



The Berar General Education Society's
**Shri Radhakisan Laxminarayan Toshniwal
College of Science, Akola (M.S.)
(Shri R.L.T. College of Science)**



Recognized by Government of Maharashtra
Affiliated to Sant Gadge Baba Amravati University, Amravati
Re-accredited 'A' by NAAC, Bangalore With CGPA-3.12



**4th Cycle of NAAC
ASSESSMENT AND ACCREDITATION**

**CRITERION VII
INSTITUTIONAL VALUES AND BEST PRACTICES**

Key Indicator – 7.1

Institutional Values and Social Responsibilities

7.1.3.1

Green Audit & Environment Audit

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The Berar General Education Society's Akola
SHRI RADHAKISAN LAXMINARAYAN TOSHNIWAL COLLEGE OF SCIENCE

Civil Lines, Akola. 444001 (Maharashtra)

Affiliated to Sant Gadge Baba Amravati University, Amravati

Re-accredited by NAAC with "A" Grade with CGPA 3.12

AISHE CODE: C-43124

E-mail: rltcollegeakola@gmail.com

Website: www.rltsc.edu.in

COLLEGE CODE: 210

Principal: Dr. Vijay D. Nanoty

phone: 0724-2415480, 9822724504

Ref. No: RLT/IQAC/C-VII/7.1.3.1

Date:

DECLARATION

This is to declare that, the information, data, true copies of the supporting documents etc. furnished in this file of **7.1.3.1 Green & Environment Audit** is checked and verified by IQAC, Shri R. L. T. College of Science, Akola and found to be correct.

Dr. R. L. Rahatgaonkar
IQAC Co-ordinator
Shri R.L.T. College of Science,
Akola

Principal
Shri R.L.T College of Science
Civil Lines, Akola (M.S.)



**Green and Environment Audit
2017-18**

Internal Green Audit Program

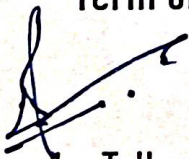
This is to certify that the Internal Green Audit Report of
B. G. E. Society's

Shri R.L.T. College of Science

New Radhakisan Plots, Akola

is based on the data collected during the physical visits to the college. Further, it is certified that the core information related to green initiatives and activities was collected and scrutinized by Internal Green Audit Committee. The college has successfully established eco-friendly practices and management systems at all levels. The evidence is substantial. We appreciate the efforts taken by teaching, nonteaching staff, and students towards keeping the campus green.

Term of validity: April 1st, 2017 - March 31st, 2018



Devendra Telkar

Internal Green Audit Committee Member
Srushti Vaibhav
Nature Conservation Society
Devdatta Apartment, Gaddam Plots, Akola



Uday Vaze

Internal Green Audit Committee Member
Environmental Management Consultant
Environment & Forest Education Center
Environmental Consultant, Ramdas Peth, Akola



Internal Environment Audit Program

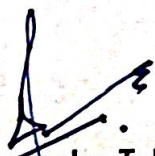
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B. G. E. Society's

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New Radhakisan Plots, Akola

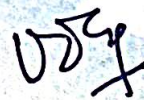
is based on the data collected during the physical visits to the college. Further, it is certified that the core information related to environment protection & monitoring activities were collected and scrutinized by Internal Environment Audit Committee. The college has successfully established environmental practices and management systems at all levels. The evidence is substantial.

Term of validity: April 1st, 2017 - March 31st, 2018



Devendra Telkar

Internal Green Audit Committee Member
Srushti Vaibhav Nature Conservation Society
Devdatta Apartment, Gaddam Plots,
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Environment & Forest Education Center
Ramdas Peth, Akola, 444001





B. G. E. Society's



Shri R.L.T. College of Science

New Radhakisan Plots, Akola

Maharashtra 444001, India

2017 - 2018

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT



Prepared by:

Internal Green & Environment Audit Committee

Shri R.L.T. College of Science, Akola



Acknowledgement

Internal Green and Environment Audit Committee would like to thank the management of the B.G.E. Society, teaching & non-teaching staff, students, parents, and adjoining community for extending their co-operation and valuable inputs in gathering data. This is a significant step taken by the college and their efforts towards their contribution in conservation of resources, worth mentioning here.

Internal Green and Environment Audit Committee also wish to thank EFEC for helping Internal Green and Environment Audit Committee in organizing 'Workshop on understanding Environment Management System' and appreciate their cooperation in extending their knowledge throughout the process of Internal Green and Environment Audit program.

Internal Green & Environment Audit Committee expresses gratitude towards the selfless contribution made by various NGOs and individuals in contributing their knowledge and expertise in compiling technical data required in the preparation of the audit.

Our special thanks are due to the Principal Dr. V. D. Nanoty of Shri R.L.T. College of Science, Akola for giving us valuable guidance.

About Shri R.L.T. College of Science

Shri R.L.T. College of Science, Akola affiliated to Sant Gadge Baba Amravati University, Amravati was established under The Berar General Education Society, Akola on 1st April 1970 and celebrating its Golden Jubilee year. The college is re-accredited by NAAC with an 'A' Grade, CGPA-3.12 (Third Cycle). The college offers B.Sc. , M. Sc., Ph. D. and career-oriented programs like CCLT, DCLT, and ADCLT. It also comprises 11th and 12th standard education. At present, there are 14 departments in college i.e. Biochemistry, Bioinformatic, Botany, Chemistry, Computer Science, Electronics, Information Technology, Mathematics, Microbiology, Physics, Zoology, Languages, Physical Education and Library. The college is one of the premier institutions delivering excellent education through dedicated collaborated efforts towards achieving recognition and honor at the national and international levels.

Google map satellite photo of Shri R. L. T. College of Science, Akola

Latitude : 20°42'21.47"N - Longitude : 77° 0'21.85"E





B. G. E. Society's

Shri R.L.T. College of Science

New Radhakisan Plots, Akola, Maharashtra 444001

IGEAC : Internal Green and Environment Audit Committee

Sr. No.	Name	Designation	Sign
01	Dr. V. D. Nanoty	Principal/Chairman	
02	Dr. R. J. Rahatgaonkar	IQAC, Co-ordinator	
03	Dr. Archana Sawarkar	Co-ordinator, IGEAC	
04	Mr. Devendra Telkar	External Member, IGEAC	
05	Mr. Uday Vaze	NGO, Srushti Vaibhav	
06	Mr. Uday Vaze	External Member, IGEAC	
06	Dr. S. M. Nagrale	EFEC HOD, Member, IGEAC	
07	Mrs. V. N. Badgajar	HOD, Member IGEAC	
08	Dr. P. T. Agrawal	HOD, Member, IGEAC	
09	Dr. P. M. Khadse	Member, IGAEC	
10	Dr. S. R. Kohchale	Member, IGEAC	
11	Dr. K. M. Heda	Member, IGEAC	
12	Dr. R. P. Joshi	Member, IGEAC	
13	Prof. S. V. Madavi	Member, IGEAC	
14	Prof. S. N. Gawande	Member, IGEAC	
15	Mr. Deepak Wankhade	Member, IGEAC Non-Teaching Staff Representative	
16	Mr. S. B. Shelke	Member, IGEAC, Gardner	

The Internal Green & Environment Audit Committee authenticate observations and recommendations in this report.

Internal Green & Environment Audit Key Steps

Pre Audit Training Workshop : April 2017

Questionnaire Data Collection started : September 2017

Draft report completed : April 2018

Review Meeting : May 2018

Final report completed : June 2018





Synthesis Document

Internal Green & Environment Audit is assigned to the Criteria 7 of NAAC, National Assessment, and Accreditation Council. The Internal Green & Environment Audit Committee was formed. The committee planned for conducting an Internal Green and Environmental Audit of the college in July 2017. The intention to carry an Internal Green & Environment Audit was to make sure that the practices, processes, and activities followed in the campus are eco-friendly. The questionnaire was obtained by an external member of the Internal Green & Environment Audit Committee. It was observed and evidence was brought together 'what degree to which the Departments comply with the applicable regulations, policies, and standards to ensure that the development of the college aims at sustainable development and keeping the college campus green. The methodology used included was right from collecting data through questionnaire, insight inspection, evaluation, computation, conducting physical survey and review of the relevant documentation.

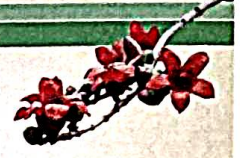
Statement of Assertion

The Internal Green & Environment Audit Committee has adopted the audit procedure that meets the terms of International Standards of Internal Auditing Practices. The committee is causing to feel certain that adequate and relevant audit procedures were followed, concrete evidence was gathered and conclusions were drawn from facts. The Internal Green and Environment Audit committee believes that recommendations are for improving the effectiveness of environmental management efforts made by Shri R.L.T. College of Science. Changes or additions in management practices should be systemic, must be done through series of small steps and every concerned individual must be well informed about changes and additions made in management practices. Recommendations are based on evidence compiled in this report as they existed at the time of the audit in 2017-18.

Compendium

It was truly evident from the data collected at Shri R. L. T. College of Science that teaching & non-teaching staff, students, vendors, and service providers of the college are aware of the importance of efforts to save and protect the environment in the campus in every day's work. The college staff follows the best course of action such as reducing all types of waste, time to time garden maintenance, follow composting practices, ways and means to reduce energy consumption, conduct review meetings, organize environmental educational activities for staff as well as for students. Although, it was also observed that, many of the practices followed in the college are still incipient and needs further action to improvise course of actions.





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Introduction

The expeditious urbanization and economic development at the local, national and international levels have led to several environmental and ecological emergencies. To prevent damages due to site-specific activities, practices, processes, and procedures followed by various institutions, businesses, organizations, or factories, it becomes essential to adopt methods, processes, and procedures for making green campuses for the institutions, businesses, organizations, or factories which will lead for sustainable development. Every organization has systems to manage finance, health, and safety, it is equally important that every organization must have an Environmental Management Performance Checking System for managing environmental issues.

Shri R.L.T. College of Science is very much aware of its responsibility towards keeping campus green and strives hard to make it pollution-free. The college strives hard to maintain an eco-friendly ambiance and achieve continual improvement in environmental performance. The main intention of conducting the Internal Green and Environmental auditing is understood and continuous efforts are made in achieving objectives mentioned in the Environment Policy of the college. The college invites consultants and subject specialists in environment conservation to modify its working on every six months interval. The methodology to conduct Internal Green Audit & Environmental Audit was designed with the help of consultants and NGOs with the teaching staff of the college. It includes a draft of the questionnaire, in-situ site inspection of the campus, scrutinize documentation, monitors procedures, practices, and processes carefully. The formation of an internal audit committee with the involvement of an external subject specialist has made significant recordings. The internal audit committee has made short time and long term recommendations. The committee proposed remedial procedures to reduce the carbon footprint of the college. It works for the betterment of eco-friendly campuses including air, water, noise, soil quality, waste management, care for flora & fauna on campus, the importance of paperless working, plans for adopting alternative energy creation by adopting solar-powered energy sources.

Internal Green Audit

An Internal Green Audit is a process of systematic identification, evaluation, documentation, reporting, and analysis of components of environmental diversity of various institutions, businesses, organizations, or factories. It aims to analyze environmental practices and processes within and outside of the targeted institution, business, organization, or factory, which will have an impact on the ecologically friendly environmentally safe ambiance.

Internal Environment Audit

An Internal Environmental Audit is an assessment performed to ensure that institutions, businesses, organizations, or factories are complying with environmental policies. It examines the amount of harm or risk of injury that may be posed by the assessed entity and determines the types of pollution being produced by looking at a broad range of site-specific activities, practices, processes, and procedures. The information compiled from these factors determines what remedial procedures are required to be added for the better good.

Scope

Internal Green Audit & Environmental Audit play a significant role in the continuous operation of institutions, businesses, organizations, or factories. It keeps institutions, accountable by scrutinizing their site-specific activities and determining what remedial measures are required to be added or put in place to ensure institutions, businesses, organizations, or factories are following the proper statute.

Objective

The key objectives of an Internal Green and Environmental Audit, therefore, are to: determine how well the environmental management systems and equipment are performing, verify compliance with the relevant national, local, or other laws and regulations, minimize human exposure to risks from environmental, health and safety problems.





Methodology

In the first meeting of Internal Green & Environment Audit Committee, it was unanimously decided that an external party will look into the overall infrastructure, procedures, practices, and operation of the collage and will draft a detailed Questionnaire. Questionnaires provide a relatively rapid and efficient way of obtaining large amounts of information from a large number of people. Questionnaire are easy to respond to. Specifically, answers obtained through closed-ended questions with multiple choice answer options are easy to obtain and less time-consuming. Answers obtained to the open-ended questionnaire are analyzed using qualitative methods and they involve discussions and critical analyses without any difficulty. It is useful because the information can lead to concrete conclusions. The methodology also included a physical inspection of the campus, observation, and review of the documentation, interviewing key persons and data analysis, measurements, and suggesting recommendations.

The efforts were taken to understand the following focus areas and emphasis was given to know facts on the ground :

What measures are taken by the college to maintain greenery and the efforts taken for keeping environment protection policy as priority as declared by the college in its Environment Policy?

What efforts have been put in by the college to offer clean water to students and staff of the college?

What efforts are made by college to maintain and control Rain Water Harvesting, Waste Water Management effectively?

What efforts are made by the college to conserve energy such as electrical use?

How does the college monitor and control all types of waste?

How extra efforts are taken to control vehicular pollution caused by automobiles passing by adjacent roads along the college campus?

To monitor and evaluate how collage benefits to the community in and around the college campus.

To scrutinize the data provided by the college in regard to efforts and initiatives taken by the NSS and Environment Cell.

To make physical verification of positive impact made by initiative by the college such efficacy of Bio-gas plant, solar plant, and floral species on the campus.

To study and evaluate various green initiatives and activities are organized by the college.

To interview stakeholders of the college about plans for environment protection practices, processes, and procedures.

To review recommendations made earlier year and act upon it.





Environment Policy

Shri R.L.T. College of Science not only target to impart quality education but also understand responsibility towards the protection of the environment for the future generation. The college wishes to create environmentally safe practices to ensure that the college campus is kept green by reducing its carbon foot-print. The college will monitor its operation and make it economically successful & sustainable along with being socially responsible.

Environment Policy will compel every one of the college to follow practices, processes, and operations supported by identified groups and individuals. Environment Policy has the potential to develop exciting new co-curricular and extracurricular practices that encourage students to take part voluntarily that benefits them in any way.

Environment Policy also targets to enroll external parties such as vendors and suppliers in achieving the environment conservation objective in their relevant fields too.

Aims and Objectives of Environment Policy

Managing environment

- To promote stringent environmental management systems, processes, and operations.
- To reduce sources of pollution at every extent of its operation and to adopt the PDCA model to it.
- To find ways to improve its environmental performance.
- To ensure that students get updated knowledge about environment conservation practices.
- To involve the community in and around the collage to achieve its clean environment objective.

Efficient use of energy

- To achieve success in efficient use of energy to reduce its carbon footprint.
- To combat pollution caused by vehicular pollution by maintaining greenery on campus.
- To install energy efficient gadgets by introducing solar technology in the creation of clean energy.

Sensible use of water

- To make everyone aware of importance of the water.
- To find out new ways for reducing water footprint.
- To appeal and enroll all vendors and suppliers to supply eco-friendly products and services to promote sustainable resource management practices.

Efforts to waste reduction

- To identify sources of waste generation and reduce them.
- To segregate the waste and ensure its safe disposal with the help of Akola Municipal Corporation and with authorized E-waste disposal agencies in & around the Akola district.

Ethical practice

- To promote activities that protect bio-diversity on the campus.
- To plan and act on continuous improvement in line with environmental protection.
- To enhance the profile of the college by elevating the best academic and environmental practices.

Extension education activities

- To make special efforts about organizing workshops and activities in line with environmental education.
- To make aware the staff and students of the college about environmental impact & it's performance.





Location of the college

Shri R.L.T. College of Science at Akola in Maharashtra, India is a prominent science college of the Vidarbha region as well as in India. It is in center of the Akola city. It is well connected by road and railway network, enabling students from adjoining district to reach the college with ease.

Latitude : 20°42'21.47"N

Longitude : 77° 0'21.85"E

Internal Green and Environment Audit Training

Shri R. L. T. College of Akola has a well-defined decentralized and participatory organizational structure to coordinate and promote academic and administrative functions. The organizational structure has different units of statutory bodies. The principal of the college always strives hard to promote environmental conservation in every possible way. The college has organized Pre Internal Green & Environment Audit Orientation Program and taken special efforts in enrolling teaching, non-teaching staff, students, and community representatives to attend the meeting. Environmentalists & subject specialists presented various topics such as protecting the environment by preventing wrong practices, enhancing environmental performance, introducing new ways to reduce pollution.

Audit Questionnaire & Audit Forms

Internal Green and Environment Audit Committee were given a host of audit forms and questionnaires. The committee was well supported by the teaching and non-teaching staff of the college to collect the data. The evidence were collected by referring Questionnaire and by making field visits to the college.

Biodiversity on campus: Flora & Fauna

The college has been planting and conserving trees, climbers, creepers, herbs, and shrubs since its inception in 1970. A wide variety of floral species can be seen thriving on the campus. The college has taken a painstaking effort in maintaining green cover. A botanical garden nurture host of the wide variety of medicinal species for educational purpose. The green cover in the campus helps in creating favorable conditions for many living organisms such as butterflies, insects, ladybird beetles, spiders, birds, and squirrels.

Green initiatives

Shri R. L. T. College of Science is a premier institute in Vidarbha and is aware of importance of educating students about environment and special efforts are taken by Environment Cell and NSS unit in initiating activities that reduces its adverse impacts on environment. Initiative such as Tree Plantations, No Vehicle Day, Save Energy, Burn Ban, Reducing Paper Usage, Bio-gas Plant, Rain Water Harvesting, Plastic Waste Free Campus, Regular Maintenance Of Electrical Gadget, Installing Energy Efficient Electrical Fixtures, Awareness Training Workshops, Waste Disposal, Solid Waste Management, Organic Waste Management, are organized by the college. (Annex-D) Internal Green & Environment Committee has recommended few remedial measures.

Internal Green & Environment Audit Document Storage

All the documents related to Internal Green and Environment Audit are stored at IQAC chamber in the cupboard. And it can be viewed by any member of the committee or by any stakeholder with a prior appointment with IQAC co-ordinator.





Bio-diversity in campus : Flora

List of plants at various places in the campus

English Name		Botanical Name	Type	Place	Total Plants
False Ashoka	अशोक	<i>Polyalthia longifolia</i>	Tree	Admin bldg, Adm, Ch Lab, Ph Lab	11
Yellow trumpet flower		<i>Ticoma stans</i>	Tree	Admin Bldg, Aud Ph Lab,	6
Cactus	केतकी	<i>Opuntia ficus-indica</i>	Cactus	Admin Building	1
Korean Arbor	थुजा	<i>Thuja koraiensis</i>	Tree	Admin Bldg, BG	6
Cycad	सायकस	<i>Cycas revoluta</i>	Cycad	Admin Bldg, BG	2
Bougainvillea	बोगनवेल	<i>Bougainvillea spectabilis</i>	Shrub	Auditorium, BG	4
Neem Tree	कडुलिंब	<i>Azadirachta indica</i>	Tree	Lib, Ladies Hostel	4
Croton	क्रोटॉन	<i>Codiaeum variegatum</i>	Herb	Lib, Ch Lab, Ph Lab, BG	40
Jasmin	मोगरा	<i>Jasminum officinale</i>	Herb	Lib	1
Jasmin sp	जुई	<i>Jasminum auriculatum</i>	Vine	Lib	1
Indian Fig	औदुंबंर	<i>Ficus glomerata</i>	Tree	Ladies Hostel	1
Sodom Apple	रुई	<i>Calotropis procera</i>	Shrub	Ladies Hostel	2
Golden Champasोन चाफा		<i>Michelia champaca</i>	Tree	Ch Lab	3
Mango	आंबा	<i>Mangifera indica</i>	Tree	Ch Lab, BG	2
Cassia	मोठी तरवड	<i>Cassia glauca</i>	Tree	Ch Lab	7
Oyster Plant	---	<i>Tradescantia spathacea</i>	Shrub	Ch Lab	5
Asparagus	शतावरी	<i>Asparagus racemosus</i>	Shrub	Ch Lab, BG	9
Peacock Flower	शंकासूर	<i>Caesalpinia pulcherrima</i>	Tree	Ph Lab,	1
Indian Almond	गोड बदाम	<i>Terminalia catappa</i>	Tree	Ph Lab,	1
Sugar Apple	सिताफळ	<i>Annona quamosa</i>	Tree	Ph Lab,	1
Passion Flower	कृष्णकमळ	<i>Passiflora incarnata</i>	Vine	Ph Lab,	1
Euphorbia Pink	---	<i>Euphorbia milli</i>	Shrub	Ph Lab	1
Hibiscus	जारचंद	<i>Hibiscus rosa-sinensis</i>	Tree	Botanical Garden BG	4
Cassia	निरगुडी	<i>Vitex negundo</i>	Shrub	BG	6
Crape Jasmine	तगर	<i>Tabernaemontana divaricata</i>	Shrub	BG	2
Indian Gooseberry	आवळा	<i>Emblica officinalis</i>	Tree	BG	1
Bamboo	बांबू	<i>Bambusa bambos</i>	Tree	BG	5
Night-fl Jasmine	पारिजात	<i>Nyctanthes arbor-tristis</i>	Tree	BG	1
Jungle Jerenium	---	<i>Ixora coccinea</i>	Tree	BG	2
Aloe Vera	अॅलोव्हेरा	<i>Aloe barbadensis miller</i>	Shrub	BG	4
Scarlet Bush	---	<i>Hamelia patens</i>	Shrub	BG	1
Basil	तुळस	<i>Ocimum sanctum</i>	Tree	BG	6
Periwinkle	सदाफुली	<i>Vinca rosea</i>	Shrub	BG	6
Whistling Pine	सरु	<i>Casuarina equisetifolia</i>	Tree	BG	1
Narium	कण्हेर	<i>Narium oliender</i>	Tree	BG	1
Mahatma	महात्मा	<i>Cordyline Terminalis</i>	Shrub	BG	2
Golden Pothos	---	<i>Epipremnum aureum</i>	Vine	BG	5



Bio-diversity in campus : Flora

cont from page no.

