. V. P. Dhanvijay

Convener

Dr. Kapil KambleOrganizing Secretary

Dr. S. S. Sherekar





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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI



A RESEARCH CONVENTION FOR STUDENTS

AAVISHKAR 2022



VALEDICTORY FUNCTION

Chair Person

Dr. V. S. Chowbe

Hon'ble Pro-Vice Chancellor Sant Gadge Baba Amravati University, Amravati

Chief Guest

Dr. Kamal Singh

Ex. Vice Chancellor

Sant Gadge Baba Amravati University, Amravati

Guest of Honour

Dr. L. H. Kamble

Professor, School of Life Sciences Swami Ramanand Teerth Marathwada University

Date: December 17, 2022 | Time: 3:00 pm

Venue

Auditorium, Department of Physics

Sant Gadge Baba Amravati University, Amravati

Dr. T. R. Deshmukh Registrar

RSVP

Dr. S. S. Sherekar I/c. Director, IIL

Dr. V. P. Dhanvijay

Dr. Kapil Kamble

Convener

Organizing Secretary



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Buldana District level Avishkar First Rank Winner in Agricultural Category Photo





Buldana District level Avishkar First Rank Winner in Agricultural Category **Photo**





Appreciation of First rank Winner and Avishkar College Co-ordinator by Principal Dr. D. V. Hande



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University level Avishkar Inauguration Photo



University level Avishkar for category Agriculture beneficial and harmful insects





University level Avishkar for category Agriculture beneficial and harmful insects



University level Avishkar for category Agriculture beneficial and harmful insects



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A Research Convention for Sc-III Semester V Students

Organized by AVISHKAR CELL 2022

ANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVA

Name : Shaikh Mohd Saher -Ul-Asr Class : BSc IIIrd Semester Vth

Subject: Botany

Topic : Beneficial and Harmful Insects in agriculture



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Contents

- 1. Introduction of project work
- 2. Recent trend in research
- 3. Reason behind the selection of project work
- 4. Aim and objectives of project work
- 5. Role of beneficial and harmful insects in agriculture field
- 6. Implication of project work
- 7. Scope of project work
- 8. Expected outcomes of project work
- 9. References
- 10. Acknowledgment

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Beneficial and Harmful Insects in Agriculture























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Introduction of project work

- ❖ Insects provide useful services to mankind and the environment in a number of ways. They keep pest insects in check, pollinate crops we rely on as foodnd act as sanitation experts, cleaning up waste so that the world doesn't become overrun with dung.
- ❖ Beneficial insect play an important role in
 - Pollination
 - Natural pest control
 - Cleaning the environment (e.g. getting rid of rotting matter)
 - Feeding other species (by being food themselves, or pollinating plants that provide food for other species).
- ❖ Insects that can be considered 'harmful' are those that accomplish something negative for the ecosystem destroying crops, structures, infestations or can deliver painful / poisonous / venomous bites to people .



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Recent trend in research

- ❖ Chemical-based crop protection products can not provide long term solutions since they tend to reduce biological diversity and degrade environmental physical —chemical quality.
- ❖ Insect protect crops against damage caused by insect ,diseases and weeds. As a result these entities aid in lowering the risk of crop production loss.
- ❖ One of the most research-intensive area is crop protection.
- ❖ Therefore farmers have begun to choose beneficial insects over chemical pesticides, which is predicted to increase the demand for beneficial insects for crop protection.
- ❖ This topic seeks to advance our understanding of the recent impacts of harmful and beneficial insects (e.g., pollinators, edible insects) on food security, income, health, the environment across the agricultural supply chain, and the acceptance of edible insects by end users.

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Reason behind the selection of project work

- ❖To aware the farmers about the role of beneficial and harmful insects in farm(field).
- ❖ How to increase population of beneficial insect against harmful insect?
- ❖ How to dropout health related issue caused by synthetic pesticides?
- ❖ How beneficial insect help to produce organic fertilizers?
- ❖ How to reduced farmers cost?
- ❖ How to increase crop yield through natural way?
- ❖ How to increase social and economical aspect of farmers?