English Name	Botanical Name	Type	Place	Total Plants
Lemon Grass गवती, चहा	<i>Cymbopogon flexuosus</i>	Herb	BG	5
Travellers Palm पाम	<i>Ravenala madagascariensis</i>	Palm	BG	1
Fever Tree	<i>Pinckneya pubens</i>	Shrub	BG	1
Schott Indica ब्रम्ह राक्षस	<i>Alocasia indica</i>	Shrub	BG	25
Indian Pennywort ब्राम्ही	<i>Bacopa monnieri</i>	Shrub	BG	5
Green Chiretta काळमेघ	<i>Andrographis paniculata</i>	Shrub	BG	5
Devils Backbone कांडवेल	<i>Cissus quadrangularis Orn</i>	Shrub	BG	5
Red Flame Ivy निरगूडी	<i>Hemigraphis colorata</i>	Shrub	BG	5
Indian Laburnum अमलतास	<i>Cassia fistula</i>	Tree	BG	5
Touch me not लाजाळू	<i>Mimosa pudica</i>	Herb	BG	5
Star Grass Lily जं. लसूण	<i>Iphigenia stellata</i>	Herb	BG	5
Bhringraja माका	<i>Eclipta alba</i>	Shrub	BG	5
Indian Borage पान ओवा	<i>Coleus amboinicus</i>	Herb	BG	5
Mint Plant पुदिना	<i>Mentha spicata</i>	Herb	BG	5
Coleus माईनमुळ	<i>Coleus forskohlii</i>	Herb	BG	5
Basil राम तुळस	<i>Ocimum canum</i>	Herb	BG	5
Basil तुळस	<i>Ocimum Spp.</i>	Herb	BG	5
Basil लवंग तुळस	<i>Ocimum gratissimum</i>	Herb	BG	5
Basil सब्जा	<i>Ocimum basilicum</i>	Herb	BG	5
Basil कापूर तुळस	<i>Ocimum kilimandscharicum</i>	Herb	BG	5
Arjun Tree अर्जून	<i>Terminalia arjuna</i>	Tree	BG	1
Sage-leaved Alangium अंकोल	<i>Alangium salviifolium</i>	Tree	BG	1
Gum Guggul गुग्गुळ	<i>Commiphora wightii</i>	Tree	BG	2
Soapnut Tree रीठा	<i>Sapindus trifoliatus</i>	Tree	BG	1
Ehretia खंडूचक्का	<i>Ehretia Laevis</i>	Shrub	BG	2

Total number of plants and trees are 267. Total number of species are 67 consists herbs, shrubs, climbers, small sized, midsized and big size trees.



Arjun Tree अर्जून *Terminalia arjuna*



Bio-diversity in campus : Fauna

List of birds seen at various places in the campus

English Name	Scientific Name	Marathi Name
House Sparrow	<i>Passer domesticus</i>	भारतीय चिमणी
Coppersmith Barbet	<i>Megalaima haemacephala</i>	तांबट
Indian Roller	<i>Coracias benghalensis</i>	चाष
Little Green Bee Eater	<i>Merops orientalis</i>	वेडा राघू
Asian Koel	<i>Eudynamys scolopaceus</i>	भारतीय कोकीळ
Lesser Coucal	<i>Centropus bengalensis</i>	भारद्वाज
Alexandrine Parakeet	<i>Psittacula eupatria</i>	करण पोपट
Rose Ringed Parakeet	<i>Psittacula krameri</i>	लाल मान्या पोपट
Yellow Legged Green Pigeon	<i>Treron phoenicoptera</i>	हरीयल
Barn Owl	<i>Tyto alba</i>	पिंजरा घुबड
Blue Rock Pigeon	<i>Columba livia</i>	राखी कबुतर
White Breasted Waterhen	<i>Amaurornis phoenicurus</i>	लाजरी पाणकोंबडी
House Crow	<i>Corvus splendens</i>	कावळा

List of butterflies seen at various places in the campus

Common Tiger Butterfly	<i>Danaus chrysippus</i>	ढाण्या कडवा
Striped Tiger	<i>Danaus genutia</i>	पट्टेरी ढाण्या कडवा
Common Rose	<i>Pachliopta aristolochiae</i>	गुलाबी फुलपाखरू
Common Grass Yellow	<i>Eurema hecabe</i>	पिवळी गवत भिरभिरी
Common Mormon	<i>Papilio polytes</i>	मोरमोन

List of other insects seen at various places in the campus

Common Mosquito	<i>Anopheles SPP.</i>	डास
Praying Mantid	<i>Mantis religiosa</i>	प्रार्थना कीटक

List of other spiders seen at various places in the campus

Cyclosa Spp.	Trashline Spider
Gnaphosidae gnaphosidae	Ground Spider
Hersiliidae hersilis	Long-spinnered Bark Spider
Oxyopidae oxyopes	Striped Lynx Spider
Salticidae rhene	Jumping Spider
Pholcidae pholcus	Celler Spider

List of other mammals seen at various places in the campus

<i>Rattus rattus</i>	House Rats
<i>Bandicota bengalensis</i>	Indian Mole Rat
<i>Funambulus palmarum</i>	3 Striped Palm Squirrel
<i>Felis catus</i>	The Spotted Cat
<i>Bandicota indica</i>	Greater Bandicoot Rat





List of green initiatives by Shri R.L.T. College

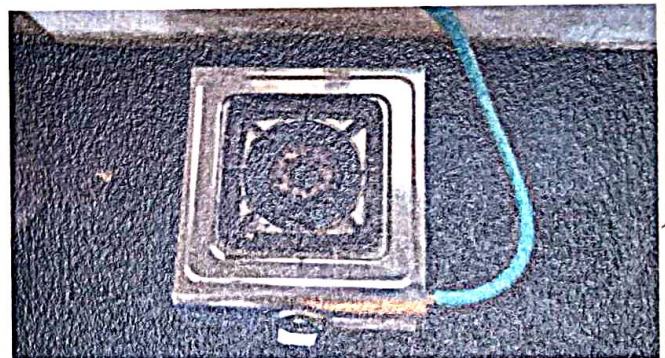
Initiatives taken by the college to make campus ecofriendly:
Alternate sources of energy conservation on college campus:



Solar based LED lights.



Solar water heater in girl's hostel



Waste management: Solid waste management: Biogas:

Biogas plant at the Girls hostel is a best technology for the treatment of kitchen and dining waste.

Vermicomposting: Various organic wastes mainly Garden waste are used as substrates for the preparation of vermicompost in college premises.

Liquid waste management: Waste water of chemistry lab is carried through underground drainage and soak pit.

E-waste management: Minor repair of gadgets are done by concerning laboratories staff. E- waste are sold as scrap to local garbage dealer in order to ensure their safe recycling.

Water conservation:

Rain water harvesting Rain water from the roof of college building is channelized towards water harvesting pits.



Rain water harvesting system

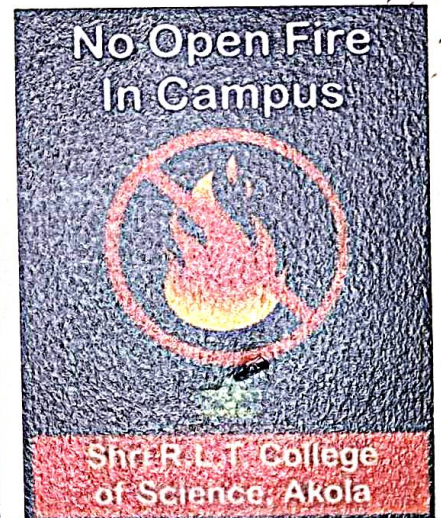
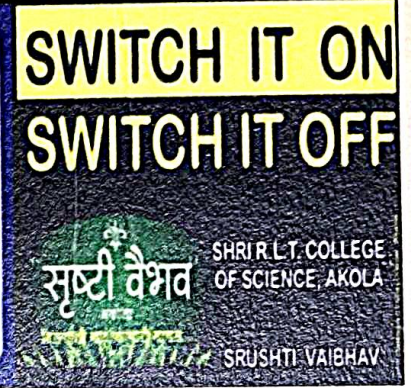




Green initiatives by Shri R.L.T. College

Green campus initiatives:

1. Awareness is developed among staff and students to switch off electric gadgets like light, fan, computer etc. when not required. NSS volunteers undertook campaign 'switch it ON Switch it OFF' by displaying stickers near every electric board in college campus.
2. No open fire in campus.
3. Healthy practice of use of bicycles at 1st day of every month.
4. Ban on use of Plastic
5. Tree and green patches are maintained throughout the year. Also, conservation of big trees has contributed to carbon neutrality in college campus.





Green initiatives by Shri R.L.T. College

Tree Plantation and saplings distribution Programme: Van Mahotsav was celebrated by Tree plantation and distribution programme on 1st July 2017. Tree plantation was carried out in college premises on Independence Day. **Seed Bank and Botanical Nursery:** Department of Botany undertook a project of 'Seed collection' of different taxonomic plants which enable students for identification of plants and importance of seed genetic conservation. Nursery of saplings grown from naturally occurring seedlings is developed. In many programmes of college, guests are honoured by offering saplings instead of bouquet. **Swachchhata Pandharvada:** The NSS team had taken oath for the cleanliness drive under swachchhatapandharvada on 1st August 2017. College campus, classrooms were cleaned. **Cleanliness & Plastic Eradication Campaign:** Cleanliness campaign is regularly performed by a committee namely "MUNIJAN (Maharashtra University New Initiatives Joint Action Now)" in college premises, nearby area and adopted village with active participation of students and staff. **Cleanliness Rally:** On occasion of Gandhi Jayanti (2nd October 2017), the cleanliness rally was arranged by NSS team from college campus to civil line.



Tree Plantation and saplings distribution programme.



Inauguration of 'Botanical Nursery' at the hands of Dr. Ajayji Deshmukh Registrar, SGBAU Amravati



Maintenance of 'Botanical Nursery'



Cleanliness campaign in college and nearby area on Mahatma Gandhi and Lal Bahadur Shastri Jayanti





Green initiatives by Shri R.L.T. College

Ecofriendly celebration of festivals:

Vraksha Raksha Bandhan: Awareness was conducted to convey a message of nature and tree conservation by giving it the social touch. The trees were tied with Rakhies made by NSS volunteers (07/08/2017).

Pollution free Diwali Oath was given to the students on 13th October 2017. Students were aware about pollution due of burning of crackers. Ecofriendly Ganesh festival was celebrated in Girl's hostel.



Organization of Environment Awareness programmes: International Ozone Day: International Ozone Day (16/09/2017) was observed by organizing activities like- Intercollegiate Rangoli Competition and Guidance lectures on topic 'Caring for all life under the Sun' and 'Importance of Digital Library'. On the same occasion, 'Digital Gallery of Museum Specimen' prepared by Dr. Archana Sawarkar and Dr. Sudhir Kohchale was inaugurated and handed over to the library.



Intercollegiate Rangoli competition on theme 'Caring for all life under the Sun'.
Winner team of Intercollegiate Rangoli competition.



Guest lecture by Dr. Hemant Sapkal on topic 'Caring for all Life under the Sun'
Release of 'Digital Gallery of Museum Specimens'.



Green initiatives by Shri R.L.T. College

Ecofriendly celebration of festivals: Vraksha Raksha Bandhan: Awareness was conducted to convey a message of nature and tree conservation by giving it the social touch. The trees were tied with Rakhies made by NSS volunteers (07/08/2017).

Pollution free Diwali Oath was given to the students on 13th October 2017. Students were aware about pollution due of burning of crackers. Ecofriendly Ganesh festival was celebrated in Girl's hostel.



Documentary show "Save the Tiger" for the students

Ecofriendly celebration of festivals: Vraksha Raksha Bandhan: Awareness was conducted to convey a message of nature and tree conservation by giving it the social touch. The trees were tied with Rakhies made by NSS volunteers (07/08/2017).

Pollution free Diwali Oath was given to the students on 13th October 2017. Students were aware about pollution due of burning of crackers. Ecofriendly Ganesh festival was celebrated in Girl's hostel.



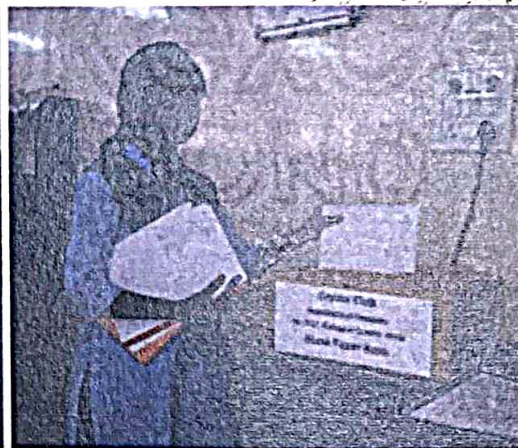
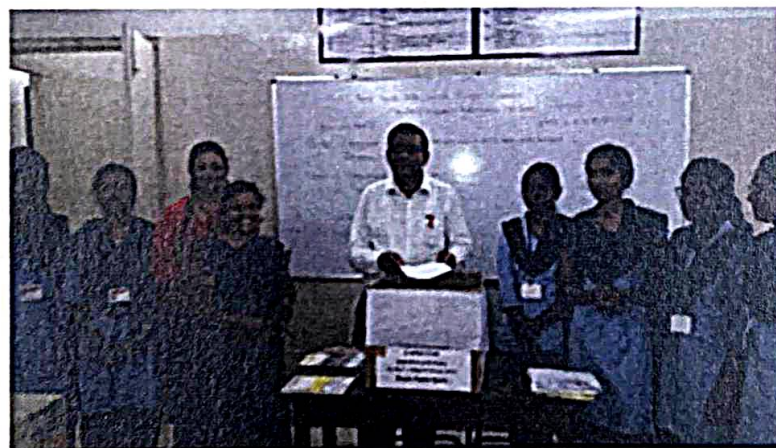


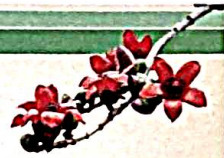
Green initiatives by Shri R.L.T. College

Biodiversity Calendar -2018: To know the value of biodiversity and inculcate environment consciousness, Biodiversity Calendar -2018 was prepared, published and distributed by B.Sc. II (Biology) Students under guidance of teachers.



Blank Paper Bank - To Save the Paper to Save the Tree: To create environment awareness among the student and to save the papers, department of chemistry started the practice of Blank paper bank. Students use new practical manual for every semester. After the end of session, some unused or blank pages remain in it. Note books prepared from such blank papers were donated to needy children of village school and made them useful again.





Green initiatives by Shri R.L.T. College

Environmental awareness through Study Tours: Study tours and field visits were arranged to study biodiversity, collect nature information, role of wild life for nature protection and forest conservation. Visit to Insects Museum at Entomology Department, Dr. Panjabrao Krishi Vidhyapith, Akola (6/10/2017).

Biodiversity Walk and Biodiversity Quiz Competition at Katepurna Wildlife Sanctuary (09/02/2018). Excursion Tour at Salburdi and Forest Department Wild Life Nature Garden & Interpretation Centre, Morshi (06/02/2018).

Visit to Plant Biotechnology Research Center at Dr. P.D.K.V. Akola (15/02/2018).



Visit to Insects Museum



"Nature trail" at Katepurna Wildlife Sanctuary.



Winners of the "Biodiversity Quiz" competition.



Excursion Tour at Salburdi



Medicinal Plants centre, Morshi



Green initiatives by Shri R.L.T. College



Visit to Plant Biotechnology Research Center at Dr. P.D.K.V. Akola

Environmental awareness through popular lectures:

Medicinal plants: By Dr. S.P. Rothe, HOD, Botany, Shri Shivaji College, Akola (28/07/2017)

Aquaculture: Social and Economic values: Dr. P.S. Dhabe, HOD, Zoology, S. K. College Akola (7/10/2017).

Save Environment : Dr. I. A. Raja, Shri Shivaji Sci. College Akola

Ranbhaji : Wealth for health: Mrs. V.N. Badgujar, HOD, Botany (09/01/2018)

Biodiversity & wildlife Managements: Shri P.M. Khadse, Asst. Professor, Botany.

B Water basin, Water pots and nests for birds: A Water basin in Botanical garden satisfies bird's need of water for drinking and bathing. On International Sparrow Day (20/03/2018), Bird nests & earthen water-pots were tied on the plants in the garden and college campus. Students regularly watered it carefully, as the temperature raises high in summer. Also, Gambusia fishes are released.



Guest lecture of Prof Dr. P.S. Dhabe.

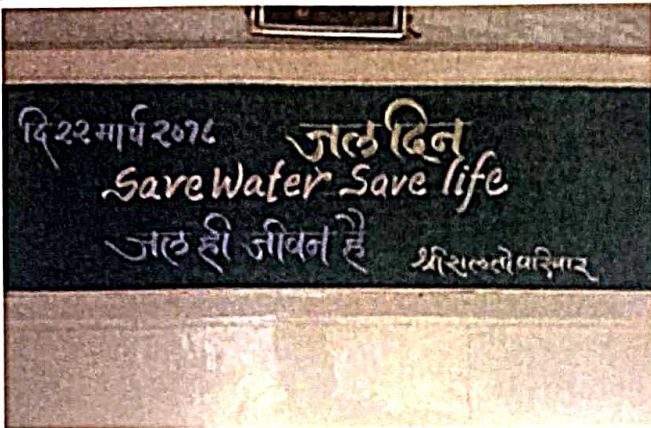


Guest lecture of Prof Dr. I.A. Raja





Green initiatives by Shri R.L.T. College



Water pots and nests for birds

Beyond the campus environmental promotion activities: Cleanliness & Plastic Eradication Campaign (14/08/2017): On 14th August rally on Swachhata Mission was organized for creating awareness among the people. NSS volunteers and program officers made awareness by street plays at adopted village Sonala during residential camp.



Cleanliness & Plastic Eradication Campaign by all NSS volunteers.

Preparation of Soak pits in adopted village Sonala(24/09/2018): On eve of NSS foundation day rally was organise "SwachhataHich Seva" Mission. Cleanliness and awareness programme at gram Sonala, Soak pit construction for water conservation and Nail cleaning was done by NSS volunteers.



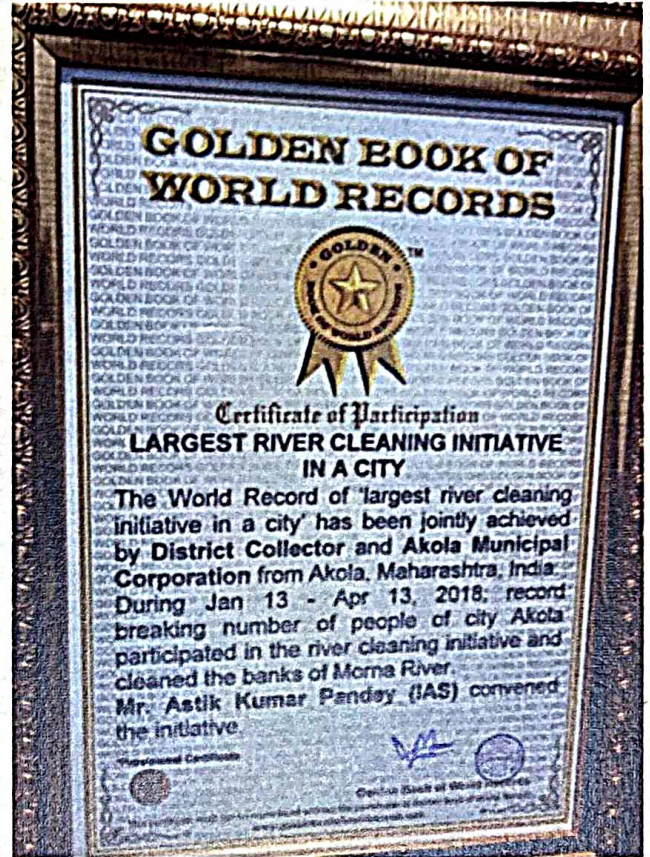
Cleanliness and awareness programme at gram Sonala.





Green initiatives by Shri R.L.T. College

Morna river cleanliness program: Staff and students of college were participated in the Morna cleanliness drive launched by District Collector of Akola district Shri Aastik Kumar Pandey, where Eichornia was removed from water body (January to April 2018).





Licence for possessions of certain chemicals.

आणि अतिरिक्त कोणत्याही
दिनांक २००० च्या मान्यतेने सदर
अनुज्ञापनाचा अर्ज (आवक) दिव्य करून
१०० लिटर (८ शंभर) लिटरचा कश्यात
आवक आहे.



FORM R. S. II.
[Rule 5 (1) (b)]

Licence No. 2/556

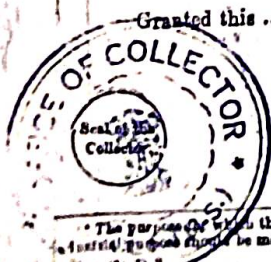
Licence for the possession and use of rectified spirit including absolute alcohol for industrial, medicinal, scientific and educational purposes.

Licence is hereby granted, under and subject to the provisions of the Bombay Prohibition Act, 1949 (Bom. XXV of 1949), and the rules, regulations and orders made thereunder, to Principal Keshavn Lawminarayan Tasmal College of Science, Akola (hereinafter called "the licensee") on payment of a fee of Rs. 100/- in advance, authorising him to buy, possess and use rectified spirit including absolute alcohol (hereinafter called "spirit") during the period from 1-4-1955 to 31-3-1956, at his premises situated at Akola (hereinafter referred to as "the licensed premises"), subject to the following conditions, namely:—

Conditions.

- The licensee shall not use the spirit for any purpose except for Educational
- (1) The licensee shall not buy spirit except on a requisition countersigned by an Officer of the Prohibition and Excise Department duly authorised in that behalf.
(2) The licensee shall not buy spirit in any one month exceeding 60 (Sixty) litres only in the aggregate.
Rectified Spirit & Absolute Alcohol
bulk gallons
quart bottles
60 (Sixty) litres only. R. S. 111
Absolute Alcohol
- The licensee shall not have in his possession more than 60 (Sixty) litres only of spirit at any one time.
- The licensee shall keep all the spirit received by him in a place in the licensed premises approved by the local Inspector of Prohibition and Excise under lock and key and all issues of spirit from the said place shall be made in the presence of the licensee or a person duly authorised by him in writing in that behalf.
(1) The licensee shall maintain such accounts as may be prescribed by the Director of Excise and Prohibition under the Act. The account shall be kept in a bound book, paged and stamped with the seal of the Collector.
(2) The licensee shall keep, along with the account book, the requisitions and transport passes relating to the spirit received at the licensed premises.
(3) The licensee shall submit such returns as may be prescribed by the Director of Excise and Prohibition under the Act.
(4) The licensee shall furnish to the Collector such other information relating to the subject matter of this licence as the Collector may from time to time require.
- The licensee shall pay to Government such cost of the Prohibition and Excise staff if it is appointed of Excise and Prohibition for supervision over the use of rectified spirit, as may be fixed by the Director.
- The licensed premises, the spirit kept therein and the account books, requisition and transport passes referred to in condition 5 and this licence shall at all times be open to inspection by the Collector, or any Prohibition and Excise or Police Officer not lower in rank than a Sub-Inspector of Prohibition and Excise or Police, as the case may be, or by any other officer empowered under section 77 (a) of the Bombay Prohibition Act, 1949, who may be deputed or authorised by the Collector or the Superintendent of Prohibition and Excise in this behalf.
- The accounts, requisitions and transport passes referred to in condition 5 and the licence shall be preserved by the licensee during the whole of the period of this licence.

Granted this day of 1955



Collector of

The purpose for which the spirit is to be used should be clearly stated here. In the case of use for industrial purposes the specific industrial purpose should be mentioned.



Licence for possessions of certain chemicals.

अनुज्ञापती क्र. 99/2019-20
नुतनीकरण शुल्क रु. 500/- इयलन क्र. 1110/398
दिनांक 9/3/2019 मुतार वसुल करुन पुर्वीच्याच
शर्तीवर या अनुज्ञापतीचे दि. 01/04/2019 ते
दि. 31/03/2020 पर्यंत नुतनीकरण करण्यांत येत आहे.



दि. 11/1/2020
जिल्हाधिकारी, अकोला
करिता

अनुज्ञापती क्र. 11/2020-21
नुतनीकरण शुल्क रु. 400/- इयलन क्र. 1110/345920/2019
दिनांक 16/3/2020 मुतार वसुल करुन पुर्वीच्याच
शर्तीवर या अनुज्ञापतीचे दि. 01/04/2020 ते
दि. 31/03/2021 पर्यंत नुतनीकरण करण्यांत येत आहे.

दि. 11/1/2020
जिल्हाधिकारी, अकोला
करिता

अनुज्ञापती क्र. 11/2021-22
नुतनीकरण शुल्क रु. 425/- इयलन क्र. 1283620/2020
दिनांक 24/03/2021 मुतार वसुल करुन पुर्वीच्याच
शर्तीवर या अनुज्ञापतीचे दि. 01/04/2021 ते
दि. 31/03/2022 पर्यंत नुतनीकरण करण्यांत येत आहे.

दि. 11/1/2021
जिल्हाधिकारी, अकोला
करिता

अनुज्ञापती क्र. 11/2022-23
नुतनीकरण शुल्क रु. 425/- इयलन क्र. 1283620/2021
दिनांक 24/03/2022 मुतार वसुल करुन पुर्वीच्याच
शर्तीवर या अनुज्ञापतीचे दि. 01/04/2022 ते
दि. 31/03/2023 पर्यंत नुतनीकरण करण्यांत येत आहे.

दि. 11/1/2022
जिल्हाधिकारी, अकोला
करिता





Conclusion:

Internal Green & Environment Audit was conducted by an Internal Green & Environment Audit Committee i.e. IGEAC. The committee consisted of teaching, non-teaching staff, and external subject specialist members. It started in the month of April 2017 with the organizing Pre Audit Training Workshop. The workshop gave clear directives and directions to all members. Subject specialists offered a complete set of directives about data collection and the importance of the Questionnaire. The questionnaire was provided to the committee and data collection started in September 2017. The necessary information and crucial data collection were completed and a draft report was complete in April 2018. The review meeting was organized in May 2018. The special meeting was called upon in June 2018 to approve, accept, and release Internal Green & Environment Audit Report for the year 2017-2018.

A conclusion can be made from the Internal Green & Environment Audit Report for the year 2017-2018 that the environment in the R.L.T. College of Science is healthy. The committee has made short-term and long-term recommendations to take environmental protection and its management practices to higher levels.

Internal Green & Environment Audit Report for the year 2017-2018 will become an effective tool for all the future Internal Green & Environment Audit Reports. The procedures, processes, and practices followed in the report-making will surely evolve every year. The Internal Green & Environment Audit committee will strive hard to make audit reports more informative and useful. Internal Green & Environment Audit Committee thanks each & everyone involved directly and indirectly in making this Internal Green & Environment Audit Report.

B. G. E. Society's



Shri R.L.T. College of Science

New Radhakisan Plots, Akola Maharashtra 444001, India

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT



**Green and Environment Audit
2018-19**



This is to certify that the internal Green Audit Report of
B. G. E. Society's

Shri R.L.T. College of Science

New Radhakisan Plots, Akola

is based on the data collected during the physical visits to the college. Further it is certified that the core information related to green initiatives and activities were collected and scrutinized by Internal Green Audit Committee. College has successfully established eco-friendly practices and management systems at all levels. The evidences are substantial. We appreciate the efforts taken by teaching, non teaching staff and students towards keeping the campus green.

Term of validity : April 1st 2018 - March 31st 2019

Devendra Telkar

Internal Green Audit Committee Member
Srushti Vaibhav
Nature Conservation Society
Devdatta Apartment, Gaddam Plots, Akola



Uday Vaze

Internal Green Audit Committee Member
Environmental Management Consultant
Environment & Forest Education Center
Environment Consultancy, Ramdas Peth, Akola

Conservation is a state of harmony between men and land. - Aldo Leopold



Internal Environment Audit Program

This is to certify that the Internal Environment Audit Report

of

B. G. E. Society's

Shri R.L.T. College of Science

New Radhakisan Plots, Akola

is based on the data collected during the physical visits to the college. Further it is certified that the core information related to environment protection & monitoring activities were collected and scrutinized by Internal Environment Audit Committee. College has successfully established environmental practices and management systems at all levels. The evidences are substantial.

Term of validity : April 1st 2018 - March 31st 2019


Devendra Telkar

Internal Green Audit Committee Member
Srushti Vaibhav
Nature Conservation Society
Devdatta Apartment, Gaddam Plots, Akola



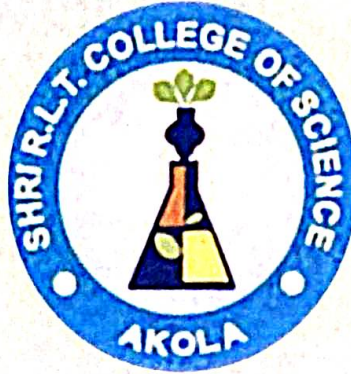

Uday Vaze

Internal Green Audit Committee Member
Environmental Management Consultant
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Environment Consultancy, Ramdas Peth, Akola





B. G. E. Society's



Shri R.L.T. College of Science

New Radhakisan Plots, Akola

Maharashtra 444001, India

2018 - 2019

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT



Prepared by:

Internal Green & Environment Audit Committee

Shri R.L.T. College of Science, Akola



Acknowledgement

Internal Green and Environment Audit Committee would like to thank the management of the B.G.E. Society, teaching & non-teaching staff, students, parents, and adjoining community for extending their co-operation and valuable inputs in gathering data. This is a significant step taken by the college and their efforts towards their contribution in conservation of resources, worth mentioning here.

Internal Green and Environment Audit Committee also wish to thank EFEC for helping Internal Green and Environment Audit Committee in organizing 'Workshop on understanding Environment Management System' and appreciate their cooperation in extending their knowledge throughout the process of Internal Green and Environment Audit program.

Internal Green & Environment Audit Committee expresses gratitude towards the selfless contribution made by various NGOs and individuals in contributing their knowledge and expertise in compiling technical data required in the preparation of the audit.

Our special thanks are due to the Principal Dr. V. D. Nanoty of Shri R.L.T. College of Science, Akola for giving us valuable guidance.

About Shri R.L.T. College of Science

Shri R.L.T. College of Science, Akola affiliated to Sant Gadge Baba Amravati University, Amravati was established under The Berar General Education Society, Akola on 1st April 1970 and celebrating its Golden Jubilee year. The college is re-accredited by NAAC with an 'A' Grade, CGPA-3.12 (Third Cycle). The college offers B.Sc. , M. Sc., Ph. D. and career-oriented programs like CCLT, DCLT, and ADCLT. It also comprises 11th and 12th standard education. At present, there are 14 departments in college i.e. Biochemistry, Bioinformatic, Botany, Chemistry, Computer Science, Electronics, Information Technology, Mathematics, Microbiology, Physics, Zoology, Languages, Physical Education and Library. The college is one of the premier institutions delivering excellent education through dedicated collaborated efforts towards achieving recognition and honor at the national and international levels.

Google map satellite photo of Shri R. L. T. College of Science, Akola
Latitude : 20°42'21.47"N - Longitude : 77° 0'21.85"E





B. G. E. Society's

Shri R.L.T. College of Science

New Radhakisan Plots, Akola, Maharashtra 444001

IGEAC : Internal Green and Environment Audit Committee

Sr. No.	Name	Designation	Sign
01	Dr. V. D. Nanoty	Principal/Chairman	
02	Dr. R. J. Rahatgaonkar	IQAC, Co-ordinator	
03	Dr. Archana Sawarkar	Co-ordinator, IGEAC	
04	Mr. Devendra Telkar	External Member, IGEAC	
05	Mr. Uday Vaze	External Member, IGEAC EFEC	
06	Dr. S. M. Nagrale	HOD, Member, IGEAC	
07	Mrs. V. N. Badgujar	HOD, Member IGEAC	
08	Dr. P. T. Agrawal	HOD, Member, IGEAC	
09	Dr. P. M. Khadse	Member, IGAEC	
10	Dr. S. R. Kohchale	Member, IGEAC	
11	Dr. K. M. Heda	Member, IGEAC	
12	Dr. R. P. Joshi	Member, IGEAC	
13	Prof. S. V. Madavi	Member, IGEAC	
14	Prof. S. N. Gawande	Member, IGEAC	
15	Mr. Deepak Wankhade	Member, IGEAC Non-Teaching Staff Representative	
16	Mr. S. B. Shelke	Member, IGEAC, Gardner	

The Internal Green & Environment Audit Committee authenticate observations and recommendations in this report.

Internal Green & Environment Audit Key Steps

Pre Audit Training Workshop : April 2018

Questionnaire Data Collection started : September 2018

Draft report completed : April 2019

Review Meeting : May 2019

Final report completed : June 2019



Synthesis Document

Internal Green & Environment Audit is assigned to the Criteria 7 of NAAC, National Assessment, and Accreditation Council. The Internal Green & Environment Audit Committee was formed. The committee planned for conducting an Internal Green and Environmental Audit of the college in July 2018. The intention to carry an Internal Green & Environment Audit was to make sure that the practices, processes, and activities followed in the campus are eco-friendly. The questionnaire was obtained by an external member of the Internal Green & Environment Audit Committee. It was observed and evidence was brought together 'what degree to which the Departments comply with the applicable regulations, policies, and standards to ensure that the development of the college aims at sustainable development and keeping the college campus green. The methodology used included was right from collecting data through questionnaire, insight inspection, evaluation, computation, conducting physical survey and review of the relevant documentation.

Statement of Assertion

The Internal Green & Environment Audit Committee has adopted the audit procedure that meets the terms of International Standards of Internal Auditing Practices. The committee is causing to feel certain that adequate and relevant audit procedures were followed, concrete evidence was gathered and conclusions were drawn from facts. The Internal Green and Environment Audit committee believes that recommendations are for improving the effectiveness of environmental management efforts made by Shri R.L.T. College of Science. Changes or additions in management practices should be systemic, must be done through series of small steps and every concerned individual must be well informed about changes and additions made in management practices. Recommendations are based on evidence compiled in this report as they existed at the time of the audit in 2018-19.

Compendium

It was truly evident from the data collected at Shri R. L. T. College of Science that teaching & non-teaching staff, students, vendors, and service providers of the college are aware of the importance of efforts to save and protect the environment in the campus in every day's work. The college staff follows the best course of action such as reducing all types of waste, time to time garden maintenance, follow composting practices, ways and means to reduce energy consumption, conduct review meetings, organize environmental educational activities for staff as well as for students. Although, it was also observed that, many of the practices followed in the college are still incipient and needs further action to improvise course of actions.





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Introduction

The expeditious urbanization and economic development at the local, national and international levels have led to several environmental and ecological emergencies. To prevent damages due to site-specific activities, practices, processes, and procedures followed by various institutions, businesses, organizations, or factories, it becomes essential to adopt methods, processes, and procedures for making green campuses for the institutions, businesses, organizations, or factories which will lead for sustainable development. Every organization has systems to manage finance, health, and safety, it is equally important that every organization must have an Environmental Management Performance Checking System for managing environmental issues.

Shri R.L.T. College of Science is very much aware of its responsibility towards keeping campus green and strives hard to make it pollution-free. The college strives hard to maintain an eco-friendly ambiance and achieve continual improvement in environmental performance. The main intention of conducting the Internal Green and Environmental auditing is understood and continuous efforts are made in achieving objectives mentioned in the Environment Policy of the college. The college invites consultants and subject specialists in environment conservation to modify its working on every six months interval. The methodology to conduct Internal Green Audit & Environmental Audit was designed with the help of consultants and NGOs with the teaching staff of the college. It includes a draft of the questionnaire, in-situ site inspection of the campus, scrutinize documentation, monitors procedures, practices, and processes carefully. The formation of an internal audit committee with the involvement of an external subject specialist has made significant recordings. The internal audit committee has made short time and long term recommendations. The committee proposed remedial procedures to reduce the carbon footprint of the college. It works for the betterment of eco-friendly campuses including air, water, noise, soil quality, waste management, care for flora & fauna on campus, the importance of paperless working, plans for adopting alternative energy creation by adopting solar-powered energy sources.

Internal Green Audit

An Internal Green Audit is a process of systematic identification, evaluation, documentation, reporting, and analysis of components of environmental diversity of various institutions, businesses, organizations, or factories. It aims to analyze environmental practices and processes within and outside of the targeted institution, business, organization, or factory, which will have an impact on the ecologically friendly environmentally safe ambiance.

Internal Environment Audit

An Internal Environmental Audit is an assessment performed to ensure that institutions, businesses, organizations, or factories are complying with environmental policies. It examines the amount of harm or risk of injury that may be posed by the assessed entity and determines the types of pollution being produced by looking at a broad range of site-specific activities, practices, processes, and procedures. The information compiled from these factors determines what remedial procedures are required to be added for the better good.

Scope

Internal Green Audit & Environmental Audit play a significant role in the continuous operation of institutions, businesses, organizations, or factories. It keeps institutions, accountable by scrutinizing their site-specific activities and determining what remedial measures are required to be added or put in place to ensure institutions, businesses, organizations, or factories are following the proper statute.

Objective

The key objectives of an Internal Green and Environmental Audit, therefore, are to: determine how well the environmental management systems and equipment are performing, verify compliance with the relevant national, local, or other laws and regulations, minimize human exposure to risks from environmental, health and safety problems.



Methodology

In the first meeting of Internal Green & Environment Audit Committee, it was unanimously decided that an external party will look into the overall infrastructure, procedures, practices, and operation of the collage and will draft a detailed Questionnaire. Questionnaires provide a relatively rapid and efficient way of obtaining large amounts of information from a large number of people. Questionnaire are easy to respond to. Specifically, answers obtained through closed-ended questions with multiple choice answer options are easy to obtain and less time-consuming. Answers obtained to the open-ended questionnaire are analyzed using qualitative methods and they involve discussions and critical analyses without any difficulty. It is useful because the information can lead to concrete conclusions. The methodology also included a physical inspection of the campus, observation, and review of the documentation, interviewing key persons and data analysis, measurements, and suggesting recommendations.

The efforts were taken to understand the following focus areas and emphasis was given to know facts on the ground :

What measures are taken by the college to maintain greenery and the efforts taken for keeping environment protection policy as priority as declared by the college in its Environment Policy?

What efforts have been put in by the college to offer clean water to students and staff of the college?

What efforts are made by college to maintain and control Rain Water Harvesting, Waste Water Management effectively?

What efforts are made by the college to conserve energy such as electrical use?

How does the college monitor and control all types of waste?

How extra efforts are taken to control vehicular pollution caused by automobiles passing by adjacent roads along the college campus?

To monitor and evaluate how collage benefits to the community in and around the college campus.

To scrutinize the data provided by the college in regard to efforts and initiatives taken by the NSS and Environment Cell.

To make physical verification of positive impact made by initiative by the college such efficacy of Bio-gas plant, solar plant, and floral species on the campus.

To study and evaluate various green initiatives and activities are organized by the college.

To interview stakeholders of the college about plans for environment protection practices, processes, and procedures.

To review recommendations made earlier year and act upon it.



Environment Policy

Shri R.L.T. College of Science not only target to impart quality education but also understand responsibility towards the protection of the environment for the future generation. The college wishes to create environmentally safe practices to ensure that the college campus is kept green by reducing its carbon foot-print. The college will monitor its operation and make it economically successful & sustainable along with being socially responsible.

Environment Policy will compel every one of the college to follow practices, processes, and operations supported by identified groups and individuals. Environment Policy has the potential to develop exciting new co-curricular and extracurricular practices that encourage students to take part voluntarily that benefits them in any way.

Environment Policy also targets to enroll external parties such as vendors and suppliers in achieving the environment conservation objective in their relevant fields too.

Aims and Objectives of Environment Policy

Managing environment

- To promote stringent environmental management systems, processes, and operations.
- To reduce sources of pollution at every extent of its operation and to adopt the PDCA model to it.
- To find ways to improve its environmental performance.
- To ensure that students get updated knowledge about environment conservation practices.
- To involve the community in and around the collage to achieve its clean environment objective.

Efficient use of energy

- To achieve success in efficient use of energy to reduce its carbon footprint.
- To combat pollution caused by vehicular pollution by maintaining greenery on campus.
- To install energy efficient gadgets by introducing solar technology in the creation of clean energy.

Sensible use of water

- To make everyone aware of importance of the water.
- To find out new ways for reducing water footprint.
- To appeal and enroll all vendors and suppliers to supply eco-friendly products and services to promote sustainable resource management practices.

Efforts to waste reduction

- To identify sources of waste generation and reduce them.
- To segregate the waste and ensure its safe disposal with the help of Akola Municipal Corporation and with authorized E-waste disposal agencies in & around the Akola district.

Ethical practice

- To promote activities that protect bio-diversity on the campus.
- To plan and act on continuous improvement in line with environmental protection.
- To enhance the profile of the college by elevating the best academic and environmental practices.

Extension education activities

- To make special efforts about organizing workshops and activities in line with environmental education.
- To make aware the staff and students of the college about environmental impact & it's performance.



Location of the college

Shri R.L.T. College of Science at Akola in Maharashtra, India is a prominent science college of the Vidarbha region as well as in India. It is in center of the Akola city. It is well connected by road and railway network, enabling students from adjoining district to reach the college with ease.

Latitude : 20°42'21.47"N

Longitude : 77° 0'21.85"E

Internal Green and Environment Audit Training

Shri R. L. T. College of Akola has a well-defined decentralized and participatory organizational structure to coordinate and promote academic and administrative functions. The organizational structure has different units of statutory bodies. The principal of the college always strives hard to promote environmental conservation in every possible way. The college has organized Pre Internal Green & Environment Audit Orientation Program and taken special efforts in enrolling teaching, non-teaching staff, students, and community representatives to attend the meeting. Environmentalists & subject specialists presented various topics such as protecting the environment by preventing wrong practices, enhancing environmental performance, introducing new ways to reduce pollution.

Audit Questionnaire & Audit Forms

Internal Green and Environment Audit Committee were given a host of audit forms and questionnaires. The committee was well supported by the teaching and non-teaching staff of the college to collect the data. The evidence were collected by referring Questionnaire and by making field visits to the college.

Biodiversity on campus: Flora & Fauna

The college has been planting and conserving trees, climbers, creepers, herbs, and shrubs since its inception in 1970. A wide variety of floral species can be seen thriving on the campus. The college has taken a painstaking effort in maintaining green cover. A botanical garden nurture host of the wide variety of medicinal species for educational purpose. The green cover in the campus helps in creating favorable conditions for many living organisms such as butterflies, insects, ladybird beetles, spiders, birds, and squirrels.

Green initiatives

Shri R. L. T. College of Science is a premier institute in Vidarbha and is aware of importance of educating students about environment and special efforts are taken by Environment Cell and NSS unit in initiating activities that reduces its adverse impacts on environment. Initiative such as Tree Plantations, No Vehicle Day, Save Energy, Burn Ban, Reducing Paper Usage, Bio-gas Plant, Rain Water Harvesting, Plastic Waste Free Campus, Regular Maintenance Of Electrical Gadget, Installing Energy Efficient Electrical Fixtures, Awareness Training Workshops, Waste Disposal, Solid Waste Management, Organic Waste Management, are organized by the college. Internal Green & Environment Committee has recommended few remedial measures.

Internal Green & Environment Audit Document Storage

All the documents related to Internal Green and Environment Audit are stored at IQAC chamber in the cupboard. And it can be viewed by any member of the committee or by any stakeholder with a prior appointment with IQAC co-ordinator.



Bio-diversity in campus : Flora

List of plants at various places in the campus

English Name	Botanical Name	Type	Place	Total Plants
False Ashoka अशोक	<i>Polyalthia longifolia</i>	Tree	Admin bldg, Adm, Ch Lab, Ph Lab	11
Yellow trumpet flower	<i>Ticoma stans</i>	Tree	Admin Bldg, Aud Ph Lab,	6
Cactus केतकी	<i>Opuntia ficus-indica</i>	Cactus	Admin Building	1
Korean Arbor थुजा	<i>Thuja koraiensis</i>	Tree	Admin Bldg, BG	6
Cycad सायकस	<i>Cycas revoluta</i>	Cycad	Admin Bldg, BG	2
Bougainvillea बोगनवेल	<i>Bougainvillea spectabilis</i>	Shrub	Auditorium, BG	4
Neem Tree कडुलिंब	<i>Azadirachta indica</i>	Tree	Lib, Ladies Hostel	4
Croton क्रोटॉन	<i>Codiaeum variegatum</i>	Herb	Lib, Ch Lab, Ph Lab, BG	40
Jasmin मोगरा	<i>Jasminum officinale</i>	Herb	Lib	1
Jasmin sp जुई	<i>Jasminum auriculatum</i>	Vine	Lib	1
Indian Fig औदुंबर	<i>Ficus glomerata</i>	Tree	Ladies Hostel	1
Sodom Apple रूई	<i>Calotropis procera</i>	Shrub	Ladies Hostel	2
Golden Champa सोन चाफा	<i>Michelia champaca</i>	Tree	Ch Lab	3
Mango आंबा	<i>Mangifera indica</i>	Tree	Ch Lab, BG	2
Cassia मोठी तरवड	<i>Cassia glauca</i>	Tree	Ch Lab	7
Oyster Plant ---	<i>Tradescantia spathacea</i>	Shrub	Ch Lab	5
Asparagus शतावरी	<i>Asparagus racemosus</i>	Shrub	Ch Lab, BG	9
Peacock Flower शंकासूर	<i>Caesalpinia pulcherrima</i>	Tree	Ph Lab,	1
Indian Almond गोड बदाम	<i>Terminalia catappa</i>	Tree	Ph Lab,	1
Sugar Apple सिताफळ	<i>Annona quamosa</i>	Tree	Ph Lab,	1
Passion Flower कृष्णकमळ	<i>Passiflora incarnata</i>	Vine	Ph Lab,	1
Euphorbia Pink ---	<i>Euphorbia milli</i>	Shrub	Ph Lab	1
Hibiscus जास्वंद	<i>Hibiscus rosa-sinensis</i>	Tree	Botanical Garden BG	4
Cassia निरगुडी	<i>Vitex negundo</i>	Shrub	BG	6
Crape Jasmine तगर	<i>Tabernaemontana divaricata</i>	Shrub	BG	2
Indian Gooseberry आवळा	<i>Emblica officinalis</i>	Tree	BG	1
Bamboo बांबू	<i>Bambusa bambos</i>	Tree	BG	5
Night-fl Jasmine पारिजात	<i>Nyctanthes arbor-tristis</i>	Tree	BG	1
Jungle Jerenium ---	<i>Ixora coccinea</i>	Tree	BG	2
Aloe Vera अॅलोव्हेरा	<i>Aloe barbadensis miller</i>	Shrub	BG	4
Scarlet Bush ---	<i>Hamelia patens</i>	Shrub	BG	1
Basil तुळस	<i>Ocimum sanctum</i>	Tree	BG	6
Periwinkle सदाफुली	<i>Vinca rosea</i>	Shrub	BG	6
Whistling Pine सरु	<i>Casuarina equisetifolia</i>	Tree	BG	1
Narium कण्हेर	<i>Narium oliender</i>	Tree	BG	1
D. Mahatma महात्मा	<i>Cordyline Terminalis</i>	Shrub	BG	2
Golden Pothos ---	<i>Epipremnum aureum</i>	Vine	BG	5



Bio-diversity in campus : Flora

cont from page no.