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Aim and objectives of project work

- ❖ To aware and educate farmers about natural prey and predator.
- * Reduce chemical spraying in farm against maintaining population of beneficial insect.
- * Producing chemical free crops.
- ❖ Low expenses and high profitable yield.
- ❖ Producing healthy crops for reducing risks to the health.











Role of beneficial and harmful insect in Agriculture field

Beneficial Insect	Benefits	Beneficial Insect	Benefits
Ladybug(सोनिकडा,बीटल) Kingdom: Animalia Phylum: Arthropoda Class: Insecta Order: Coleoptera Family: Coccinellidae Genus: Coccinella Species: C. septempunctata Life Cycle:Usually only one generation per year.	 ❖ Feeds on aphids, spider, mites, eggs of some insects. ❖ Help ful in gardening. ❖ Able to handle a wide range of prey and are immediately effective. ❖ No harm to human. ❖ Way to attract: Grow flowers and herbs like marigold dill, fennel and cosmos. 	Honey bee (मधमाशी) Kingdom: Animalia Phylum: Arthropoda Class: Insecta Order: Hymenoptera Family: Apidae Genus: Apis Life Cycle: 4 Stages from Egg to Adult Worker, 18 - 22 days; Queen, 16 days; Drone, 24 days.	 ❖Play important role in pollination. ❖Provides us with honey and many other byproducts like bees wax and royal jelly ❖Apiculture along side agriculture. ❖As medicine e.g Sting of honey bees remedy for rheumatism and arthritis. Way to attract: Fruit bearing plants, lemongrass Rosemary, mint ,thy me



Beneficial Insect	Benefits	Beneficial Insect	Benefits
Dragon Fly (चतुर) Kingdom: Animalia Phylum: Arthropoda Class: Insecta Order: Odonata Suborder: Anisoptera Infraorder: Epiprocta Life Cycle: our stages of development – egg, larva, pupa and adult Life span: 756 days (adult)	 ❖ In controlling insects population like mosquitoes, agricultural pests, flies before they grow into adults Omnatidia Eye (30,000 lenses). ❖ Extraordinary vision, flight ability. ❖ They are skilled hunters in wetlands. ❖ Way to attract: Grow on submerged plants such as eelgrass, growing sage, swamp milkweed, pondweed 	Mantis (तनफुगी) Kingdom: Animalia Phylum: Arthropoda Class: Insecta Order: Mantodea Suborder: Dictyopetra Life Cycle: 3 life Stages egg, nymph, and adult. Life span: Smaller ones may live 4–8 weeks, while larger species may live 4–6 months.	 ❖ Feeds on aphids, flies grasshopper from crops and small trees frogs, lizar ❖ Way to attract: Plants like marigold and dill, cosmos. ❖ Generally located in warmer region.



Beneficial Insect	Benefits
	 ❖ Increases nutrient availability, better drainage. ❖ Feeds on dead roots leaves grasses and manure ❖ Useful in vermicomposting.
Earthworm (गांडळ) Kingdom: Animalia Phylum: Annelida Class: Clitellata Order: Opisthopora Suborder: Lumbricina Life Cycle: Usually 1-4 year.	❖ Way to attract: Leave organic matter on surface, avoid chemicals, add pumpkins and melons etc.



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Harmful Insect

Aphids (HTAT) Kingdom: Animalia Phylum: Arthropoda Class: Insecta Order: Hemiptera Suborder: Sternorrhyncha Infraorder: Aphidomorpha

Superfamily: Aphidoidea Family: Aphidoidea

Life span: The average lifespan of an aphid is approximately **one**

month.

Harmful effect

- ❖ Feed on plants leaves.
- ❖ Large population can turn leaves yellow and stunt shoots, wilting, low yielding and death in plants.
- **♦** Control Measures: Insecticidal soaps and oils, Neem or canola oils, lady beetle ,lacewings and parasite wasp are natural predator.

Harmful Insect



Rice weevil (तांदूळ भुंगा)

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Curculionidae
Subfamily:Dryophthorinae

Genus: Sitophilus Oryzae
Life Cycle: Is about 30 to 40 days during the summer, and 123 to 148 days during the winter, depending on temperature. Adults

live 7 to 8 months.