English Name	Botanical Name	Type	Place	Total Plants
Lemon Grass गवती चहा	<i>Cymbopogon flexuosus</i>	Herb	BG	5
Travellers Palm पाम	<i>Ravenala madagascariensis</i>	Palm	BG	1
Fever Tree	<i>Pinckneya pubens</i>	Shrub	BG	1
Schott Indica ब्रम्ह राक्षस	<i>Alocasia indica</i>	Shrub	BG	25
Indian Pennywort ब्राम्ही	<i>Bacopa monnieri</i>	Shrub	BG	5
Green Chiretta काळमेघ	<i>Andrographis paniculata</i>	Shrub	BG	5
Devils Backbone कांडवेल	<i>Cissus quadrangularis</i> Orn	Shrub	BG	5
Red Flame Ivy निरगूडी	<i>Hemigraphis colorata</i>	Shrub	BG	5
Indian Laburnum अमलतास	<i>Cassia fistula</i>	Tree	BG	5
Touch me not लाजाळू	<i>Mimosa pudica</i>	Herb	BG	5
Star Grass Lily जं. लसूण	<i>Iphigenia stellata</i>	Herb	BG	5
Bhringraja माका	<i>Eclipta alba</i>	Shrub	BG	5
Indian Borage पान ओवा	<i>Coleus amboinicus</i>	Herb	BG	5
Mint Plant पुदिना	<i>Mentha spicata</i>	Herb	BG	5
Coleus माईनमुळ	<i>Coleus forskohlii</i>	Herb	BG	5
Basil राम तुळस	<i>Ocimum canum</i>	Herb	BG	5
Basil तुळस	<i>Ocimum Spp.</i>	Herb	BG	5
Basil लवंग तुळस	<i>Ocimum gratissimum</i>	Herb	BG	5
Basil सब्जा	<i>Ocimum basilicum</i>	Herb	BG	5
Basil कापूर तुळस	<i>Ocimum kilimandscharicum</i>	Herb	BG	5
Arjun Tree अर्जून	<i>Terminalia arjuna</i>	Tree	BG	1
Sage-leaved Alangium अंकोल	<i>Alangium salviifolium</i>	Tree	BG	1
Gum Guggul गुग्गुळ	<i>Commiphora wightii</i>	Tree	BG	2
Soapnut Tree रीठा	<i>Sapindus trifoliatus</i>	Tree	BG	1
Ehretia खंडूचक्का	<i>Ehretia Laevis</i>	Shrub	BG	2

Total number of plants and trees are 267. Total number of species are 67 consists herbs, shrubs, climbers, small sized, midsized and big size trees.



Touch me not लाजाळू *Mimosa pudica*



Bio-diversity in campus : Fauna

List of birds seen at various places in the campus

English Name	Scientific Name	Marathi Name
House Sparrow	<i>Passer domesticus</i>	भारतीय चिमणी
Coppersmith Barbet	<i>Megalaima haemacephala</i>	तांबट
Indian Roller	<i>Coracias benghalensis</i>	चाष
Little Green Bee Eater	<i>Merops orientalis</i>	वेडा राघू
Asian Koel	<i>Eudynamys scolopaceus</i>	भारतीय कोकीळ
Lesser Coucal	<i>Centropus bengalensis</i>	भारद्वाज
Alexandrine Parakeet	<i>Psittacula eupatria</i>	करण पोपट
Rose Ringed Parakeet	<i>Psittacula krameri</i>	लाल मान्या पोपट
Yellow Legged Green Pigeon	<i>Treron phoenicoptera</i>	हरीयल
Barn Owl	<i>Tyto alba</i>	पिंजरा घुबड
Blue Rock Pigeon	<i>Columba livia</i>	राखी कबुतर
White Breasted Waterhen	<i>Amaurornis phoenicurus</i>	लाजरी पाणकोंबडी
House Crow	<i>Corvus splendens</i>	कावळा

List of butterflies seen at various places in the campus

Common Tiger Butterfly	<i>Danaus chrysippus</i>	ढाण्या कडवा
Striped Tiger	<i>Danaus genutia</i>	पट्टेरी ढाण्या कडवा
Common Rose	<i>Pachliopta aristolochiae</i>	गुलाबी फुलपाखरू
Common Grass Yellow	<i>Eurema hecabe</i>	पिवळी गवत भिरभिरी
Common Mormon	<i>Papilio polytes</i>	मोरमोन

List of other insects seen at various places in the campus

Common Mosquito	<i>Anopheles SPP.</i>	डास
Praying Mantis	<i>Mantis religiosa</i>	प्रार्थना कीटक

List of other spiders seen at various places in the campus

Cyclosa Spp.	Trashline Spider
Gnaphosidae gnaphosidae	Ground Spider
Hersiliidae hersilis	Long-spinnered Bark SpiderL
Oxyopidae oxyopes	Striped Lynx Spider
Salticidae rhene	Jumping Spider
Pholcidae pholcus	Celler Spider

List of other mammals seen at various places in the campus

<i>Rattus rattus</i>	House Rats
<i>Bandicota bengalensis</i>	Indian Mole Rat
<i>Funambulus palmarum</i>	3 Striped Palm Squirrel
<i>Felis catus</i>	The Spotted Cat
<i>Bandicota indica</i>	Greater Bandicoot Rat



Green initiatives by Shri R.L.T. College

Tree plantation Campaign at the Bank of River Morna:
(Date: 01/07/2018)

Tree plantation Campaign at the Bank of River Morna was organised by Forest Department and Social Forestry Department, Akola, under the guidance of Shri Aastik Kumar Pandey, Hon. Collector, Akola. The plantation drive was done at the bank of River Morna. Plantation was started by the hands of State Minister Dr. Ranjit Patil. Shri R.L.T. College of Science contributed to this program. On Vansavardhan Divas and Krushi Divas i.e. on 1st July 2018 at 08.30 am total 35 participants including Principal, members of Environmental Cell, NSS volunteers and NSS Program Officers of Shri R.L.T. College participated in the campaign. About 40 plants were planted at the bank of river Morna.



Participation in 13 Crores Plantation drive at Bank of river Morna

Swachchhata Pandharvada

(Date: 01/08/2018 to 15/08/2018)

The Complete team of NSS had taken oath for the cleanliness drive under Swachchhata Pandharvada on 1st August. Monuments and statues of social reformers and leaders were cleaned. Door to door awareness about hygiene and cleanliness by volunteers was done. College campus, classrooms were cleaned under the given government protocol by university. Cleanliness campaign at adopted village was performed. More than 300 student and staff volunteers contributed to this campaign.

For this our college received District level Swachchha Bharat Swastha Bharat Abhiyan (Clean India, Healthy India Mission) Excellent College award at the hands of Dr. Murlidhar Chandekar, Hon. Vice Chancellor of SGB Amravati University, Amravati.



Cleanliness campaign in college campus and garden.



Green initiatives by Shri R.L.T. College



Govt. Officers guiding NSS volunteers about "Swacchata app ssg-18"



Received Excellent College Award by SGB Amravati University, Amravati.

Nature reading through Mobile photography:

To create positive use of Mobile, betterment for photography, to develop constructive interest about nature and social aspects and to elaborate hidden skill in students, Mobile photography competition and exhibition was organized by Zoology department of the college. About 80 students were participated in the photography competition and exhibition. More than 300 students and staff took advantage of exhibition. Winners were felicitated with attractive prizes, awards and certificates. 1st, 2nd, 3rd and two consolation prizes were awarded.



Vruksha Raksha Bandhan (Date: 27/08/2018):

The NSS team of college conducted the best activity to convey a good message to society for nature and tree conservation by giving it the social touch. The trees were tied the ecofriendly paper rakhi which were made by the NSS volunteers. About 100 students and staff members participated in the event.





Green initiatives by Shri R.L.T. College

Eco-friendly Ganesha Idol preparation (Date: 06/09/2018):

Department of Microbiology in collaboration with Department of Social Forestry & local NGO Nisarg Katta, Akola organized "One day workshop on Eco-friendly Ganesha Idol preparation" on 06 September 2018. Total 110 candidates participated in the workshop.



Swaccha Bharat Abhiyan: Cleanliness campaign (Date: 24/09/2018 to 02/10/2018):

The NSS and NCC team of Shri R. L. T. college of Science organized different program on the occasion of the 4th anniversary of "Swaccha Bharat Abhiyan". As on 2nd October 2018 it was the 150th birth anniversary of Mahatma Gandhi, the government had launched the "Swachhata hi Seva" movement from 24 September to 2nd October 2018. Under this movement our NSS program officer and NCC care taker conducted activities as "Slogan for cleanliness" competition. Cleanliness work was done at city bus stop, our institution as well as civil line area.

Cleanliness Rally: The 38 NCC JW/JD cadets organized "Shwachta Abhiyan rally" on 1st Oct. 2018. The cleanliness rally on occasion of Gandhi Jayanti (02/10/2018) was arranged by NSS team from college campus to civil line and again to the campus. On the way the NSS programme officers and Principal of the college along with the volunteers walked by sweeping the road sides and area around the civil lines. Two of the volunteers were dressed up in the Mahatma Gandhiji and Saint Gadge baba costume and were the point of attraction of the rally. The rally was started along with 140 students and Staff members from the college campus. Along the run the volunteers were announcing the slogans for cleanliness and the street play was performed to make awareness in the public. The route of the rally was from the college campus to civil lines and finally to the city bus stop.



Cleanliness Rally by NCC Cadets



Cleanliness Rally by NSS Team



Green Initiatives by Shri R.L.T. College

Wall Magazine: BESST (Biological & Environmental Studies with Social Temperament):
Wall Magazine BESST (Biological and Environmental Studies with Social Temperament) is started to provide a launch pad for the student's creative urges to blossom naturally. This humble initiative is to set the budding minds free allowing them to roam free in the realm of experience to create a living world in words. Our student authors have put across some amazing pieces of writing in this Wall Magazine. The first issue of Wall Magazine BESST was released on 11th August 2018 with the hands of Principal Dr. V. D. Nanoty in presence of IQAC Coordinator Dr. R.L. Rahatgaonkar and Dr. S.M. Nagrale, Head Department of Zoology. Dr. Archana S. Sawarkar worked as Chief Editor and Dr. Sudhir R. Kohchale, Dr. Rashmi Joshi (Sawalkar), Mr. Shailendra V. Madavi worked as Area Editors for Animal Science, Environmental science and Plant Science respectively.



Publication of Biodiversity Calendar -2019 : To know value of biodiversity and inculcate environmental consciousness among students Biodiversity Calendar -2019 was published on 24th December 2018 with the hands of eminent personalities Hon. Mr. Randhir Savarkar (Member of MLA) and Mr. Viplove Bajoria (Member of MLC). It is an Innovative attempt made by B. Sc. II (Biology) students under supervision of Dr. Archana S. Sawarkar (Dept. of Zoology) and Dr. Anjali A. Sangole (Dept. of Botany). Along with flora and fauna, Academic holidays as well as special days concerning environmental issues and importance of biodiversity are mentioned in it. Biodiversity Calendar -2019 is a master piece of efforts taken by students to complete their participatory learning project.





Green Initiatives by Shri R.L.T. College

Akola City Bird Election: Akola City bird election was conducted on 19 January 2019 at college auditorium. The event was organized by Akola District Election Office and local NGO Nisarg Katta in collaboration with the Zoology department of Shri RLT College of Science Akola. Total 776 students and staff participated in the voting process. Five bird candidates were there for the contest. After counting common Egret was elected as bird of Akola for the next 5 years. The event was organized to understand the importance of birds in the ecosystem as well as for voter awareness.



Student's Project Birds of Akola: The project entitled "Birds of Akola" is a piece of work carried out by B.Sc. II students under supervision of Dr. Archana S. Sawarkar. It is an innovative participatory learning project which included 329 species of birds from 69 families found in Akola region. Information about habit and habitat, general characters, feeding behavior and ecological importance of each bird is given. Proceeding of the project was released by the hands of Dr. R. B. Heda, President, The B.G.E. Society, Akola on 12th March 2019.





Green initiatives by Shri R.L.T. College

Flower Show: Aim was to broaden knowledge of horticulture, floral design, conservation, photography and to share the beauty of nature to the observers. The winners of the programme were awarded.



Wild Life Pencil Art Exhibition: Department of zoology has organized the wild life pencil art exhibition on 12th of March 2019. The inauguration of the exhibition was done by the hands of respected Dr. R.B. Heda, President of the B.G.E. Society, Akola in the gracious presence of executive members of B.G.E. society and respected Dr. Katore, Head P. G. Dept. of Mathematics, SGBAU, Amravati. The sketches of wild life were drawn by the B.Sc. students. It was an effort made by organizing committee to create awareness about biodiversity conservation and developing skill other than studies among the students.



Students from different schools are watching the art gallery sketches drawn by B.Sc. students



All The respected dignitaries along with the organizing committee members

Jaljagruti Saptah (Date: 16/03/2019 to 22/03/2019): On occasion of 'Jaljagruti Saptah' Environmental Cell of Shri R.L.T. College, Akola Conducted test for B.Sc. students on 15th March 2019, which was organised by Vidarbha Patbandhare Vikas Mahamandal Nagpur & Akola Sinchan Mandal Akola.

On 16th March 2019, Environmental cell members and students participated in one day workshop on "Save water & water harvesting methods" held at Shri Khandelwal College, Akola in collaboration with Rotary club & Akola Sinchan Mandal, Akola. Students took part in 'Run for Water Campaign' on 17 March 2019 at Jilhadhikari karyalaya, organized by Akola Sinchan Mandal Akola, & Rotary club, Akola in Collaboration with Khandelwal College. On the same occasion of "Jalagruiti Abhiyan" Environmental Cell of college organized Poster competition on 'Save Water' for UG & PG students. In All 52 students were participated from UG & PG level. The winners were awarded by certificate & cash prizes.



Participation in 'Run for water campaign'.



Poster competition on 'Save Water'



Green Initiatives by Shri R.L.T. College

Water pots and nests for birds (Date: 20/03/2019): Department of Zoology celebrate World Sparrow Day on 20th March 2019. For drinking water to Sparrows, clay earthen pots were placed in the garden and college campus. Water pots were filled with water by the students and staff. Dr. S.M. Nagrale appealed students to conduct this nice activity at their residence for conservation of birds in summer. On behalf of Environmental Cell of college, Bird's Nests were tied on various plants in the Botanical Garden and College Campus. Students were also encouraged to hang these pots and Nests at their home & other social premises.



World Sparrow Day celebration by placing Water pots and nests for birds.

Alternate Energy initiatives such as:

1. Solar water heater of 1000 litres capacity in girl's hostel.
2. Automatic solar based LED lights in college campus.
3. Biogas Plant in girl's hostel.

Initiatives taken by the institution to make the campus eco-friendly:

1. Water harvesting pit: Rain water from the roof of college building is channelized towards water harvesting pit which is constructed near borewell in front of hostel and library.

Nursery of saplings grown from naturally occurring seedlings in college campus.: Nursery of saplings grown from naturally occurring seedlings was developed by Department of Botany. Every year seeds of different plants (Neem, Tecoma, Custard apple, Ficus etc.) germinated naturally below the parent trees. The newly developed seedlings die due to both natural and artificial causes. To protect these seedlings, it is a good idea to prepare nursery of saplings. Seedlings of different plants like Neem, Tecoma, Custard apple, Ficus etc., were collected from the college campus. These seedlings were planted into the plastic bags containing soil and manure. Proper care was taken up to seedlings converted into saplings. Saplings were distributed among students and college employees for plantation. Instead of flowers these saplings were utilized for felicitation of students, welcoming of guests, which promotes the conservation of Green Earth. This year about 300 saplings were developed in the nursery.



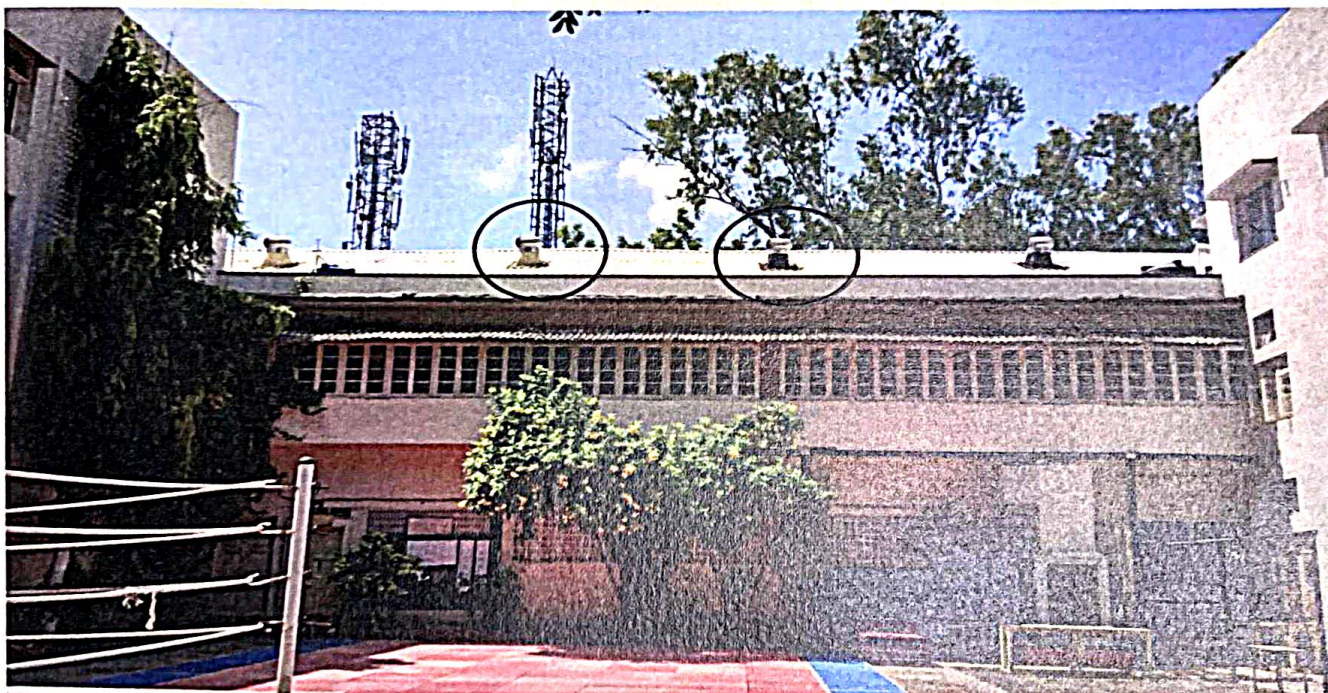


Green initiatives by Shri R.L.T. College

1. Tree plantation in college campus: On occasion of Independence Day, Department of Botany, NSS and NCC unit undertook tree plantation programme to maintain eco-friendly and pleasant green campus.



Due to installation of 'Turbo-ventilators' on the roof of auditorium and some class room (1, 2 and 3) for exhaust of gases, consumption of electricity required by fans and air conditioners has reduced to great extent.



Power Saving LED bulbs are installed in laboratories and administrative offices.

Vermicomposting: Various organic wastes mainly garden waste are used as substrates for the preparation of vermicompost in college premises.

Reduced electricity consumption due to installation of 'Solar water heater' in girl's hostel and 'Automatic solar based LED lights' in college campus.





Licence for possessions of certain chemicals.



FORM R. S. II.

[Rule 5 (1) (b)]

Licence No. 2/55-66

Licence for the possession and use of rectified spirit including absolute alcohol for industrial medicinal, scientific and educational purposes.

Licence is hereby granted, under and subject to the provisions of the Bombay Prohibition Act, 1949 (Bom. XXV of 1949), and the rules, regulations and orders made thereunder, to Laxminarayan Tasmal College of Science, hereinafter called "the licensee" on payment of a fee of Rs. 1,500 in advance, authorising him to buy, possess and use rectified spirit including absolute alcohol (hereinafter called "spirit") during the period from 1-4-1955 to 31-3-1956, at his premises situated at Akola, (hereinafter referred to as "the licensed premises"), subject to the following conditions, namely :-

Conditions.

- The licensee shall not use the spirit for any purpose except for Educational
- (1) The licensee shall not buy spirit except on a requisition countersigned by an Officer of the Prohibition and Excise Department duly authorised in that behalf.
(2) The licensee shall not buy spirit in any one month exceeding 60 (Sixty) gallons or 750 (Seven hundred and fifty) quart bottles of Rectified Spirit & Absolute Alcohol in the aggregate.
- The licensee shall not have in his possession more than 60 (Sixty) lbs. any R. S. of spirit at any one time. Absolute Alcohol
- The licensee shall keep all the spirit received by him in a place in the licensed premises approved by the local Inspector of Prohibition and Excise under lock and key and all issues of spirit from the said place shall be made in the presence of the licensee or a person duly authorised by him in writing in that behalf.
- (1) The licensee shall maintain such accounts as may be prescribed by the Director of Excise and Prohibition under the Act. The account shall be kept in a bound book, paged and stamped with the seal of the Collector.
(2) The licensee shall keep, along with the account book, the requisitions and transport passes relating to the spirit received at the licensed premises.
(3) The licensee shall submit such returns as may be prescribed by the Director of Excise and Prohibition under the Act.
(4) The licensee shall furnish to the Collector such other information relating to the subject matter of this licence as the Collector may from time to time require.
- The licensee shall pay to Government such cost of the Prohibition and Excise staff if it is appointed of Excise and Prohibition for supervision over the use of rectified spirit, as may be fixed by the Director.
- The licensed premises, the spirit kept therein and the account books, requisition and transport passes referred to in condition 5 and this licence shall at all times be open to inspection by the Collector, or any Prohibition and Excise or Police Officer not lower in rank than a Sub-Inspector of Prohibition and Excise or Police, as the case may be, or by any other officer empowered under section 77 (a) of the Bombay Prohibition Act, 1949, who may be deputed or authorised by the Collector or the Superintendent of Prohibition and Excise in this behalf.
- The accounts, requisitions and transport passes referred to in condition 5 and the licence shall be preserved by the licensee during the whole of the period of this licence.

Granted this day of 1955



Collector of

* The purpose for which the spirit is to be used should be clearly stated here. In the case of use for industrial purposes the specific industrial purpose should be mentioned.



Licence for possessions of certain chemicals.

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नुतनीकरण शुल्क रु. 400/- इषलने क्र. MHE/398/2019
दिनांक 09/03/2019...
शर्तीवर या अनुज्ञप्तीचे दि. 01/04/2019 ते
दि. 31/03/2020 पर्यंत नुतनीकरण करण्यांत येत आहे.



दि. 11/11/2019...
जिल्हाधिकारी, अकोला
करिता

अनुज्ञप्ती क्र. 11/2020-21...
नुतनीकरण शुल्क रु. 400/- इषलने क्र. MHE/345928/2019
दिनांक 16/03/2020...
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दि. 31/03/2021 पर्यंत नुतनीकरण करण्यांत येत आहे.

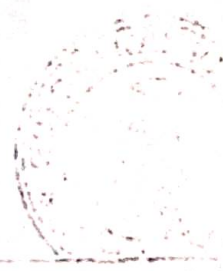
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दिनांक 24/03/2021...
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दि. 31/03/2022 पर्यंत नुतनीकरण करण्यांत येत आहे.

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करिता

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दिनांक 05/03/2021...
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दि. 31/03/2022 पर्यंत नुतनीकरण करण्यांत येत आहे.

दि. 05/03/2021...
जिल्हाधिकारी, अकोला
करिता





Conclusion:

Internal Green & Environment Audit was conducted by an Internal Green & Environment Audit Committee i.e. IGEAC. The committee consisted of teaching, non-teaching staff, and external subject specialist members. It started in the month of April 2018 with the organizing Pre Audit Training Workshop. The workshop gave clear directives and directions to all members. Subject specialists offered a complete set of directives about data collection and the importance of the Questionnaire. The questionnaire was provided to the committee and data collection started in September 2018. The necessary information and crucial data collection were completed and a draft report was complete in April 2019. The review meeting was organized in May 2018. The special meeting was called upon in June 2019 to approve, accept, and release Internal Green & Environment Audit Report for the year 2018-2019.

A conclusion can be made from the Internal Green & Environment Audit Report for the year 2018-2019 that the environment in the R.L.T. College of Science is healthy. The committee has made short-term and long-term recommendations to take environmental protection and its management practices to higher levels.

Internal Green & Environment Audit Report for the year 2018-2019 will become an effective tool for all the future Internal Green & Environment Audit Reports. The procedures, processes, and practices followed in the report-making will surely evolve every year. The Internal Green & Environment Audit committee will strive hard to make audit reports more informative and useful. Internal Green & Environment Audit Committee thanks each & everyone involved directly and indirectly in making this Internal Green & Environment Audit Report.



Shri R.L.T. College of Science

New Radhakisan Plots, Akola Maharashtra 444001, India

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT

**Green and Environment Audit
2019-20**

Internal Green Audit Program

This is to certify that the Internal Green Audit Report of

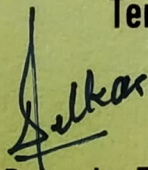
B. G. E. Society's

Shri R.L.T. College of Science

New Radhakisan Plots, Akola

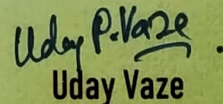
is based on the data collected during the physical visits to the college. Further, it is certified that the core information related to green initiatives and activities was collected and scrutinized by Internal Green Audit Committee. The college has successfully established eco-friendly practices and management systems at all levels. The evidence is substantial. We appreciate the efforts taken by teaching, nonteaching staff, and students towards keeping the campus green.

Term of validity: April 1st, 2019 - March 31st, 2020



Devendra Telkar

Internal Green Audit Committee Member
Srushti Vaibhav
Nature Conservation Society
Devdatta Apartment, Gaddam Plots, Akola



Uday Vaze

Internal Green Audit Committee Member
Environmental Management Consultant
Environment & Forest Education Center
Environmental Consultant, Ramdas Peth, Akola



Internal Environment Audit Program

This is to certify that the Internal Environment Audit Report of

B. G. E. Society's

Shri R.L.T. College of Science

New Radhakisan Plots, Akola

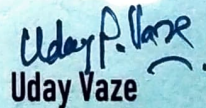
is based on the data collected during the physical visits to the college. Further, it is certified that the core information related to environment protection & monitoring activities were collected and scrutinized by Internal Environment Audit Committee. The college has successfully established environmental practices and management systems at all levels. The evidence is substantial.

Term of validity: April 1st, 2019 - March 31st, 2020



Devendra Telkar

Internal Green Audit Committee Member
Srushti Vaibhav Nature Conservation Society
Devdatta Apartment, Gaddam Plots,
Akola 444001



Uday Vaze

Internal Green Audit Committee Member
Environmental Management Consultant
Environment & Forest Education Center
Ramdas Peth, Akola, 444001





B. G. E. Society's



Shri R.L.T. College of Science

New Radhakisan Plots, Akola

Maharashtra 444001, India

2019 - 2020

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT



Prepared by:

**Internal Green & Environment Audit Committee
Shri R.L.T. College of Science, Akola**



Acknowledgement

Internal Green and Environment Audit Committee would like to thank the management of the B.G.E. Society, teaching & non-teaching staff, students, parents, and adjoining community for extending their co-operation and valuable inputs in gathering data. This is a significant step taken by the college and their efforts towards their contribution in conservation of resources, worth mentioning here.

Internal Green and Environment Audit Committee also wish to thank EFEC for helping Internal Green and Environment Audit Committee in organizing 'Workshop on understanding Environment Management System' and appreciate their cooperation in extending their knowledge throughout the process of Internal Green and Environment Audit program.

Internal Green & Environment Audit Committee expresses gratitude towards the selfless contribution made by various NGOs and individuals in contributing their knowledge and expertise in compiling technical data required in the preparation of the audit.

Our special thanks are due to the Principal Dr. V. D. Nanoty of Shri R.L.T. College of Science, Akola for giving us valuable guidance.

About Shri R.L.T. College of Science

Shri R.L.T. College of Science, Akola affiliated to Sant Gadge Baba Amravati University, Amravati was established under The Berar General Education Society, Akola on 1st April 1970 and celebrating its Golden Jubilee year. The college is re-accredited by NAAC with an 'A' Grade, CGPA-3.12 (Third Cycle). The college offers B.Sc. , M. Sc., Ph. D. and career-oriented programs like CCLT, DCLT, and ADCLT. It also comprises 11th and 12th standard education. At present, there are 14 departments in college i.e. Biochemistry, Bioinformatic, Botany, Chemistry, Computer Science, Electronics, Information Technology, Mathematics, Microbiology, Physics, Zoology, Languages, Physical Education and Library. The college is one of the premier institutions delivering excellent education through dedicated collaborated efforts towards achieving recognition and honor at the national and international levels.

Google map satellite photo of Shri R. L. T. College of Science, Akola

Latitude : 20°42'21.47"N - Longitude : 77° 0'21.85"E





B. G. E. Society's

Shri R.L.T. College of Science

New Radhakisan Plots, Akola, Maharashtra 444001

IGEC : Internal Green and Environment Audit Committee

Sr. No.	Name	Designation	Sign
01	Dr. V. D. Nanoty	Principal	
02	Mrs. V. N. Badgujar	Chairman, IGEC	
03	Dr. R. J. Rahatgaonkar	IQAC, Co-ordinator	
04	Dr. P. M. Khadse	Member, IGEC	
05	Dr. S. M. Nagrale	HOD, Member, IGEC	
06	Dr. P. T. Agrawal	HOD, Member, IGEC	
07	Dr. A. A. Sangole	Member, IGEC	
08	Prof. S. V. Madavi	Member, IGEC	
09	Dr. R. P. Joshi	Member, IGEC	
10	Dr. A. M. Amle (Sawarkar)	Member, IGEC	
11	Dr. S. R. Kohchale	Member, IGEC	
12	Dr. K. M. Heda	Member, IGEC	
13	Prof. S. N. Gawande	Member, IGEC	
14	Mr. Devendra Telkar	External Member, IGEC NGO : Srushti Vaibhav	
15	Mr. Uday Vaze	External Member, IGEC Director : EFEC	
16	Mr. Deepak Wankhade	Member IGEC (Non Teaching Staff Rep.)	
17	Mr. S. B. Shelke	Member, IGEC, Gardner	

The Internal Green & Environment Audit Committee authenticate observations and recommendations in this report.

Internal Green & Environment Audit Key Steps

Pre Audit Training Workshop : August 2019

Questionnaire Data Collection started : September 2019

Draft report completed : April 2020

Review Meeting : May 2020

Final report completed : June 2020



Synthesis Document

Internal Green & Environment Audit is assigned to the Criteria 7 of NAAC, National Assessment, and Accreditation Council. The Internal Green & Environment Audit Committee was formed. The committee planned for conducting an Internal Green and Environmental Audit of the college in July 2019. The intention to carry an Internal Green & Environment Audit was to make sure that the practices, processes, and activities followed in the campus are eco-friendly. The questionnaire was obtained by an external member of the Internal Green & Environment Audit Committee. It was observed and evidence was brought together 'what degree to which the Departments comply with the applicable regulations, policies, and standards to ensure that the development of the college aims at sustainable development and keeping the college campus green. The methodology used included was right from collecting data through questionnaire, insight inspection, evaluation, computation, conducting physical survey and review of the relevant documentation.

Statement of Assertion

The Internal Green & Environment Audit Committee has adopted the audit procedure that meets the terms of International Standards of Internal Auditing Practices. The committee is causing to feel certain that adequate and relevant audit procedures were followed, concrete evidence was gathered and conclusions were drawn from facts. The Internal Green and Environment Audit committee believes that recommendations are for improving the effectiveness of environmental management efforts made by Shri R.L.T. College of Science. Changes or additions in management practices should be systemic, must be done through series of small steps and every concerned individual must be well informed about changes and additions made in management practices. Recommendations are based on evidence compiled in this report as they existed at the time of the audit.

Compendium

It was truly evident from the data collected at Shri R. L. T. College of Science that teaching & non-teaching staff, students, vendors, and service providers of the college are aware of the importance of efforts to save and protect the environment in the campus in every day's work. The college staff follows the best course of action such as reducing all types of waste, time to time garden maintenance, follow composting practices, ways and means to reduce energy consumption, conduct review meetings, organize environmental educational activities for staff as well as for students. Although, it was also observed that, many of the practices followed in the college are still incipient and needs further action to improvise course of actions.



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Introduction

The expeditious urbanization and economic development at the local, national and international levels have led to several environmental and ecological emergencies. To prevent damages due to site-specific activities, practices, processes, and procedures followed by various institutions, businesses, organizations, or factories, it becomes essential to adopt methods, processes, and procedures for making green campuses for the institutions, businesses, organizations, or factories which will lead for sustainable development. Every organization has systems to manage finance, health, and safety, it is equally important that every organization must have an Environmental Management Performance Checking System for managing environmental issues.

Shri R.L.T. College of Science is very much aware of its responsibility towards keeping campus green and strives hard to make it pollution-free. The college strives hard to maintain an eco-friendly ambiance and achieve continual improvement in environmental performance. The main intention of conducting the Internal Green and Environmental auditing is understood and continuous efforts are made in achieving objectives mentioned in the Environment Policy of the college. The college invites consultants and subject specialists in environment conservation to modify its working on every six months interval. The methodology to conduct Internal Green Audit & Environmental Audit was designed with the help of consultants and NGOs with the teaching staff of the college. It includes a draft of the questionnaire, in-situ site inspection of the campus, scrutinize documentation, monitors procedures, practices, and processes carefully. The formation of an internal audit committee with the involvement of an external subject specialist has made significant recordings. The internal audit committee has made short time and long term recommendations. The committee proposed remedial procedures to reduce the carbon footprint of the college. It works for the betterment of eco-friendly campuses including air, water, noise, soil quality, waste management, care for flora & fauna on campus, the importance of paperless working, plans for adopting alternative energy creation by adopting solar-powered energy sources.

Internal Green Audit

An Internal Green Audit is a process of systematic identification, evaluation, documentation, reporting, and analysis of components of environmental diversity of various institutions, businesses, organizations, or factories. It aims to analyze environmental practices and processes within and outside of the targeted institution, business, organization, or factory, which will have an impact on the ecologically friendly environmentally safe ambiance.

Internal Environment Audit

An Internal Environmental Audit is an assessment performed to ensure that institutions, businesses, organizations, or factories are complying with environmental policies. It examines the amount of harm or risk of injury that may be posed by the assessed entity and determines the types of pollution being produced by looking at a broad range of site-specific activities, practices, processes, and procedures. The information compiled from these factors determines what remedial procedures are required to be added for the better good.

Scope

Internal Green Audit & Environmental Audit play a significant role in the continuous operation of institutions, businesses, organizations, or factories. It keeps institutions, accountable by scrutinizing their site-specific activities and determining what remedial measures are required to be added or put in place to ensure institutions, businesses, organizations, or factories are following the proper statute.

Objective

The key objectives of an Internal Green and Environmental Audit, therefore, are to: determine how well the environmental management systems and equipment are performing, verify compliance with the relevant national, local, or other laws and regulations, minimize human exposure to risks from environmental, health and safety problems.



Methodology

In the first meeting of Internal Green & Environment Audit Committee, it was unanimously decided that an external party will look into the overall infrastructure, procedures, practices, and operation of the college and will draft a detailed Questionnaire. Questionnaires provide a relatively rapid and efficient way of obtaining large amounts of information from a large number of people. Questionnaire are easy to respond to. Specifically, answers obtained through closed-ended questions with multiple choice answer options are easy to obtain and less time-consuming. Answers obtained to the open-ended questionnaire are analyzed using qualitative methods and they involve discussions and critical analyses without any difficulty. It is useful because the information can lead to concrete conclusions. The methodology also included a physical inspection of the campus, observation, and review of the documentation, interviewing key persons and data analysis, measurements, and suggesting recommendations.

The efforts were taken to understand the following focus areas and emphasis was given to know facts on the ground :

What measures are taken by the college to maintain greenery and the efforts taken for keeping environment protection policy as priority as declared by the college in its Environment Policy?

What efforts have been put in by the college to offer clean water to students and staff of the college?

What efforts are made by college to maintain and control Rain Water Harvesting, Waste Water Management effectively?

What efforts are made by the college to conserve energy such as electrical use?

How does the college monitor and control all types of waste?

How extra efforts are taken to control vehicular pollution caused by automobiles passing by adjacent roads along the college campus?

To monitor and evaluate how collage benefits to the community in and around the college campus.

To scrutinize the data provided by the college in regard to efforts and initiatives taken by the NSS and Environment Cell.

To make physical verification of positive impact made by initiative by the college such efficacy of Bio-gas plant, solar plant, and floral species on the campus.

To study and evaluate various green initiatives and activities are organized by the college.

To interview stakeholders of the college about plans for environment protection practices, processes, and procedures.



Environment Policy

Shri R.L.T. College of Science not only target to impart quality education but also understand responsibility towards the protection of the environment for the future generation. The college wishes to create environmentally safe practices to ensure that the college campus is kept green by reducing its carbon foot-print. The college will monitor its operation and make it economically successful & sustainable along with being socially responsible.

Environment Policy will compel every one of the college to follow practices, processes, and operations supported by identified groups and individuals. Environment Policy has the potential to develop exciting new co-curricular and extracurricular practices that encourage students to take part voluntarily that benefits them in any way.

Environment Policy also targets to enroll external parties such as vendors and suppliers in achieving the environment conservation objective in their relevant fields too.

Aims and Objectives of Environment Policy

Managing environment

- To promote stringent environmental management systems, processes, and operations.
- To reduce sources of pollution at every extent of its operation and to adopt the PDCA model to it.
- To find ways to improve its environmental performance.
- To ensure that students get updated knowledge about environment conservation practices.
- To involve the community in and around the collage to achieve its clean environment objective.

Efficient use of energy

- To achieve success in efficient use of energy to reduce its carbon footprint.
- To combat pollution caused by vehicular pollution by maintaining greenery on campus.
- To install energy efficient gadgets by introducing solar technology in the creation of clean energy.

Sensible use of water

- To make everyone aware of importance of the water.
- To find out new ways for reducing water footprint.
- To appeal and enroll all vendors and suppliers to supply eco-friendly products and services to promote sustainable resource management practices.

Efforts to waste reduction

- To identify sources of waste generation and reduce them.
- To segregate the waste and ensure its safe disposal with the help of Akola Municipal Corporation and with authorized E-waste disposal agencies in & around the Akola district.

Ethical practice

- To promote activities that protect bio-diversity on the campus.
- To plan and act on continuous improvement in line with environmental protection.
- To enhance the profile of the college by elevating the best academic and environmental practices.

Extension education activities

- To make special efforts about organizing workshops and activities in line with environmental education.
- To make aware the staff and students of the college about environmental impact & it's performance .



Location of the college

Shri R.L.T. College of Science at Akola in Maharashtra, India is a prominent science college of the Vidarbha region as well as in India. It is in center of the Akola city. It is well connected by road and railway network, enabling students from adjoining district to reach the college with ease.

Latitude : 20°42'21.47"N

Longitude : 77° 0'21.85"E

Land use and land cover (Annex-A)

The total area of the college campus
Area reserved for green cover

Built-up area of the college premises
Annexure-I: College Campus Drawing

Population:

Students :

Teaching Staff:

Non Teaching Staff:

Floating Population

Internal Green and Environment Audit Training

Shri R. L. T. College of Akola has a well-defined decentralized and participatory organizational structure to coordinate and promote academic and administrative functions. The organizational structure has different units of statutory bodies. The principal of the college always strives hard to promote environmental conservation in every possible way. The college has organized Pre Internal Green & Environment Audit Orientation Program and taken special efforts in enrolling teaching, non-teaching staff, students, and community representatives to attend the meeting. Environmentalists & subject specialists presented various topics such as protecting the environment by preventing wrong practices, enhancing environmental performance, introducing new ways to reduce pollution.

Audit Questionnaire & Audit Forms

Internal Green and Environment Audit Committee were given a host of audit forms and questionnaires. The committee was well supported by the teaching and non-teaching staff of the college to collect the data. The evidence were collected by referring Questionnaire and by making field visits to the college.

Sound Pressure Level Testing

Several sound pressure level tests were carried out to measure noise pollution created by vehicles passing by the college campus. The college is situated in the heart of the city. The road adjacent to the college campus is one of the busiest roads in the city. The results of the tests (Annex-L) came out to be slightly above the prescribed limit. To combat the noise pollution caused by vehicular noise the Internal Green and Environment Committee has recommended remedial measures (Annex-M).

Primary Air Quality

Several primary air quality tests were carried out. The results of the tests (Annex No. IV) came out to be within the prescribed limit. To stop air pollution caused by vehicular emissions entering the campus. The committee has recommended remedial measures to improve the air quality of the campus caused due to vehicular pollution made by vehicles passing by city road adjacent to the college. The recommendation is to create a barrier made by thick plantations. The Internal Green & Environment Committee has suggested specific species which are to be planted by the college. (Annex No. V).



Installation of Biogas Plant

A negligible amount of organic waste (vegetable & food waste) is generated in the kitchen of the college girl's hostel. Shri R.L.T. College of Science has installed a biogas plant that generates half of the gas required for cooking in the kitchen. The installation of solar panels, a biogas plant, and a rainwater harvesting system are noteworthy initiatives the college has endeavored recently. (Annex-I)

Biodiversity on campus: Flora

The college has been planting and conserving trees, climbers, creepers, herbs, and shrubs since its inception in 1970. A wide variety of floral species can be seen thriving on the campus. The college has taken a painstaking effort in maintaining green cover. A botanical garden nurture host of the wide variety of medicinal species for educational purpose. ([Annex-B](#))

Fauna

The green cover in the campus helps in creating favorable conditions for many living organisms such as butterflies, insects, ladybird beetles, spiders, birds, and squirrels. ([Annex-C](#)).

Green initiatives

Shri R. L. T. College of Science is a premier institute in Vidarbha and is aware of importance of educating students about environment and special efforts are taken by Environment Cell and NSS unit in initiating activities that reduces its adverse impacts on environment. Initiative such as Tree Plantations, No Vehicle Day, Save Energy, Burn Ban, Reducing Paper Usage, Bio-gas Plant, Rain Water Harvesting, Plastic Waste Free Campus, Regular Maintenance Of Electrical Gadget, Installing Energy Efficient Electrical Fixtures, Awareness Training Workshops, Waste Disposal, Solid Waste Management, Organic Waste Management, are organized by the college. ([Annex-D](#)) Internal Green & Environment Committee has recommended few remedial measures ([Annex-E](#))

Recommendations

Short term and long term recommendations are given by Internal Green & Environment Audit Committee. The recommendations made by the committee will improve the environment and will make positive impact on environment performance of the college. ([Annex-E](#))

Shri R. L. T. College of Science has received many awards and recognition over the last few years. ([Annex-F](#))

Post Green & Environment Audit Commitments

Review meeting was organized to discuss about recommendations made by committee after the Internal Green & Environment Audit process was completed. The Internal Green & Environment Audit Committee has given special attention to train every member of the college about PDCA model. PDCA i.e. Plan Do, Check and Act model surely helps in bringing continuous improvement in every working of the college.