Harmful effect

- ❖ Harmful to plants like rice wheat, maize.
- ❖ Suck the sap from plants.
- ❖ Make drains porous
- ❖ Make leaves twisted, harmful at both larval and adult stage.

*****Control measures:

Sweet flag rhizome powder is best against rice weevil.Followed by tobacco leaves dust and garlic clove powder. Wipe the storage trunk with disinfecting spray the wipe again with white vinegar.

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Harmful Insect Harmful effect **Harmful Insect** Harmful effect Devouring and break ❖Sap sucking down the leaves insects, causes flowers, fruits, seeds, substantial crop bark, and growing points damage and yield losses. ❖Problem causing ❖Aggregate into migratory swarms that mostly during warm Migratory locust (स्थलांतरितटोळ) White Fly (पांढरी माशी) causes wide scale weather. Kingdom: Animalia destruction of cropin ❖Damage is similar Phylum: Arthropoda Kingdom: Animalia various states like to that caused by Phylum: Arthropoda Class: Insecta Rajasthan, Haryana aphids. Class: Insecta Order: Hemiptera Punjab, Orissa, UP, MP *****Control Order: Orthoptera Suborder: Sternorrhyncha Suborder: Caelifera Family: Curculionidae measures: Yellow Family: Acrididae Superfamily: Aleyrodoidea **♦** Control Measures: sticky traps, Neem Genus: Locusta Family: Aleyrodidae Chemical pesticides Species: Locusta migratoria Life Cycle: 6-10 days for egg hatch, 3-4 have been only effective Life cycle: 3 stages: egg, days as a nymph, 4-5 days as nymph, 4-5 method to control hopper and adult days as nymph, 6-10 days for the pupa. Life span: The average lifespan extreme locust Life Span: Adults can live for 30 -40 days. is approximately 8-10 weeks.. infestation.

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Harmful Insect

Cotton bollworm (कपाशीवरील बोंडअळी)

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Lepidoptera
Superfamily: Noctuoidea
Family: Noctuidae
Genus: Helicoverpa
Species: Helicoverpa armigera

Life cycle: 4 stages: egg, larva pupa and

adult

Life span:The average lifespan is approximately **1-2 months**.

Harmful effect

- ❖ Likely to feed inside growing cotton boll, destroying the cotton.
- ❖Feed on cotton seed anddestroy the cotton lint.
- ❖ Also feed on other crops like tomato, maize ,soy beans,tobacco,sunflower

*Control measures: Start using B.T Cotton.
(Bacillus thuringiensis) a soil bacteria. Although
Helicoverpa armigera nucleopolyhedrovirus
(HearNPV) is generally used against cotton
bollworms Eliminate the food supply by cutting off
irrigation, keep water, fertilizer and plants density at
recommendation level.

Thuringiensis produces toxic protein in an inactive form, but when an insect ingests this inactive protein it get activated due to alkaline $_{P}H$ of the gut , leading to the death of bollworm.

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Scope of project work

- ❖ It help to motivate farmers about natural farming.
- * Reducing risk of health issue.
- ❖ It improve the soil health as well as environment condition.
- ❖ Beneficial for increasing crop yield.
- This project help in awareness the farmers and how to control harmful insects and promote protection of beneficial insect for food and nutrition security, income, pesticides use, human health, and environment.

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Expected outcomes of project work

The expected outcome are:

- ❖ To develop awareness among the farmers.
- * Reduced pesticide cost by maintaining population of beneficial insect in filed.
- ❖ Improve the quality of food grains by reducing chemical content.
- ❖ Decrease the rate of high risky diseases by healthy foods.
- ❖ Maintain the natural environmental condition surrounding.
- ❖ Needs to move the organic by dropping out synthetic pesticides.
- ❖ Maintaining biodiversity in field by controlled beneficial population.
- ❖ Increase in soil fertility.
- ❖ Increase crop yield by pollinating agents.
- * Enhance social and economical progress.