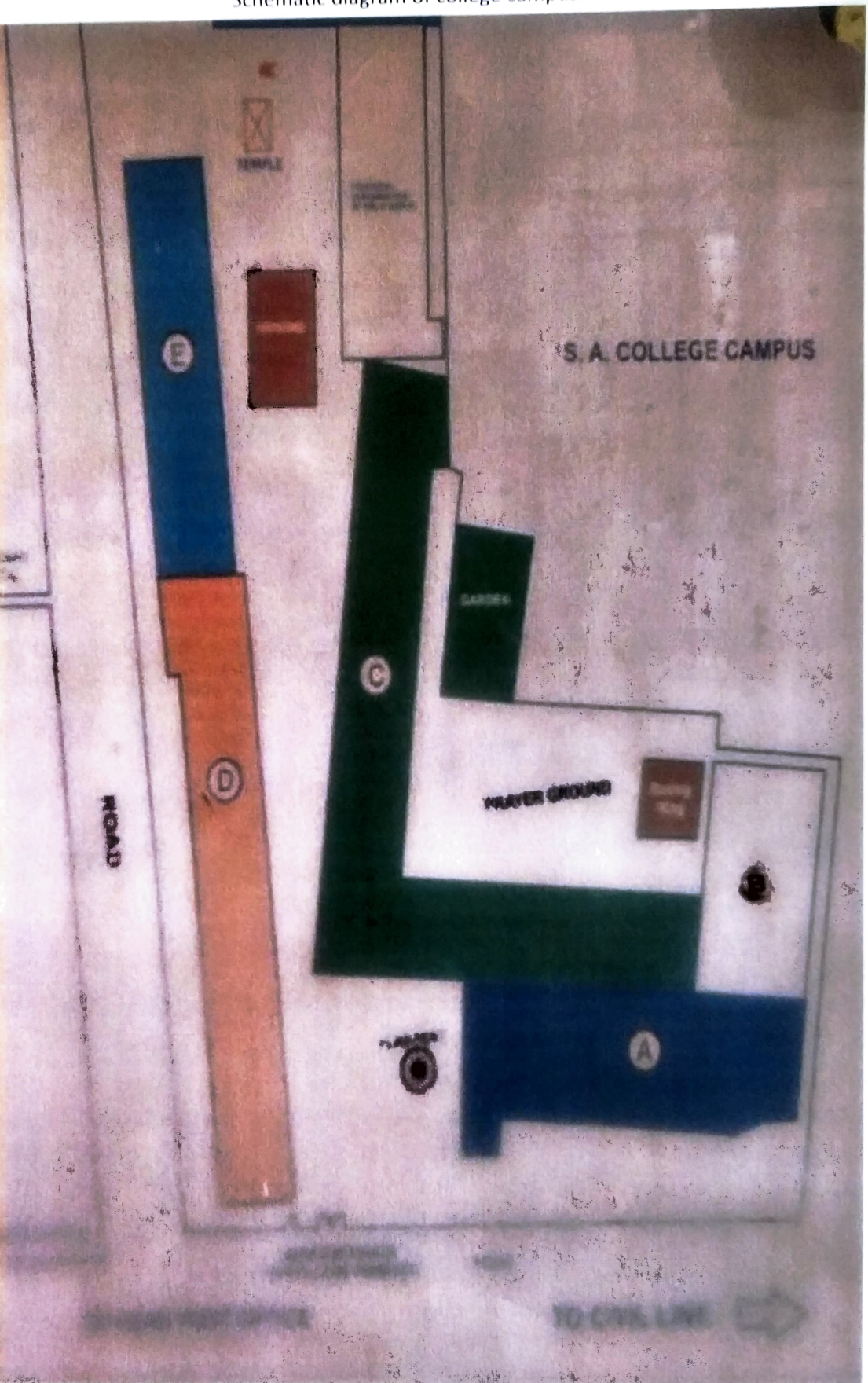
Internal Green & Environment Audit Document Storage

All the documents related to Internal Green and Environment Audit are stored at IQAC chamber in the cupboard. And it can be viewed by any member of the committee or by any stakeholder with a prior appointment with IQAC co-ordinator.



Annex-A

Schematic diagram of college campus.





Annex-B

Bio-diversity in campus : Flora

List of plants at various places in the campus

English Name	Botanical Name	Type	Place	Total Plants
False Ashoka अशोक	<i>Polyalthia longifolia</i>	Tree	Admin bldg, Adm, Ch Lab, Ph Lab	11
Yellow trumpet flower	<i>Ticoma stans</i>	Tree	Admin Bldg, Aud Ph Lab,	6
Cactus केतकी	<i>Opuntia ficus-indica</i>	Cactus	Admin Building	1
Korean Arbor थुजा	<i>Thuja koraiensis</i>	Tree	Admin Bldg, BG	6
Cycad सायकस	<i>Cycas revoluta</i>	Cycad	Admin Bldg, BG	2
Bougainvillea बोगनवेल	<i>Bougainvillea spectabilis</i>	Shrub	Auditorium, BG	4
Neem Tree कडुलिंब	<i>Azadirachta indica</i>	Tree	Lib, Ladies Hostel	4
Croton क्रोटॉन	<i>Codiaeum variegatum</i>	Herb	Lib, Ch Lab, Ph Lab, BG	40
Jasmin मोगरा	<i>Jasminum officinale</i>	Herb	Lib	1
Jasmin sp जुई	<i>Jasminum auriculatum</i>	Vine	Lib	1
Indian Fig औदुंबर	<i>Ficus glomerata</i>	Tree	Ladies Hostel	1
Sodom Apple रूई	<i>Calotropis procera</i>	Shrub	Ladies Hostel	2
Golden Champa सोन चाफा	<i>Michelia champaca</i>	Tree	Ch Lab	3
Mango आंबा	<i>Mangifera indica</i>	Tree	Ch Lab, BG	2
Cassia मोठी तरवड	<i>Cassia glauca</i>	Tree	Ch Lab	7
Oyster Plant ----	<i>Tradescantia spathacea</i>	Shrub	Ch Lab	5
Asparagus शतावरी	<i>Asparagus racemosus</i>	Shrub	Ch Lab, BG	9
Peacock Flower शंकासूर	<i>Caesalpinia pulcherrima</i>	Tree	Ph Lab,	1
Indian Almond गोड बदाम	<i>Terminalia catappa</i>	Tree	Ph Lab,	1
Sugar Apple सिताफळ	<i>Annona quamosa</i>	Tree	Ph Lab,	1
Passion Flower कृष्णकमळ	<i>Passiflora incarnata</i>	Vine	Ph Lab,	1
Euphorbia Pink ---	<i>Euphorbia milli</i>	Shrub	Ph Lab	1
Hibiscus जास्वंद	<i>Hibiscus rosa-sinensis</i>	Tree	Botanical Garden BG	4
Cassia निरगुडी	<i>Vitex negundo</i>	Shrub	BG	6
Crape Jasmine तगर	<i>Tabernaemontana divaricata</i>	Shrub	BG	2
Indian Gooseberry आवळा	<i>Emblica officinalis</i>	Tree	BG	1
Bamboo बांबू	<i>Bambusa bambos</i>	Tree	BG	5
Night-fl Jasmine पारिजात	<i>Nyctanthes arbor-tristis</i>	Tree	BG	1
Jungle Jerenium ---	<i>Ixora coccinea</i>	Tree	BG	2
Aloe Vera अँलोव्हेरा	<i>Aloe barbadensis miller</i>	Shrub	BG	4
Scarlet Bush ---	<i>Hamelia patens</i>	Shrub	BG	1
Basil तुळस	<i>Ocimum sanctum</i>	Tree	BG	6
Periwinkle सदाफुली	<i>Vinca rosea</i>	Shrub	BG	6
Whistling Pine सरू	<i>Casuarina equisetifolia</i>	Tree	BG	1
Narium कण्हेर	<i>Narium oliender</i>	Tree	BG	1
D. Mahatma महात्मा	<i>Cordyline Terminalis</i>	Shrub	BG	2
Golden Pothos ---	<i>Epipremnum aureum</i>	Vine	BG	5



Annex-B

Bio-diversity in campus : Flora

cont from page no.

English Name	Botanical Name	Type	Place	Total Plants
Lemon Grass गवती चहा	<i>Cymbopogon flexuosus</i>	Herb	BG	5
Travellers Palm पाम	<i>Ravenala madagascariensis</i>	Palm	BG	1
Fever Tree	<i>Pinckneya pubens</i>	Shrub	BG	1
Schott Indica ब्रम्ह राक्षस	<i>Alocasia indica</i>	Shrub	BG	25
Indian Pennywort ब्राम्ही	<i>Bacopa monnieri</i>	Shrub	BG	5
Green Chiretta काळमेघ	<i>Andrographis paniculata</i>	Shrub	BG	5
Devils Backbone कांडवेल	<i>Cissus quadrangularis</i> Orn	Shrub	BG	5
Red Flame Ivy निरगुडी	<i>Hemigraphis colorata</i>	Shrub	BG	5
Indian Laburnum अमलतास	<i>Cassia fistula</i>	Tree	BG	5
Touch me not लाजाळू	<i>Mimosa pudica</i>	Herb	BG	5
Star Grass Lily जं. लसूण	<i>Iphigenia stellata</i>	Herb	BG	5
Bhringraja माका	<i>Eclipta alba</i>	Shrub	BG	5
Indian Borage पान ओवा	<i>Coleus amboinicus</i>	Herb	BG	5
Mint Plant पुदिना	<i>Mentha spicata</i>	Herb	BG	5
Coleus माईनमुळ	<i>Coleus forskohlii</i>	Herb	BG	5
Basil राम तुळस	<i>Ocimum canum</i>	Herb	BG	5
Basil तुळस	<i>Ocimum Spp.</i>	Herb	BG	5
Basil लवंग तुळस	<i>Ocimum gratissimum</i>	Herb	BG	5
Basil सब्जा	<i>Ocimum basilicum</i>	Herb	BG	5
Basil कापूर तुळस	<i>Ocimum kilimandscharicum</i>	Herb	BG	5
Arjun Tree अर्जून	<i>Terminalia arjuna</i>	Tree	BG	1
Sage-leaved Alangium अंकोल	<i>Alangium salviifolium</i>	Tree	BG	1
Gum Guggul गुग्गुळ	<i>Commiphora wightii</i>	Tree	BG	2
Soapnut Tree रीठा	<i>Sapindus trifoliatus</i>	Tree	BG	1
Ehretia खंडूचक्का	<i>Ehretia Laevis</i>	Shrub	BG	2

Total number of plants and trees are 267. Total number of species are 67 consists herbs, shrubs, climbers, small sized, midsized and big size trees.



Annex-C

Bio-diversity in campus : Fauna

List of birds seen at various places in the campus

English Name	Scientific Name	Marathi Name
House Sparrow	<i>Passer domesticus</i>	भारतीय चिमणी
Coppersmith Barbet	<i>Megalaima haemacephala</i>	तांबट
Indian Roller	<i>Coracias benghalensis</i>	चाष
Little Green Bee Eater	<i>Merops orientalis</i>	वेडा राघू
Asian Koel	<i>Eudynamys scolopaceus</i>	भारतीय कोकीळ
Lesser Coucal	<i>Centropus bengalensis</i>	भारद्वाज
Alexandrine Parakeet	<i>Psittacula eupatria</i>	करण पोपट
Rose Ringed Parakeet	<i>Psittacula krameri</i>	लाल मान्या पोपट
Yellow Legged Green Pigeon	<i>Treron phoenicoptera</i>	हरीयल
Barn Owl	<i>Tyto alba</i>	पिंजरा घुबड
Blue Rock Pigeon	<i>Columba livia</i>	राखी कबुतर
White Breasted Waterhen	<i>Amaurornis phoenicurus</i>	लाजरी पाणकोंबडी
House Crow	<i>Corvus splendens</i>	कावळा

List of butterflies seen at various places in the campus

Common Tiger Butterfly	<i>Danaus chrysippus</i>	ढाण्या कडवा
Striped Tiger	<i>Danaus genutia</i>	पट्टेरी ढाण्या कडवा
Common Rose	<i>Pachliopta aristolochiae</i>	गुलाबी फुलपाखरू
Common Grass Yellow	<i>Eurema hecabe</i>	पिवळी गवत भिरभिरी
Common Mormon	<i>Papilio polytes</i>	मोरमोन

List of other insects seen at various places in the campus

Common Mosquito	<i>Anopheles SPP.</i>	डास
Praying Mantis	<i>Mantis religiosa</i>	प्रार्थना कीटक

List of other spiders seen at various places in the campus

Cyclosa Spp.	Trashline Spider
Gnaphosidae gnaphosidae	Ground Spider
Hersiliidae hersilis	Long-spinnered Bark SpiderL
Oxyopidae oxyopes	Striped Lynx Spider
Salticidae rhene	Jumping Spider
Pholcidae pholcus	Celler Spider

List of other mammals seen at various places in the campus

<i>Rattus rattus</i>	House Rats
<i>Bandicota bengalensis</i>	Indian Mole Rat
<i>Funambulus palmarum</i>	3 Striped Palm Squirrel
<i>Felis catus</i>	The Spotted Cat
<i>Bandicota indica</i>	Greater Bandicoot Rat



Annex-D

List of green initiatives by Shri R.L.T. College

Save Paper Save Tree: Environment Cell organized an event to enroll students to minimize their use of paper to save trees from cutting.

Save energy, save electricity: The Environment Cell with NGO ' Srushti Vaibhav ' fixed stickers that remind everyone to conserve electricity.

No open Fire on campus: Any open fire is not permissible as per the Municipal Corporation. To protect the college campus from pollution caused by garbage burning, the Environment Cell, and NGO ' Srushti Vaibhav ' fixed posters to sensitize college staff and the community around.

The college has followed practice to issue a letter to all vendors and service providers to offer the best environmentally friendly products and services to the college in line with its Environmental Policy.

Environment Cell initiated ' No vehicle Day' and it is observed every last Sunday of the month. It spreads the message of protecting environment by reducing individual level carbon footprint, among the kith and kins of the college staff and students.

3 Day National Workshop: Disaster Management Preparedness was organized by the college.

NSS And NCC participants are actively involved in many conservation activities such as tree plantation activities in the adopted village Apoti Kurd (20°48'19.03" N 77°06'32.89" E)

NSS of Shri R.L.T. College of Science has organized the 'Sensitizing Sanitation' initiative by **MUNIJAN** (Mumbai University New Initiative for Joint Action Now) at Apatapa Khurd village.

To promote sustainable use of resources Shri R.L.T. College of Science has distributed Cotton Reusable Bags to adjacent citizens and also spread message to stop using single-use plastic carry bags. The poster was released by the college and was displayed at prominent places.

The cleaning drive was organized by the Environment Cell of the college and involved teaching, non-teaching staff and students to participate in it.

Shri R.L.T. College of Science has been selected to be a member in Maharashtra **Haritsena** i.e. Green Corps organized by the Social Forestry Division of **Government of Maharashtra**. The Green Corps organized GREEN INITIATIVES as per the guidelines set by the Government.

Environment Cell recycle used papers to make paper bags. The initiative helped in reducing the use of single-use plastic bags and also educated students to recycle waste generated at the college.

Old unused furniture was refurbished and brought into everyday use.

To manage waste generated by classrooms, the dustbins are kept outside the classroom and it made the safe waste disposal task easy.

New energy-efficient lights were installed where ever possible to reduce energy consumption.

Old electrical cables were replaced with new ones.



Annex-E

Recommendations

Internal Green & Environment Audit Committee surveyed and scrutinized the overall environmental performance and came out with the following recommendations:

- i) Recommendation is made to strengthen present internal and external sewage system ASAP.
- ii) The Internal Green and Environment Audit Committee recommends to installing an automatic water pump controller circuit to all the water pumps installed in the college campus to ensure that no water is wasted due to negligence.
- iii) To monitor and take measures in reducing daily consumption of electricity the committee recommends to designating a person who will control the proper use of all electrical gadgets on the campus. The college will give special privileges to report the misuse of electricity if any, in any department or campus area.
- iv) The Internal Green and Environment Audit Committee expects the college to maintain a record of several number of papers used by all departments in order to review its use and make efforts to reduce its consumption on year on year basis.
- v) The Internal Green and Environment Audit Committee recommends to initiating measures that may reduce pollutants on the campus. The Primary Air Quality Testing showed a slight increase in the TVOC range which itself suggests adding barriers in between the adjacent road and the campus. The committee recommends to consulting a subject specialist to bring down pollutant numbers to some extent.
- vi) The Internal Green and Environment Audit Committee recommends college focus on bringing down sound pollution and vehicular pollution by putting a sound barrier in between the adjacent road and the college classroom. The sound pressure levels detected inside classrooms in the college are slightly above prescribed limits. The committee recommends consulting subject specialists and reduces the noise coming from vehicles passing by the adjacent road.
- vii) The Internal Green and Environment Audit Committee appreciates the way Botanical Garden and trees are maintained, but the committee recommends adding more trees, shrubs in pots at every possible place on the campus. The binomial names are to be displayed to promote education for the students and the visitors of the college.
- viii) College must monitor and recycle old used, broken damaged glass, cans, white, colored, and brown paper, plastic bottles, batteries, print cartridges, cardboard, and furniture on a time to time basis.



Annex-F

Post Internal Green and Environment Audit Review Meeting

Internal Green & Environment Audit Committee review meeting was attended by all teaching and non-teaching staff. A detailed discussion was carried out and recommendations made by Internal Green and Environment Audit Committee were shared with everyone in the meeting. After the discussion it was decided to work on the recommendations provided by the committee.

Annex-G

Awards and recognition received by the college.



Akola, Maharashtra, India

MH SH 200, Jafrabad, Akola, Maharashtra 444003, India



25.71° C

NSS Team of Shri RLT College of Science doing plantation at gram panchayat office at adopted village



Annex-H

Various environment protection initiative taken by the college.

**THE B. G. E. SOCIETY'S
SHRI R. L. T. COLLEGE OF SCIENCE, AKOLA**

N.S.S [National Service Scheme]
Organizes

Essay writing & poster competition for students
(All students from BSc can join)

Topic - गंदगी मुक्त मेरा गाँव [Dirt free my village]
(Language for essay: Hindi/Marathi/English)

On Saturday 15th August 2020
Submission deadline - 11 : a m 15 th August 2020

Principal –Dr. V. D. Nanoty
coordinators :- Dr. R.P. Joshi –Sawalkar
[NSS Programme officer]
Dr.S.L. Munde [Programme officer]
Mr.A. B. Khedkar [Assistant professor]

Essay competition and poster competition on Covid-19 Awareness of 8th To 12th Std And B.Sc. Students taken and the theme for the competitions was "Gandagi Mukta Mera Gaon".



Department of Microbiology in Collaboration with Nisarg-Katta planted summer flowering plants in College premises on 24th July 2020. Trees planted were Palash, Saptaparni and Bahawa etc.

Annex-I

Various environment protection initiative taken by the college.

The Berar General Education Society's
Shri R. L. T. College of Science, Akola
U.G.C. Women's Hostel

Biogas from Kitchen and Food Waste

Goal : The aim of the college is to solve the problem of waste disposal from kitchen and dining of girl's hostel as well as garbage of college campus and to generate energy from waste.

Importance : A biodegradable waste fed biogas plant in college campus is a best and ecofriendly technology for the treatment of kitchen and dining waste. It also becomes an effective tool to serve the fuel supply needs of the hostel.

WHAT IS BIOGAS?

- Biogas is a clean environment friendly fuel.
- Biogas is the gas produced by the breakdown of organic waste by bacteria without oxygen (anaerobic digestion or fermentation). It is the ultimate waste product of the bacteria feeding of the input biodegradable feedstock (methanogenesis stage of anaerobic digestion performed by methanogens).
- Biogas generally comprise of 55-65 % methane, 35-45 % carbon dioxide, 0.5-1.0% hydrogen sulfide and traces of water vapour.

INTRODUCTION

- In the first step the fermentative bacteria e.g. *Bacteroides succinogenes* break down complicated molecules into monomers.
- In the second stage, acetogenic bacteria e.g. *Aerivibrio* sp. decompose the remaining complex organic molecules into acetic acid.
- When acetic acid has been produced in sufficient quantities, methanogenic bacteria convert it into methane. This last step is called methane production or methanogenesis.
- The decomposed carbon is converted almost completely into methane.
- End product of fermentation is the combustible biogas.

1. Hydrolysis **2. Fermentation** **3. Acetogenesis** **4. Methanogenesis**

Proteins, Carbohydrates, Fats Sugars, Amino Acids, Fatty Acids Acetic Acid Biogas (CH₄, CO₂)

Component	Concentration
Methane	50-75 Vol.-%
Carbon dioxide	25-45 Vol.-%
Water vapour	2-7 Vol.-%
Oxygen	<3 Vol.-%
Nitrogen	≈ 2 Vol.-%
Ammonia	<1 Vol.-%
Hydrogen	<1 Vol.-%
Sulfide	20-20,000 ppm

COMPOSITION (for 1000 liters)

PRIMARY COMPOSITION:	SECONDARY COMPOSITION:
<ul style="list-style-type: none"> Water: 950 liters Cow dung: 30kg (approx.) Slurry from working biogas plant: 50 liters 	DAILY WASTE REQUIREMENT: <ul style="list-style-type: none"> 2.5 kg 3.0 kg Food waste (approx.) +5-6 liters water (approx.) in slurry form. After adding food waste slurry add water 5 times more.

ADVANTAGES OF BIOGAS

- Reducing water and air pollution
- Forest protection
- Saving cooking time
- Improving rural standard of living
- Electricity production
- Production of high quality fertilisers
- Improving hygienic conditions
- Saving money

Other Applications of BIOGAS in various fields

- Mushroom cultivation
- Poultry
- Fish culture

Sandeep Ashok Toshniwal

The practice is under the microbiology department and started for the girls Hostel in the premises. The kitchen waste and Canteen waste, remaining food, perished food products are used in the biogas plant. The energy generated is used in the girls hostel.

ORGANIC-COMPOSTING

Best Waste

Improves soil Structure
Improves Drainage
Reduce Soil Erosion
Improves Soil Fertility
Improves Water Holding Cap
Reduces Pests & Diseases on plants

Project By :-Department of Microbiology

VERMI COMPOSTING

Shri. R. L. T. College of Science

Vermi- Composting Practice is done in the premises since few years. The waste and left-over plant garbage, nirmalya in Ganesha Festival, and all the dry waste as well wet waste is used for composting.

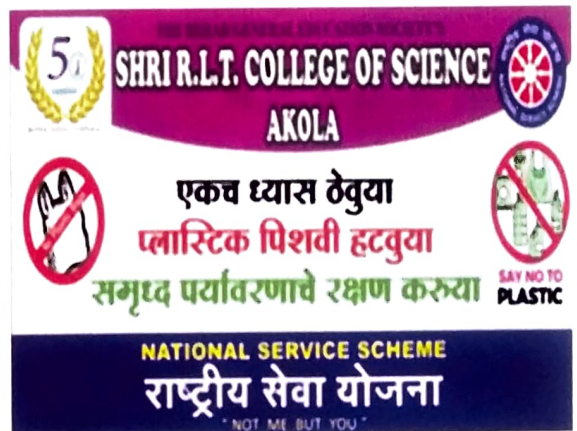


Annex -J

Various environment protection initiative taken by the college.



Cleanliness drive is organized every year jointly with Akola Municipal Corporation on the eve of Mahatma Gandhi Jayanti.



Solar Panels & Lights on Lamp-posts in campus.



Annex-K

Licence for possessions of certain chemicals.

आजि (अधिकारी) को कोला आतां १०
दि ६/११/२००० रथा मान्यतेने सदर
उजुसफी चा.६० (अं.६) क्रि.२२ करून
१०० लिटर (१०००) लिटरचा कश्च्यात
आतां आहे.



FORM R. 8. II.
[Rule 5 (1) (b)]

Licence No. 10566

Licence for the possession and use of rectified spirit including absolute alcohol for industrial medicinal, scientific and educational purposes.

Licence is hereby granted, under and subject to the provisions of the Bombay Prohibition Act, 1949 (Bom. XXV of 1949), and the rules, regulations and orders made thereunder, to Principal, Keshavnagar Laxminarayan Tasmal College of Science, Akola (hereinafter called "the licensee") on payment of a fee of Rs. 11,000/- in advance, authorising him to buy, possess and use rectified spirit including absolute alcohol (hereinafter called "spirit") during the period from 1.1.1955 to 31.3.1956, at his premises situated at Akole (hereinafter referred to as "the licensed premises"), subject to the following conditions, namely:—

Conditions.

- The licensee shall not use the spirit for any purpose except for Educational
- (1) The licensee shall not buy spirit except on a requisition countersigned by an Officer of the Prohibition and Excise Department duly authorised in that behalf.
(2) The licensee shall not buy spirit in any one month exceeding 60 (Sixty) litres only of Rectified Spirit & Absolute Alcohol in the aggregate.
- The licensee shall not have in his possession more than 60 (Sixty) litres only of Absolute Alcohol at any one time.
- The licensee shall keep all the spirit received by him in a place in the licensed premises approved by the local Inspector of Prohibition and Excise under lock and key and all issues of spirit from the said place shall be made in the presence of the licensee or a person duly authorised by him in writing in that behalf.
- (1) The licensee shall maintain such accounts as may be prescribed by the Director of Excise and Prohibition under the Act. The account shall be kept in a bound book, paged and stamped with the seal of the Collector.
(2) The licensee shall keep, along with the account book, the requisitions and transport passes relating to the spirit received at the licensed premises.
(3) The licensee shall submit such returns as may be prescribed by the Director of Excise and Prohibition under the Act.
(4) The licensee shall furnish to the Collector such other information relating to the subject matter of this licence as the Collector may from time to time require.
- The licensee shall pay to Government such cost of the Prohibition and Excise staff if it is appointed of Excise and Prohibition for supervision over the use of rectified spirit, as may be fixed by the Director.
- The licensed premises, the spirit kept therein and the account books, requisition and transport passes referred to in condition 5 and this licence shall at all times be open to inspection by the Collector, or any Prohibition and Excise or Police Officer not lower in rank than a Sub-Inspector of Prohibition and Excise or Police, as the case may be, or by any other officer empowered under section 37 (a) of the Bombay Prohibition Act, 1949, who may be deputed or authorised by the Collector or the Superintendent of Prohibition and Excise in this behalf.
- The accounts, requisitions and transport passes referred to in condition 5 and the licence shall be preserved by the licensee during the whole of the period of this licence.

Granted this day of 1955



Collector of

* The purpose for which the spirit is to be used should be clearly stated here. In the case of use for industrial purposes the specific industrial purpose should be mentioned.
(3) D B

Annex-L

Sound Pressure Level Testing Report

Sound Pressure Level Testing

Sound waves are vibrations of air molecules carried from a noise source to the ear. Sound is typically described in terms of the loudness (amplitude) and the pitch (frequency) of the wave. Loudness (also called sound pressure level, or SPL) is measured in logarithmic units called decibels (dB). The normal human ear can detect sounds that range between 0 dB (hearing threshold) and about 140 dB, with sounds between 120dB and 140 dB causing pain (pain threshold). The ambient SPL in a library is about 35 dB, while that inside a moving bus or subway train is roughly 85 dB; building construction activities can generate SPLs as high as 105 dB at the source. SPLs decrease with distance from the source.

Standards of sound:

To control the generation of noise by various sources in the environment, the **Central Pollution Control Board**, under the **Ministry of Environment and Forests, Government of India**, has set standards of sound for different categories of areas (residential, commercial, industrial and silence zones), separately for day-time and at night [Table 1].

Category of Area/Zone	Limits in dB(A)	
	Day Time	Night Time
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

09/08/20

Date	Location	Remarks	dB(A)	Date	Location	Remarks	dB(A)
2.18.18	PR CABIN		62	3.23.50	ROAD ADJ		75
2.33.00	GARDEN		67				
2.41.57	PHYSICS LAB		64				
2.49.56	BOTANY LAB		68				
2.56.16	ZOOLOGY LAB		57				
3.04.52	CH LAB		74				
3.13.54	CLASS R-4	MORE THAN PRESCRIBED LIMIT	68				

Reducing noise pollution can be achieved through regulation, improved building methods, better product design, noise barriers and better planning. Growing populations, urbanization and modern technologies all contribute to increased noise pollution. It may sound extreme, but it qualifies as a practical way to reduce noise pollution. Noise is produced by strong sound waves or vibrations, which can be significantly reduced by barriers. By installing a live fence, you'll be creating a barrier that absorbs the strong sound waves or vibrations, thereby reducing noise pollution around your office or institution. Vegetation reduces noise pollution through a phenomenon called sound attenuation, which is the reduction of sound intensity. Leaves, twigs, and branches on trees, shrubs absorb and deflect sound energy. Declare a "No Horn Zone" in Hospital, Educational institutes, and Residential Areas : Horns from trucks, buses, and cars produce a considerable degree of noise pollution and as such, the introduction of no horn zone can help reduce noise pollution. Governing and city authorities hold the power to introduce policies that can help reduce noise pollution. The laws should limit the amount of noise in public and private places to cut noise pollution. Do regular checking of noise levels: Keeping the noise level within the limit requires frequent verification of noise level. Therefore see to it that regular checking of noise level is done.

The human ear distorts its sensitivity to lower and higher frequency sounds. Sound meters try to mimic this process by weighting the readings. This scale is known as the **A scale** and readings taken using this scale will be denoted as **dB(A)**.



The World Health Organization (WHO)

World Health Organization suggests that the optimal sound level in a classroom should be at or below 35 dB. Noise pollution is an invisible danger. The most common health problem it causes is Noise Induced Hearing Loss (NIHL). Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress. The Central Pollution Control Board (CPCB) has proposed a new set of fines between Rs 1,000 and Rs 1 lakh for those who violate norms restricting noise pollution under the Noise Pollution (Regulation and Control) Rules, 2000.

Name of the institute: SHRI RLT COLLEGE OF SCIENCE
 Place: AKOLA
 Date: 09/08/20
 Seal:

Department of Botany
 R.L.T. College of Science
 AKOLA
 Head
 Department of Forest Education
 R.L.T. College of Science
 AKOLA



Numerous health studies have linked adverse health effects with spending significant amounts of time near high-traffic roads with elevated air pollution levels of particulate matter, gaseous pollutants, air toxins and noise emitted by nearby automobile vehicle activity. EFEC (Environment & Forest Education Center) has noted & studied the vehicular pollution on the road adjacent to the college campus. To find out real numbers EFEC recorded air and noise pollution level inside the campus. The major air & noise pollution caused is due to vehicular noise & air pollution from the road passing just outside the college campus. Every day more than 2k vehicles pass by the college boundary and all the air & noise pollution is scattered/dispersed in and around it naturally. The college campus is bombarded with irritating sounds of Honking. Relentless horn use is a major source of noise pollution. More than a nuisance, it is a health hazard to everyone in the vicinity. When the noise level in classrooms of college was recorded, the results were the same as guessed. It showed higher decibels (71 dB(A) by using noise dosimeters and it is surely a matter of concern for everyone to find the remedy to this issue. Few steps are suggested to reduce the adverse effect of air & noise pollution. Being eco-friendly in the environment, I always suggest remedies that are easy to process and need very little infrastructure. I rely on trees more than man made furniture. Remedy: Plant the noise buffer close to the noise source i.e. road adjacent to passing by heavy traffic road. Plant trees/shrubs as close together as the species will allow. I suggest using plants with dense foliage. A diverse tree species, with a range of foliage shapes and sizes within the noise buffer, may also improve noise reduction. Evergreen varieties that retain their leaves will give better year-round protection. The suggested site for planting trees does not permit growing after a certain height due to electrical lines passing by the same perimeter wall of the campus. The suggested design conditions include height, thickness, coverage, porosity/density, and species characteristics that may reduce noise pollution and at the same time promote improved air quality. Trees planted at the outskirts of the campus add the aesthetic view of the campus in the city.

Sound deflection by plants: When sound waves hit the massive tree trunks, the trunks do not vibrate because they are rigid. Sound waves are reflected off the trunk and back toward the source. When sound hits a flexible surface like leaves, leaves will vibrate, sound waves are transformed into other energy forms. It can also change the phase of a sound, which can cause interference in sound waves and noise reduction.

Acoustic louvers can help reduce amount of noise entering classrooms.

Sucking in carbon dioxide and replacing it with oxygen is not the only contributor of plants. Many tree species are savoury in a polluted city, clearing the air of harmful sulphur dioxide, carbon monoxide and particulate matter.

The walls are bombarded with noise and vibrations. These are experienced inside the college campus. By creating a vegetative barrier the air & noise pollution can be controlled to a great extent.

Proposed trees for creating a barrier for air & noise pollution must not grow till the height of electrical line. The trees are to be selected as per sight specific requirements.

The trees selected for abatement of noise & air pollution:

- Outdoor:**
01. Tecoma stans,
 02. Nycatanthes arbor-tristis
 03. Thespesia populnea
 04. Cascabela thevetia
 05. Sapindus mukarossi
 06. Cordia alliodora
 07. Cordia sebestena
 08. Bauhinia racemosa
 09. Putranjiva roxburghii
 10. Dalbergia sissoo
 11. Anthocephalus cadamba
 12. Mimosa opulenta
 13. Milletia pinnata
 14. Moringa olifera
 15. Hibiscus rosa-sinensis
 16. Gardenia jasminoides
 17. Quisqualis indica
 18. Bauhinia variegata
 19. Murraya koenigii
 20. Kigelia pinnata
 21. Thespesia populnea
 22. Nerium indicum
 23. Jacquemontia pentanthes (for wall)



Indoor / In shade

1. Ocimum sanctum
2. Ficus benjamina
3. Dyspis lutescens
4. Cordyline Terminalis
5. Euphorbia pulcherrima
6. Dracaena trifasciata

Indoor plants reduce VOCs (volatile organic compounds) and are an easy and inexpensive way to improve our indoor environments. Plants offer multiple benefits. They purify our air by reducing various pollutants and reducing carbon dioxide levels. Dracaena and many other indoor plants are the most effective houseplants in air purification. It helps remove formaldehyde, benzene, trichloroethylene and carbon dioxide.



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Annex-L

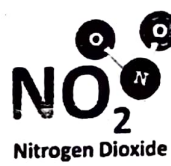
Remedy to reduce sound and vehicular pollution.



Annex-M

Primary Air Quality Testing Report

Primary Air Quality Testing



Time/In or Out	PM 2.5	PM1	PM10	TVOC	CH2O	Humidity
PR. CABIN 2.18.18	31	41	19	0.702	0.223	63%
GARDEN 2.33.00	18	22	10	0.004	0.000	60%
PHYSICS LAB 02.41.57	17	22	10	0.013	0.000	56%
BOTANY LAB 2.49.56	20	26	12	0.312	0.000	57%
ZOOLOGY LAB 2.56.16	18	22	10	0.013	0.000	54%
CHEMISTRY LAB 3.04.52	20	25	11	0.104	0.000	54%
CLASSROOM NO4 3.13.54	19	25	12	0.117	0.000	55%

Air Quality Grade	PM 2.5 Average Value (ug/m ³)
Excellent	0-35
Good	35-75
Slight Pollution	75-115
Moderate Pollution	115-150
Severe Pollution	150-250
Serious Pollution	> 500

TVOCs: Total Volatile Organic Compounds (TVOCs) are a group of compounds with high vapor pressure and low water solubility. In other words, these substances won't easily bind to themselves (volatile) or dissolve in water (organic). Inside your home or in an institution, volatile organic compounds are harmful, carcinogenic air pollutants that evaporate at normal indoor atmospheric conditions. TVOCs affect your sense of wellbeing. Some VOC's are even bad for health.

CH2O: Formaldehyde is a colorless poisonous gas synthesized by the oxidation of methanol and used as an antiseptic, disinfectant, histologic fixative, and general-purpose chemical reagent for laboratory applications. Formaldehyde is readily soluble in water and is commonly distributed as a 37% solution in water; formalin, a 10% solution of formaldehyde in water, is used as a disinfectant and to preserve biological specimens. Environmentally, formaldehyde may be found in the atmosphere, smoke from fires, automobile exhaust and cigarette smoke. Small amounts are produced during normal metabolic processes in most organisms, including humans.

Particulate Matter measurement with laser scattering method. Particulate matter is a mixture of liquid droplets and solid particles found in the atmosphere. The particle sizes are classified by size for the purpose of measurement, emission control, effects, and mitigation strategies. Historically, particles with diameters less than 10 microns (PM-10) have been the major concern, because they can easily pass into the lung. However more recently scientist have labeled particle sizes measuring 2.5 micron (PM-2.5) in diameter and smaller as the most damaging to human health because they penetrate and remain in the deepest passages of the lungs. Particulate matter contains toxic chemicals, some of which are known to cause cancer. They can irritate the respiratory system, accumulate in the lungs to cause silicosis, asbestosis, and aggravate conditions such as asthma and other respiratory disease. PM-10 also interferes with plant photosynthesis. The main sources of PM-10 include carbon used in industrial and domestic combustion gasoline, diesel, industrial processes, and fires, and includes dust, soot, metallic particles, cement, pollen, and organic compounds. The Indian NAAQS for PM-2.5 is 40 ug/m³

Humidity: Most people find that a relative humidity between 30 to 60 percent is the most comfortable, with indoor humidity ideally between 30 to 50 percent. Low levels of humidity lead to very dry air which increases the prospect of catching airborne viruses like the flu, possibly due to both their ability to survive longer in dry cool conditions and irritated nasal passages making it easier to catch them. Eczema can be exacerbated and dry skin can also be uncomfortable. Higher humidity in the home creates an environment for two of the most common and undesirable triggers for asthma and allergy – dust mites and mold.

Name of the institute: SHRI RLT COLLEGE OF SCIENCE, AKOLA
 Place: SHRI AKOLA
 Date: 09.08.20
 Seal: (79)





Conclusion:

Internal Green & Environment Audit was conducted by an Internal Green & Environment Audit Committee i.e. IGEAC. The committee consisted of teaching, non-teaching staff, and external subject specialist members. It started in the month of August 2019 with the organising Pre Audit Training Workshop. The workshop gave clear directives and directions to all members. Subject specialists offered a complete set of directives about data collection and the importance of the Questionnaire. The questionnaire was provided to the committee and data collection started in September 2019. The necessary information and crucial data collection were completed and a draft report was complete in April 2020. The review meeting was organized in May 2020. The special meeting was called upon in June 2020 to approve, accept, and release Internal Green & Environment Audit Report for the year 2019-2020.

A conclusion can be made from the Internal Green & Environment Audit Report for the year 2019-2020 that the environment in the R.L.T. College of Science is healthy. The committee has made short-term and long-term recommendations to take environmental protection and its management practices to higher levels.

Internal Green & Environment Audit Report for the year 2019-2020 will become an effective tool for all the future Internal Green & Environment Audit Reports. The procedures, processes, and practices followed in the report-making will surely evolve every year. The Internal Green & Environment Audit committee will strive hard to make audit reports more informative and useful. Internal Green & Environment Audit Committee thanks each & everyone involved directly and indirectly in making this Internal Green & Environment Audit Report.

B. G. E. Society's



Shri R.L.T. College of Science

New Radhakisan Plots, Akola Maharashtra 444001, India

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT

**Green and Environment Audit
2020-21**



Internal Green Audit Program 2020-2021

This is to certify that the internal green audit report of

Shri R.L.T. College of Science, Akola, Dist. Akola, is based on the data collected during the physical visits to the college. Further, it is certified that the core information related to green initiatives and activities was collected and scrutinized by Internal Green Audit Committee. The college has successfully established eco-friendly practices and management systems at all levels. The evidence is substantial. We appreciate the efforts taken by teaching, non-teaching staff, and students towards keeping the campus green.

Term of validity: April 1st, 2020 - March 31st, 2021

A handwritten signature in black ink, appearing to read "Srushti Vaibhav".

Internal Green Audit Committee Member
Srushti Vaibhav, Nature Conservation Society
Devdatta Apartment, Gaddam Plots, Akola

A handwritten signature in black ink, appearing to read "Jay Vase".

Internal Green Audit Committee Member
Environmental Management Consultant
Environment & Forest Education Center, Ramdas Peth, Akola



Internal Environment Audit Program 2020-2021

This is to certify that the internal environment audit report of

Shri R.L.T. College of Science, Akola, Dist. Akola,, is based on the data collected during the physical visits to the college. Further, it is certified that the core information related to environment protection and conservation initiatives was collected and scrutinized by Internal Environment Audit Committee. The college has successfully established practices and management systems to protect the environment at every possible level. The evidence is substantial. We appreciate the efforts taken by teaching, non-teaching staff, and students.

Term of validity: April 1st, 2020 - March 31st, 2021



Selkore
Internal Green Audit Committee Member
Srushti Vaibhav, Nature Conservation Society
Devdatta Apartment, Gaddam Plots, Akola

Om Vaze

Internal Green Audit Committee Member
Environmental Management Consultant
Environment & Forest Education Center, Ramdas Peth, Akola





B. G. E. Society's



Shri R.L.T. College of Science

New Radhakisan Plots, Akola

Maharashtra 444001, India

2020 - 2021

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT



Prepared by:

Internal Green & Environment Audit Committee

Shri R.L.T. College of Science

Akola, Maharashtra



Acknowledgement

Internal Green and Environment Audit Committee would like to thank the management of the B.G.E. Society, teaching & non-teaching staff, students, parents, and adjoining community for extending their co-operation and valuable inputs in gathering data. This is a significant step taken by the college and their efforts towards their contribution in conservation of resources, worth mentioning here.

Internal Green and Environment Audit Committee also wish to thank EFEC for helping Internal Green and Environment Audit Committee in organizing 'Workshop on understanding Environment Management System' and appreciate their cooperation in extending their knowledge throughout the process of Internal Green and Environment Audit program.

Internal Green & Environment Audit Committee expresses gratitude towards the selfless contribution made by various NGOs and individuals in contributing their knowledge and expertise in compiling technical data required in the preparation of the audit.

Our special thanks are due to the Principal Dr. V. D. Nanoty of Shri R.L.T. College of Science, Akola for giving us valuable guidance.

About Shri R.L.T. College of Science

Shri R.L.T. College of Science, Akola affiliated to Sant Gadge Baba Amravati University, Amravati was established under The Berar General Education Society, Akola on 1st April 1970 and celebrating its Golden Jubilee year. The college is re-accredited by NAAC with an 'A' Grade, CGPA-3.12 (Third Cycle). The college offers B.Sc. , M. Sc., Ph. D. and career-oriented programs like CCLT, DCLT, and ADCLT. It also comprises 11th and 12th standard education. At present, there are 14 departments in college i.e. Biochemistry, Bioinformatic, Botany, Chemistry, Computer Science, Electronics, Information Technology, Mathematics, Microbiology, Physics, Zoology, Languages, Physical Education and Library. The college is one of the premier institutions delivering excellent education through dedicated collaborated efforts towards achieving recognition and honor at the national and international levels.

Google map satellite photo of Shri R. L. T. College of Science, Akola

Latitude : 20°42'21.47"N - Longitude : 77° 0'21.85"E



B. G. E. Society's
Shri R.L.T. College of Science

New Radhakisan Plots, Akola, Maharashtra 444001

IGEAC : Internal Green and Environment Audit Committee

Sr.No.	Name	Designation	Sign
01	Dr. V. D. Nanoty	Principal	
02	Mrs. V. N. Badgajar	Chairman, IGEAC	
03	Dr. R. J. Rahatgaonkar	IQAC, Co-ordinator	
04	Dr. P. M. Khadse	Member, IGEAC	
05	Dr. S. M. Nagrale	HOD, Member, IGEAC	
06	Dr. P. T. Agrawal	HOD, Member, IGEAC	
07	Dr. A. A. Sangole	Member, IGEAC	
08	Prof. S. V. Madavi	Member, IGEAC	
09	Dr. R. P. Joshi	Member, IGEAC	
10	Dr. A. A. Amle (Sawarkar)	Member, IGEAC	
11	Dr. S. R. Kohchale	Member, IGEAC	
12	Dr. K. M. Heda	Member, IGEAC	
13	Prof. S. N. Gawande	Member, IGEAC	
14	Mr. Devendra Telkar	External Member, IGEAC	
15	Mr. Uday Vaze	External Member, IGEAC Director : EFEC	
16	Mr. Deepak Wankhade	Member IGEAC (Non Teaching Staff Rep.)	
17	Mr. S. B. Shelke	Member, IGEAC, Gardner	

The Internal Green & Environment Audit Committee authenticate observations and recommendations in this report.

Internal Green & Environment Audit Key Steps

- Pre Audit Training Workshop : April 2020
- Questionnaire Data Collection started : September 2020
- Draft report completed : April 2021
- Review Meeting : May 2021
- Final report completed : June 2021



Synthesis Document

Internal Green & Environment Audit is assigned to the Criteria 7 of NAAC, National Assessment, and Accreditation Council. The Internal Green & Environment Audit Committee was formed. The committee planned for conducting an Internal Green and Environmental Audit of the college in July 2019. The intention to carry an Internal Green & Environment Audit was to make sure that the practices, processes, and activities followed in the campus are eco-friendly. The questionnaire was obtained by an external member of the Internal Green & Environment Audit Committee. It was observed and evidence was brought together 'what degree to which the Departments comply with the applicable regulations, policies, and standards to ensure that the development of the college aims at sustainable development and keeping the college campus green. The methodology used included was right from collecting data through questionnaire, insight inspection, evaluation, computation, conducting physical survey and review of the relevant documentation.

Statement of Assertion

The Internal Green & Environment Audit Committee has adopted the audit procedure that meets the terms of International Standards of Internal Auditing Practices. The committee is causing to feel certain that adequate and relevant audit procedures were followed, concrete evidence was gathered and conclusions were drawn from facts. The Internal Green and Environment Audit committee believes that recommendations are for improving the effectiveness of environmental management efforts made by Shri R.L.T. College of Science. Changes or additions in management practices should be systemic, must be done through series of small steps and every concerned individual must be well informed about changes and additions made in management practices. Recommendations are based on evidence compiled in this report as they existed at the time of the audit.

Compendium

It was truly evident from the data collected at Shri R. L. T. College of Science that teaching & non-teaching staff, students, vendors, and service providers of the college are aware of the importance of efforts to save and protect the environment in the campus in every day's work. The college staff follows the best course of action such as reducing all types of waste, time to time garden maintenance, follow composting practices, ways and means to reduce energy consumption, conduct review meetings, organize environmental educational activities for staff as well as for students. Although, it was also observed that, many of the practices followed in the college are still incipient and needs further action to improvise course of actions.





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Introduction

The expeditious urbanization and economic development at the local, national and international levels have led to several environmental and ecological emergencies. To prevent damages due to site-specific activities, practices, processes, and procedures followed by various institutions, businesses, organizations, or factories, it becomes essential to adopt methods, processes, and procedures for making green campuses for the institutions, businesses, organizations, or factories which will lead for sustainable development. Every organization has systems to manage finance, health, and safety, it is equally important that every organization must have an Environmental Management Performance Checking System for managing environmental issues.