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- 1. Insect ecology and integrated pest management, Engle, Notes by Cherukuri Sreenivasa Rao.
- 2. Insect ecology and integrated pest management, End 2, Notes by Cherukuri Sreenivasa Rao.
- 3. Beneficial Insects Market SizeShare, Growth, and Industry Growth by Type (Predator Parasitoids, Pollinators and Others) By Application (Crop Protection and Crop Production) Regionates (2022-2028)
- 4. Harmful and Beneficial Insects: A Review of their Impacts and Controls, Frontiersinsect Science, 2022



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Acknowledgement

I am highly thankful to

- 1. Coordinator Aavishkar Cell, Sant Gadge Baba Amravati University, Amravati
- 2. Organizing Secretary Aavishkar 2022, Sant Gadge Baba Amravati University, Amravati
- 3. All respected experts Aavishkar 2022
- 4. My project mentor

Shaikh Mohd Saher -Ul-Asr (Project student)

SGBAU_Avishkar-2022

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Category in Agricultural : Beneficial Insects and Harmful Insects







INTER-COLLEGIATE RESEARCH FESTIVAL – AVISHKAR -2022





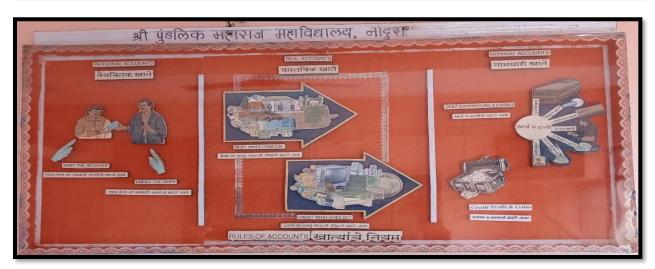




Category in Commerce: Principle of Accounts







Category in Commerce: Principle of Accounts







Category in Agricultural

Category in Agricultural

Category in Agricultural: Toxicity of herbal extract of Mundulea serisea against Housfly



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AVISHKAR-2022

Firoz Ahmad Shaikh Ayyub Qureshi, Meraj Parveen Shaikh Mubeen,

Supervisor Name: Mr Shantaram Bhoye,

Shri Pundlik Maharaj Mahavidyalaya, Nandura Rly, Dist Buldana

CHEMICAL CONSTITUENT:

 Diterpenoid, alkaloid, Rotenoids(rotenone, deguelin and tephrosin,)

MATERIALS AND METHOD:





TITLE

Toxicity of Herbal Extract of Mundulea

sericea Against Housefly

(Musca domestica)

INTRODUCTION:





Housefly (Musca domestica

Silver bush (Mundulea sericea

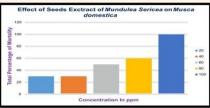
OBSERVATION AND RESULTS:

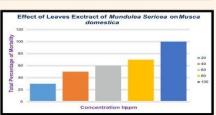
Effect of Mundulea sericea seeds on housefly 3rd instar larvae

Sr. No.	Concentration of plant extract irppm	No. of exposed larvae	No. of larvae dead after 24 hrs.	Total percentage of mortality
1	Control	10	0	00
2	20	10	3	30
3	40	10	3	30
4	60	10	5	50
5	80	10	6	60
6	100	10	10	100

Effect of Mundulea sericea leaves on housefly 3rd instar larvae

Sr. No.	Concentration o plant extract in ppm		No. of larvae dead after 24 hrs.	
1	Control	10	0	00
2	20	10	3	30
3	40	10	5	50
4	60	10	6	60
5	80	10	7	70
6	100	10	10	100





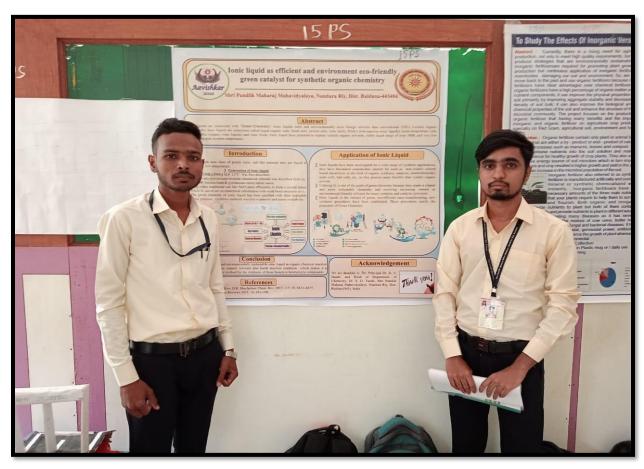
CONCLUSION:

- > The aqueous extract of the leaves and seeds of Mundulea sericea exhibit toxic effects on the houseflies.
- > The high concentration of the extract from *Mundulea sericea* leaves was highly toxic to the larvae of houseflies than the extract of seeds
- Management programs for controlling such pest without using chemical pesticides

Category in Agricultural: Toxicity of herbal extract of Mundulea serisea against Housefly



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Category in Pure Science: Poster Ionic liquid as efficient and Environment ecofriendly green catalyst for the synthesis organic chemistry



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Ionic liquid as efficient and environment eco-friendly green catalyst for synthetic organic chemistry

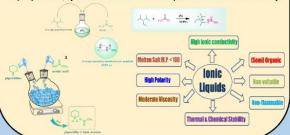
Shri Pundlik Maharaj Mahavidyalaya, Nandura Rly, Dist. Buldana-44340

Abstract

Ionic liquids are connected with "Green Chemistry". Ionic liquids safer and environmentally more benign solvents than conventional VOCs (volatile organic compounds). Ionic liquids are sometimes called liquid organic salts, fused salts, molten salts, ionic melts, NAILs (non-aqueous ionic liquids), room-temperature ionic liquids, OILs (organic ionic liquids) and ionic fluids. Ionic liquid have potential to replace volatile organic solvents, stable liquid range of over 300K and very low vapour- pressure at room temperature.

Introduction

- Ionic liquids new class of purely ionic, salt like material they are liquid a unusually low temperature.
- ❖ Generation of ionic liquid
 ❖ 1914: [EtNH₃] [NO₃] M.P. 12°C Was first described.
- 1950: N-ethylpyridinium bromide-aluminium chloride was described first r.m.
- 1970-80: Imidazolium & pyridinium cation halide anion.
- Many other traditional salt like NaCl pack efficiently to form a crystal lattice While IL cation are asymmetrical substitution with weak bond attraction at r.t.
- The green character of ionic liquid has been justified with their negligible vapor pressure, synthesis methods was less expensive and easier availability.



Application of Ionic Liquid

- Ionic liquids have been investigated for a wide range of synthetic applications, they have fascinated considerable interest for used as non-volatile solvent based electrolytes in the field of organic synthesis, catalysis, electrochemistry, solar cells, fuel cells, etc., as they possess many benefits than volatile organic solvent
- Utilizing IL is one of the goals of green chemistry because they create a cleaner and more sustainable chemistry and receiving increasing interest as environmental friendly solvents for many synthetic and catalytic processes.
- · Ionic liquids in the context of green, eco-efficient nano-manufacturing, new synthetic procedures have been established. These procedures satisfy the





Conclusion

The use of a low-cost and environmentally sustainable ionic liquid in organic chemical reaction prevention of hazardous organic solvents also harsh reaction condition which makes it onvenient and attractive method for the synthesis of these bioactive heterocyclic compounds.

References

Z Lei, B Chen, YM Koo, D.R. Macfarlane Chem. Rev. 2017, 117, 10, 6633–6635 T Welton, Biophysical Reviews 2018, 10, 691–706.

Acknowledgement

We are thankful to The Principal Dr. D. V. Hande and Head of Department of Chemistry, Dr. S. D. Tarale, Shri Pundlik Maharaj Mahavidyalaya, Nandura Rly, Dist. Buldana(MS), India.



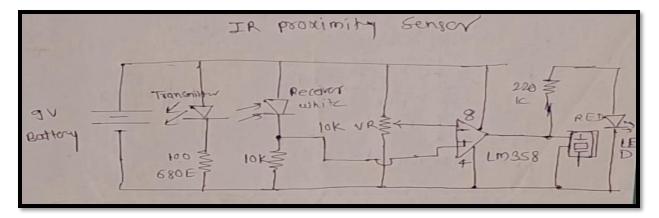
Category in Pure Science: Poster Ionic liquid as efficient and Environment eco-friendly green catalyst for the synthesis organic chemistry



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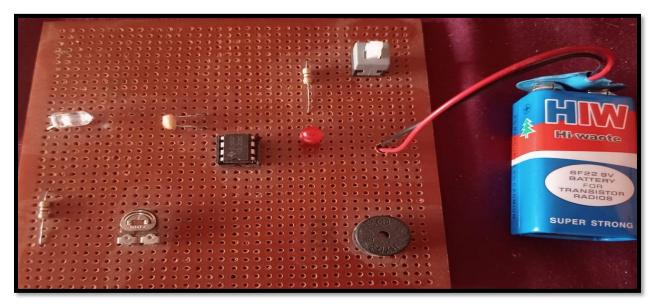
Category: Pure Science: How to secure Army cantonment by using IR Proxy Sensor, Street lamp sensor and Security sensor



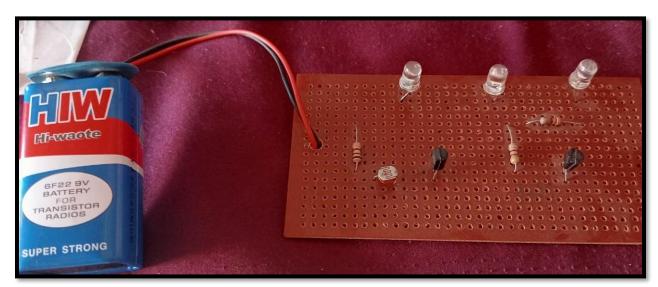
Category: Pure Science: How to secure Army cantonment by using IR Proxy Sensor, Street lamp sensor and Security sensor



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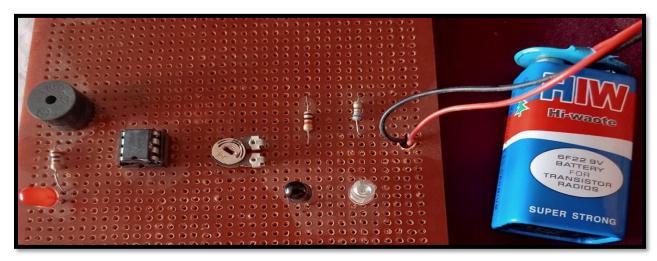
Category: Pure Science: IR proximity Sensor



Category: Pure Science Street lamp Sensor



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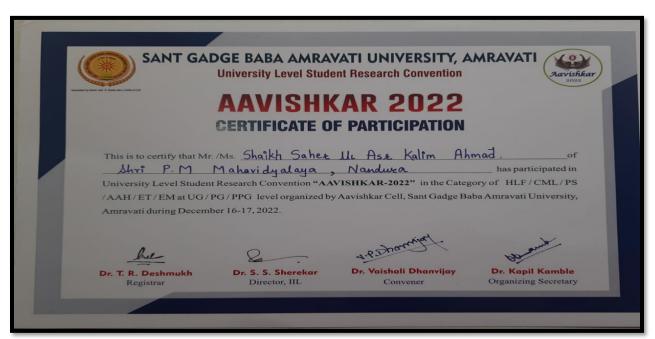
Category: Pure Science Security Sensor



Category: Pure Science IR proxymity Sensor



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े भारत सँग्राम

15 Dec 2022

अविष्कार २०२२ मध्ये नांदुरा येथील शी पुंडलिक महाराज महाविद्यालय अळ्वल स्थानी

नांदरा/प्रतिनिधी - संत गाडगेबाबा अमरावती विद्यापीठ जिल्हास्तरीय आविष्कार २०२२ ही स्पर्धा दिनांक १३ डिसेंबर रोजी पंकज लदड इन्स्टिट्यूट ऑफ मॅनेजमेंट बुलढाणा येथे आयोजित केली होती. बुलढाणा जिल्ह्यातील सर्व महाविद्यालयाच्या विद्यार्थ्यांनी आपल्या विषयाची संबंधित पोस्टर व मॉडेल्स या स्पर्धेत सादर केलेत. यात श्री शिवाजी शिक्षण संस्था अमरावती द्वारा संचालित नांदरा येथील शी पंडलिक महाराज महाविद्यालय प्राचार्य डॉ.दिलीप हांडे यांच्या मार्गदर्शनाखाली वनस्पती विभागाच्या शेख मोहम्मद सहेर उल असर कलीम अहमद, शेख आतिक शेख नजीर या विद्यार्थ्यांनी कृषी क्षेत्रातील मित्र कीटक व शत्रु कीटक यांची ओळख करून देणारे मॉडेल सादर केले. जिल्हास्तरावर या मॉडेलचे खुप कौतुक झाले हे मॉडेल शेतकऱ्यांकरिता उपयोगी असून जिल्हास्तरावर यालाच प्रथम क्रमांक मिळाला आहे महाविद्यालयाच्या प्राचार्य डॉ. दिलीप हांडे यांनी सहभागी विद्यार्थ्यांचे त्यांना मार्गदर्शन करणारे |



प्राध्यापकांचे कौतुक व अभिनंदन केले निर्देशक डॉ. सचिन मुखमाले यांनी वनस्पती शास्त्र विभागाच्या विद्यार्थ्यांना व वनस्पतीशास्त्र विभाग प्रमुख डॉ. सुचिता दिघे तसेच प्राध्यापिका सुप्रिया गेडाम प्राध्यापिका काट गये प्राध्यापिका डेकाटे यांनीही सुद्धा विद्यार्थ्यांना मार्गदर्शन केले. सोबतच वनस्पतीशास्त्र विद्यार्थ्यांनी अथक परिशम घेतले होते विद्यार्थ्यांनी अथक परिशम घेतले होते विद्यार्थ्यांमधील नाविन्यपूर्ण कल्पनांना मूर्त रूप देण्यासाठी अविष्कार २०२२ हे उत्ताम व्यासपीठ आहे. महाविद्यालयाचे हे गौरव आणि मॉडेल आहे दुसऱ्या फेरी करिता विद्यापीठ स्तरावरील स्पर्धेकरिता प्रथम

क्रमांकावर निवडले गेले आहे त्या स्पर्धे करिता विद्यार्थ्यांना महाविद्यालयातर्फे शुभेच्छा देण्यात आल्यात दुसऱ्या फेरीला विद्यापीठ स्तरावरील स्पर्धा संत गाडगेबाबा अमरावती विद्यापीठ या ठिकाणी दिनांक १६ डिसेंबर ला होणार आहे. त्या स्पर्धेतही सुद्धा आम्ही अव्वल स्थांनी राहन राज्यस्तरावर हे मॉडेल नेउ असा विश्वास विद्यार्थी व मार्गदर्शक प्राध्यापकांना आहे महाविद्यालयाचे प्राध्यापक व शिक्षकेतर कर्मचारी विद्यार्थी व सर्व सहभागी सहकारी मित्रांनी या मॉडेल साठी अतिशय उत्कृष्ट प्रतिसाद दिला.





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'अविष्कार'मध्ये मित्र कीटक व शत्रू कीटक ओळखणारे मॉडेल प्रथम

नांदुरा: बुलढाण्यात संत गाडगे महाराज अमरावती विद्यापीठव्दारा १३ डिसेंबर रोजी आयोजित 'अविष्कार-२०२२' मध्ये पुंडलिक महाराज महाविद्यालयाचे शेतीसाठीचे मित्र कीटक व शत्रू कीटक यांची ओळख करून देणाऱ्या मॉडेलने प्रथम क्रमांक मिळविला आहे.

यावेळी पोस्टर व मॉडेल जिल्हास्तरीय स्पर्धेचे आयोजन करण्यात आले होते. त्यात पुंडलिक महाराज महाविद्यालयातील वनस्पती शास्त्र विभागाच्या शेख मोहम्मद सहेर, उल असर कलीम अहमद, शेख आतिक शेख नजीर या विद्यार्थ्यांनी कृषी क्षेत्रातील मित्र कीटक व शत्रू कीटक यांची ओळख करून देणारे नाविन्यपूर्ण मॉडेल सादर केले. या मॉडेलने प्रथम क्रमांक पटकविला. शेतकऱ्यासाठी उपयोगी असलेले हे मॉडेल कृषी क्षेत्रातील मित्र कीटक व शत्रू कीटक मैलाचा दगड ठरू शकतो. यासाठी विद्यार्थ्यांना महाविद्यालयांचे प्राचार्य डॉ. दिलीप हांडे, डॉ. सचिन मुखमाले, वनस्पतीशास्त्र विभागाचे प्रमुख डॉ. सुचिता दिघे, प्रा. सुप्रिया गेडाम, प्रा. काटगये, प्रा. डेकाटे आदींनी मार्गदर्शन केले.

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अविष्कार २०२२ मध्ये श्री पुंडलिक महाराज महाविद्यालय अव्यलस्थानी

मातृभूमि वृत्तसेवा

। नांद्रा, दि. १६ ।

संत गाडगेबाबा अमरावती विद्यापीठ जिल्हास्तरीय आविष्कार २०२२ ही स्पर्धा १३ डिसेंबर २०२२ रोजी पंकज लद्धड इन्स्टिट्यूट ऑफ मॅनेजमेंट ब्लढाणा येथे आयोजित करण्यात आली होती. बलढाणा जिल्ह्यात सर्व महाविद्यालयाच्या विद्यार्थ्यांनी आपल्या विषयाशी संबंधित पोस्टर व मॉडेल्स या स्पर्धेत सादर केले. यात श्री शिवाजी शिक्षण संस्था अमरावती द्वारा संचालित नांद्रा येथील श्री पंडलिक महाराज महाविद्यालय प्राचार्य डॉ. दिलीप हांडे सर यांच्या मार्गदर्शनाखाली वनस्पती विभागाच्या शेख मोहम्मद सहेर उल असर कलीम अहमद, शेख आतिक शेख नजीर या विद्यार्थ्यांनी कृषी क्षेत्रातील मित्र कीटक व शत्रू कीटक



यांची ओळख करून देणारे मॉडेल सादर केले. जिल्हास्तरावर या मॉडेलचे खूप कौतुक झाले हे मॉडेल शेतकऱ्यांकरिता उपयोगी असून जिल्हास्तरावर याचा प्रथम क्रमांक आला आहे. महाविद्यालयाचे प्राचार्य डॉ. दिलीप हांडे यांनी सहभागी विद्याध्यांचे त्यांना मार्गदर्शन करणारे प्राध्यापकांचे कौतुक व अभिनंदन केले निर्देशक डॉ.सचिन मुखमाले यांनी वनस्पती शास्त्र विभागाच्या विद्यार्थ्यांना व वनस्पतीशास्त्र विभाग प्रमुख डॉ. सुचिता दिघे तसेच प्राध्यापिका सुप्रिया गेडाम प्राध्यापिका काटगये, प्राध्यापिका डेकाटे यांनी सुद्धा विद्यार्थ्यांना मार्गदर्शन सोबतच वनस्पतीशास्त्र विद्यार्थ्यांनी अथक परिशरम घेतले होते विद्यार्थ्यांमधील नाविन्यपूर्ण कल्पनांना मूर्त रूप देण्यासाठी अविष्कार २०२२ हे उत्तम व्यासपीठ आहे महाविद्यालयाचे हे गौरव आणि मॉडेल आहे. दसऱ्या फेरी करिता विद्यापीठ स्तरावरील स्पर्धेकरिता प्रथम क्रमांकावर निवडले गेले आहे त्या स्पर्धेकरिता विद्यार्थ्यांना महाविद्यालयातर्फे शुभेच्छा देण्यात आल्या व द्सऱ्या फेरीला विद्यापीठ स्तरावरील स्पर्धा संत गाडगेबाबा अमरावती विद्यापीठ या ठिकाणी दिनांक १६ -१२ -२०२२ ला होणार आहे त्या स्पर्धेत सुद्धा आम्ही अव्वल स्थांनी राहन राज्यस्तरावर हे मॉडेल नेउ असा विश्वास विद्यार्थी व मार्गदर्शक प्राध्यापकांना आहे. यामध्ये महाविद्यालयाचे प्राध्यापक व शिक्षकेतर कर्मचारी विद्यार्थी व सर्व सहभागी सहकारी मित्रांनी या मॉडेल साठी अतिशय उत्कृष्ट प्रतिसाद दिला आहे.महाविद्यालयाचे प्राचार्य विद्यार्थ्यांचे कौतुक केले आहेत.