Shri R.L.T. College of Science is very much aware of its responsibility towards keeping campus green and strives hard to make it pollution-free. The college strives hard to maintain an eco-friendly ambiance and achieve continual improvement in environmental performance. The main intention of conducting the Internal Green and Environmental auditing is understood and continuous efforts are made in achieving objectives mentioned in the Environment Policy of the college. The college invites consultants and subject specialists in environment conservation to modify its working on every six months interval. The methodology to conduct Internal Green Audit & Environmental Audit was designed with the help of consultants and NGOs with the teaching staff of the college. It includes a draft of the questionnaire, in-situ site inspection of the campus, scrutinize documentation, monitors procedures, practices, and processes carefully. The formation of an internal audit committee with the involvement of an external subject specialist has made significant recordings. The internal audit committee has made short time and long term recommendations. The committee proposed remedial procedures to reduce the carbon footprint of the college. It works for the betterment of eco-friendly campuses including air, water, noise, soil quality, waste management, care for flora & fauna on campus, the importance of paperless working, plans for adopting alternative energy creation by adopting solar-powered energy sources.

Internal Green Audit

An Internal Green Audit is a process of systematic identification, evaluation, documentation, reporting, and analysis of components of environmental diversity of various institutions, businesses, organizations, or factories. It aims to analyze environmental practices and processes within and outside of the targeted institution, business, organization, or factory, which will have an impact on the ecologically friendly environmentally safe ambiance.

Internal Environment Audit


An Internal Environmental Audit is an assessment performed to ensure that institutions, businesses, organizations, or factories are complying with environmental policies. It examines the amount of harm or risk of injury that may be posed by the assessed entity and determines the types of pollution being produced by looking at a broad range of site-specific activities, practices, processes, and procedures. The information compiled from these factors determines what remedial procedures are required to be added for the better good.

Scope

Internal Green Audit & Environmental Audit play a significant role in the continuous operation of institutions, businesses, organizations, or factories. It keeps institutions, accountable by scrutinizing their site-specific activities and determining what remedial measures are required to be added or put in place to ensure institutions, businesses, organizations, or factories are following the proper statute.

Objective

The key objectives of an Internal Green and Environmental Audit, therefore, are to: determine how well the environmental management systems and equipment are performing, verify compliance with the relevant national, local, or other laws and regulations, minimize human exposure to risks from environmental, health and safety problems.



Methodology

In the first meeting of Internal Green & Environment Audit Committee, it was unanimously decided that an external party will look into the overall infrastructure, procedures, practices, and operation of the collage and will draft a detailed Questionnaire. Questionnaires provide a relatively rapid and efficient way of obtaining large amounts of information from a large number of people. Questionnaire are easy to respond to. Specifically, answers obtained through closed-ended questions with multiple choice answer options are easy to obtain and less time-consuming. Answers obtained to the open-ended questionnaire are analyzed using qualitative methods and they involve discussions and critical analyses without any difficulty. It is useful because the information can lead to concrete conclusions. The methodology also included a physical inspection of the campus, observation, and review of the documentation, interviewing key persons and data analysis, measurements, and suggesting recommendations.

The efforts were taken to understand the following focus areas and emphasis was given to know facts on the ground :

What measures are taken by the college to maintain greenery and the efforts taken for keeping environment protection policy as priority as declared by the college in its Environment Policy?

What efforts have been put in by the college to offer clean water to students and staff of the college?

What efforts are made by college to maintain and control Rain Water Harvesting, Waste Water Management effectively?

What efforts are made by the college to conserve energy such as electrical use?

How does the college monitor and control all types of waste?

How extra efforts are taken to control vehicular pollution caused by automobiles passing by adjacent roads along the college campus?

To monitor and evaluate how collage benefits to the community in and around the college campus.

To scrutinize the data provided by the college in regard to efforts and initiatives taken by the NSS and Environment Cell.

To make physical verification of positive impact made by initiative by the college such efficacy of Bio-gas plant, solar plant, and floral species on the campus.

To study and evaluate various green initiatives and activities are organized by the college.

To interview stakeholders of the college about plans for environment protection practices, processes, and procedures.

To review recommendations made earlier year and act upon it.



Environment Policy

Shri R.L.T. College of Science not only target to impart quality education but also understand responsibility towards the protection of the environment for the future generation. The college wishes to create environmentally safe practices to ensure that the college campus is kept green by reducing its carbon foot-print. The college will monitor its operation and make it economically successful & sustainable along with being socially responsible.

Environment Policy will compel every one of the college to follow practices, processes, and operations supported by identified groups and individuals. Environment Policy has the potential to develop exciting new co-curricular and extracurricular practices that encourage students to take part voluntarily that benefits them in any way.

Environment Policy also targets to enroll external parties such as vendors and suppliers in achieving the environment conservation objective in their relevant fields too.

Aims and Objectives of Environment Policy

Managing environment

- To promote stringent environmental management systems, processes, and operations.
- To reduce sources of pollution at every extent of its operation and to adopt the PDCA model to it.
- To find ways to improve its environmental performance.
- To ensure that students get updated knowledge about environment conservation practices.
- To involve the community in and around the collage to achieve its clean environment objective.

Efficient use of energy

- To achieve success in efficient use of energy to reduce its carbon footprint.
- To combat pollution caused by vehicular pollution by maintaining greenery on campus.
- To install energy efficient gadgets by introducing solar technology in the creation of clean energy.

Sensible use of water

- To make everyone aware of importance of the water.
- To find out new ways for reducing water footprint.
- To appeal and enroll all vendors and suppliers to supply eco-friendly products and services to promote sustainable resource management practices.

Efforts to waste reduction

- To identify sources of waste generation and reduce them.
- To segregate the waste and ensure its safe disposal with the help of Akola Municipal Corporation and with authorized E-waste disposal agencies in & around the Akola district.

Ethical practice

- To promote activities that protect bio-diversity on the campus.
- To plan and act on continuous improvement in line with environmental protection.
- To enhance the profile of the college by elevating the best academic and environmental practices.

Extension education activities

- To make special efforts about organizing workshops and activities in line with environmental education.
- To make aware the staff and students of the college about environmental impact & it's performance.



Location of the college

Shri R.L.T. College of Science at Akola in Maharashtra, India is a prominent science college of the Vidarbha region as well as in India. It is in center of the Akola city. It is well connected by road and railway network, enabling students from adjoining district to reach the college with ease.

Latitude : 20°42'21.47"N

Longitude : 77° 0'21.85"E

Internal Green and Environment Audit Training

Shri R. L. T. College of Akola has a well-defined decentralized and participatory organizational structure to coordinate and promote academic and administrative functions. The organizational structure has different units of statutory bodies. The principal of the college always strives hard to promote environmental conservation in every possible way. The college has organized Pre Internal Green & Environment Audit Orientation Program and taken special efforts in enrolling teaching, non-teaching staff, students, and community representatives to attend the meeting. Environmentalists & subject specialists presented various topics such as protecting the environment by preventing wrong practices, enhancing environmental performance, introducing new ways to reduce pollution.

Audit Questionnaire & Audit Forms

Internal Green and Environment Audit Committee were given a host of audit forms and questionnaires. The committee was well supported by the teaching and non-teaching staff of the college to collect the data. The evidence were collected by referring Questionnaire and by making field visits to the college.

Sound Pressure Level Testing

Several sound pressure level tests were carried out to measure noise pollution created by vehicles passing by the college campus. The college is situated in the heart of the city. The road adjacent to the college campus is one of the busiest roads in the city. The results of the tests (Annex -L) came out to be slightly above the prescribed limit. To combat the noise pollution caused by vehicular noise the Internal Green and Environment Committee has recommended remedial measures (Annex-M).

Primary Air Quality

Several primary air quality tests were carried out. The results of the tests (Annex No. IV) came out to be within the prescribed limit. To stop air pollution caused by vehicular emissions entering the campus. The committee has recommended remedial measures to improve the air quality of the campus caused due to vehicular pollution made by vehicles passing by city road adjacent to the college. The recommendation is to create a barrier made by thick plantations. The Internal Green & Environment Committee has suggested specific species which are to be planted by the college. (Annex No. V).



Installation of Biogas Plant

Due to COVID 19 Pandemic the kitchen was not in any operation, no organic waste (vegetable & food waste) is generated in the kitchen of the college girl's hostel. Shri R.L.T. College of Science has installed a biogas plant that generates half of the gas required for cooking in the kitchen. The installation of solar panels, a biogas plant, and a rainwater harvesting system are noteworthy initiatives the college has endeavored recently. (Annex-I)

Biodiversity on campus: Flora

The college has been planting and conserving trees, climbers, creepers, herbs, and shrubs since its inception in 1970. A wide variety of floral species can be seen thriving on the campus. The college has taken a painstaking effort in maintaining green cover. A botanical garden nurture host of the wide variety of medicinal species for educational purpose. (Annex-B)

Fauna

The green cover in the campus helps in creating favorable conditions for many living organisms such as butterflies, insects, ladybird beetles, spiders, birds, and squirrels. (Annex-C).

Green initiatives

Shri R. L. T. College of Science is a premier institute in Vidarbha and is aware of importance of educating students about environment and special efforts are taken by Environment Cell and NSS unit in initiating activities that reduces its adverse impacts on environment. Initiative such as Tree Plantations, No Vehicle Day, Save Energy, Burn Ban, Reducing Paper Usage, Bio-gas Plant, Rain Water Harvesting, Plastic Waste Free Campus, Regular Maintenance Of Electrical Gadget, Installing Energy Efficient Electrical Fixtures, Awareness Training Workshops, Waste Disposal, Solid Waste Management, Organic Waste Management, are organized by the college. (Annex-D) Internal Green & Environment Committee has recommended few remedial measures (Annex-E)

Recommendations

Short term and long term recommendations are given by Internal Green & Environment Audit Committee. The recommendations made by the committee will improve the environment and will make positive impact on environment performance of the college. (Annex-E)

Shri R. L. T. College of Science has received many awards and recognition over the last few years. (Annex-F)

Post Green & Environment Audit Commitments

Review meeting was organized to discuss about recommendations made by committee after the Internal Green & Environment Audit process was completed. The Internal Green & Environment Audit Committee has given special attention to train every member of the college about PDCA model. PDCA i.e. Plan Do, Check and Act model surely helps in bringing continuous improvement in every working of the college.

Internal Green & Environment Audit Document Storage

All the documents related to Internal Green and Environment Audit are stored at IQAC chamber in the cupboard. And it can be viewed by any member of the committee or by any stakeholder with a prior appointment with IQAC co-ordinator.

Schematic diagram of college campus.



Bio-diversity in campus : Flora

List of Plants at various places in the campus

English Name	Botanical Name	Type	Place	Total Plants
False Ashoka अशोक	<i>Polyalthia longifolia</i>	Tree	Admin bldg, Adm, Ch Lab, Ph Lab	11
Yellow trumpet flower	<i>Ticoma stans</i>	Tree	Admin Bldg, Aud Ph Lab,	6
Cactus केतकी	<i>Opuntia ficus-indica</i>	Cactus	Admin Building	1
Korean Arbor धुजा	<i>Thuja koraiensis</i>	Tree	Admin Bldg, BG	6
Cycad सायकस	<i>Cycas revoluta</i>	Cycad	Admin Bldg, BG	2
Bougainvillea बोगनवेल	<i>Bougainvillea spectabilis</i>	Shrub	Auditorium, BG	4
Neem Tree कडुलिंब	<i>Azadirachta indica</i>	Tree	Lib, Ladies Hostel	4
Croton क्रोटॉन	<i>Codiaeum variegatum</i>	Herb	Lib, Ch Lab, Ph Lab, BG	40
Jasmin मोगरा	<i>Jasminum officinale</i>	Herb	Lib	1
Jasmin sp जुई	<i>Jasminum auriculatum</i>	Vine	Lib	1
Indian Fig औदुंबर	<i>Ficus glomerata</i>	Tree	Ladies Hostel	1
Sodom Apple रुई	<i>Calotropis procera</i>	Shrub	Ladies Hostel	2
Golden Champasोन चाफा	<i>Michelia champaca</i>	Tree	Ch Lab	3
Mango आंबा	<i>Mangifera indica</i>	Tree	Ch Lab, BG	2
Cassia मोठी तरवड	<i>Cassia glauca</i>	Tree	Ch Lab	7
Oyster Plant ----	<i>Tradescantia spathacea</i>	Shrub	Ch Lab	5
Asparagus शतावरी	<i>Asparagus racemosus</i>	Shrub	Ch Lab, BG	9
Peacock Flower शंकासूर	<i>Caesalpinia pulcherrima</i>	Tree	Ph Lab,	1
Indian Almond गोड बदाम	<i>Terminalia catappa</i>	Tree	Ph Lab,	1
Sugar Apple सिताफळ	<i>Annona quamosa</i>	Tree	Ph Lab,	1
Passion Flower कृष्णकमळ	<i>Passiflora incarnata</i>	Vine	Ph Lab,	1
Euphorbia Pink ---	<i>Euphorbia milli</i>	Shrub	Ph Lab	1
Hibiscus जास्वंद	<i>Hibiscus rosa-sinensis</i>	Tree	Botanical Garden BG	4
Cassia निरगुडी	<i>Vitex negundo</i>	Shrub	BG	6
Crape Jasmine तगर	<i>Tabernaemontana divaricata</i>	Shrub	BG	2
Indian Gooseberry आवळा	<i>Emblica officinalis</i>	Tree	BG	1
Bamboo बांबू	<i>Bambusa bambos</i>	Tree	BG	5
Night-fl Jasmine पारिजात	<i>Nyctanthes arbor-tristis</i>	Tree	BG	1
Jungle Jerenium ---	<i>Ixora coccinea</i>	Tree	BG	2
Aloe Vera अॅलोवेरा	<i>Aloe barbadensis miller</i>	Shrub	BG	4
Scarlet Bush ---	<i>Hamelia patens</i>	Shrub	BG	1
Basil तुळस	<i>Ocimum sanctum</i>	Tree	BG	6
Periwinkle सदाफुली	<i>Vinca rosea</i>	Shrub	BG	6
Whistling Pine सरु	<i>Casuarina equisetifolia</i>	Tree	BG	1
Narium कण्हेर	<i>Narium oliender</i>	Tree	BG	1
D. Mahatma महात्मा	<i>Cordyline Terminalis</i>	Shrub	BG	2
Golden Pothos ---	<i>Epipremnum aureum</i>	Vine	BG	5

Bio-diversity in campus : Flora

cont from page no.

English Name	Botanical Name	Type	Place	Total Plants
Lemon Grass	<i>Cymbopogon flexuosus</i>	Herb	BG	5
Travellers Palm	<i>Ravenala madagascariensis</i>	Palm	BG	1
Fever Tree	<i>Pinckneya pubens</i>	Shrub	BG	1
Schott Indica	<i>Alocasia indica</i>	Shrub	BG	25
Indian Pennywort	<i>Bacopa monnieri</i>	Shrub	BG	5
Green Chiretta	<i>Andrographis paniculata</i>	Shrub	BG	5
Devils Backbone	<i>Cissus quadrangularis</i> Orn	Shrub	BG	5
Red Flame Ivy	<i>Hemigraphis colorata</i>	Shrub	BG	5
Indian Laburnum	<i>Cassia fistula</i>	Tree	BG	5
Touch me not	<i>Mimosa pudica</i>	Herb	BG	5
Star Grass Lily	<i>Iphigenia stellata</i>	Herb	BG	5
Bhringraja	<i>Eclipta alba</i>	Shrub	BG	5
Indian Borage	<i>Coleus amboinicus</i>	Herb	BG	5
Mint Plant	<i>Mentha spicata</i>	Herb	BG	5
Coleus	<i>Coleus forskohlii</i>	Herb	BG	5
Basil	<i>Ocimum canum</i>	Herb	BG	5
Basil	<i>Ocimum Spp.</i>	Herb	BG	5
Basil	<i>Ocimum gratissimum</i>	Herb	BG	5
Basil	<i>Ocimum basilicum</i>	Herb	BG	5
Basil	<i>Ocimum kilimandscharicum</i>	Herb	BG	5
Arjun Tree	<i>Terminalia arjuna</i>	Tree	BG	1
Sage-leaved Alangium	<i>Alangium salviifolium</i>	Tree	BG	1
Gum Guggul	<i>Commiphora wightii</i>	Tree	BG	2
Soapnut Tree	<i>Sapindus trifoliatus</i>	Tree	BG	1
Ehretia	<i>Ehretia Laevis</i>	Shrub	BG	2

Total number of plants and trees are 267. Total number of species are 67 consists herbs, shrubs, climbers, small sized, mid sized and big size trees.



Bio-diversity in campus : Fauna

List of birds seen at various places in the campus

English Name	Scientific Name	Marathi Name
House Sparrow	<i>Passer domesticus</i>	भारतीय चिण्णी
Coppersmith Barbet	<i>Megalaima haemacephala</i>	तांबट
Indian Roller	<i>Coracias benghalensis</i>	शाव
Little Green Bee Eater	<i>Merops orientalis</i>	वेढा रापू
Asian Koel	<i>Eudynamis scolopaceus</i>	भारतीय कोकीक
Lesser Coucal	<i>Centropus bengalensis</i>	भारद्वाज
Alexandrine Parakeet	<i>Psittacula eupatria</i>	कान पोपट
Rose Ringed Parakeet	<i>Psittacula krameri</i>	नाग माऊवा पोपट
Yellow Legged Green Pigeon	<i>Treron phoenicoptera</i>	हुरीवाल
Barn Owl	<i>Tyto alba</i>	पिजरा पुबळ
Blue Rock Pigeon	<i>Columba livia</i>	सखी ककुतर
White Breasted Waterhen	<i>Amaurornis phoenicurus</i>	ताजरी पानकोंबडी
House Crow	<i>Corvus splendens</i>	कसवळा

List of butterflies seen at various places in the campus

Common Tiger Butterfly	<i>Danaus chrysippus</i>	डाण्या कडवा
Striped Tiger	<i>Danaus genutia</i>	पट्टेरी डाण्या कडवा
Common Rose	<i>Pachliopta aristolochiae</i>	गुलाबी फुलपाखर
Common Grass Yellow	<i>Eurema hecabe</i>	पिवळी गवत भिरभिरी
Common Mormon	<i>Papilio polytes</i>	मोरमोन

List of other insects seen at various places in the campus

Common Mosquito	<i>Anopheles SPP.</i>	डास
Praying Mantis	<i>Mantis religiosa</i>	प्रार्थना कीटक

List of other spiders seen at various places in the campus

Cyclosa Spp.	Trashline Spider
Gnaphosidae gnaphosidae	Ground Spider
Hersiliidae hersilis	Long-spinnered Bark SpiderL
Oxyopidae oxyopes	Striped Lynx Spider
Salticidae rhene	Jumping Spider
Pholcidae pholcus	Celler Spider

List of other mammals seen at various places in the campus

<i>Rattus rattus</i>	House Rats
<i>Bandicota bengalensis</i>	Indian Mole Rat
<i>Funambulus palmarum</i>	3 Striped Palm Squirrel
<i>Felis catus</i>	The Spotted Cat
<i>Bandicota indica</i>	Greater Bandicoot Rat





List of green initiatives by Shri R.L.T. College

Plantation drive was organized by Shri R.L.T. College of Science at adopted village Apatapa. The PHC Centre was sanitized by the NSS Unit of the college on the same day.

College organized One day National E-Workshop for students, teachers, parents and farmers on Organic Farming for Sustainable Agriculture. The workshop was sponsored by Indian Science Congress Association, Amravati Chapter. Weblink : <http://rltsc.edu.in/2021/03/30/national-level-e-workshop-on-organic-farming-for-sustainable-agriculture/>

State Level E- Workshop On Eco-FRIENDLY HOLI with GRAMAYAN PRATISHTHAN (NGO)

World Sparrow Day was Celebrated virtually by collecting the different views and ideas of conservation through the young minds on the theme, "Sparrow Conservation: Today's Need".

Regular Garden and Campus cleaning is carried out by the gardener and Swacchata Doot of the College.

Weed removal is carried out in the interval of every 3 months from the garden and campus.

'Avoid use of single use plastic bags' Stickers are fixed in college premises by NSS Unit.

Collecting Water sample from the drinking water purifier to check the purity of water.

District Level Webinar on Conservation of Water was organized. The theme of the webinar was – 'Catch the Rain, Where it fall, When it fall' jointly with Nehru Yuva Kendra (Ministry of Youth Affairs and Sports). Online Quiz Competition also was carried out for the participants. Winners got Cash prize, certificate and memento. 406 students participated actively in the quiz competition.

Celebration of Wildlife Week. ZEBRA Cell, Department of Zoology celebrated World Wildlife Week-2020 by organizing various activities such as -Article Writing Competition on the topic "Wonderful World of Butterflies", Virtual Essay Competition on the topic: "Impact of Covid-19 Pandemic on Wild-life and Environment". Documentary on Tiger, Tiger Poaching Tiger Census, Conservation of Tigers in India was screened for the students. Mobile Photography Competition on theme 'Wildlife and Nature' was organized. Quiz Competition on theme 'Wildlife Conservation' was held and many students actively participated in it.

WASTE MANAGEMENT:

a) Reuse of waste and old furniture for making notice boards and boards stands. The broken furniture was reused in new form by making little modification. This way the college has successfully utilized wastage iway of refurbishing, recycling and reusing waste. The furniture which was a waste were converted into notice boards now are used in various departments of the college campus.

Save Paper Save Tree: Environment Cell organized an event to enroll students to minimize their use of paper to save trees from cutting. Save energy, save electricity: The Environment Cell with NGO 'Srushti Vaibhav' fixed stickers that remind everyone to conserve electricity. No open Fire on campus: Any open fire is not permissible as per the Municipal Corporation. To protect the college campus from pollution caused by garbage burning, the Environment Cell, and NGO 'Srushti Vaibhav' fixed posters to sensitize college staff and the community around.



List of green initiatives by Shri R.L.T. College

The college has followed practice to issue a letter to all vendors and service providers to offer the best environmentally friendly products and services to the college in line with its Environmental Policy:

Environment Cell initiated ' No vehicle Day' and it is observed every last Sunday of the month. It spreads the message of protecting environment by reducing individual level carbon footprint, among the kith and kins of the college staff and students.

3 Day National Workshop: Disaster Management Preparedness was organized by the college.

NSS And NCC participants are actively involved in many conservation activities such as tree plantation activities in the adopted village Apoti Kurd (20°48'19.03" N 77°06'32.89" E)

The cleaning drive was organized by the Environment Cell of the college and involved teaching, non-teaching staff and students to participate in it.

To manage waste generated by classrooms, the dustbins are kept outside the classroom and it made the safe waste disposal task easy.

New energy-efficient lights were installed where ever possible to reduce energy consumption.

Old electrical cables were replaced with new ones.





Recommendations: Previous and present.

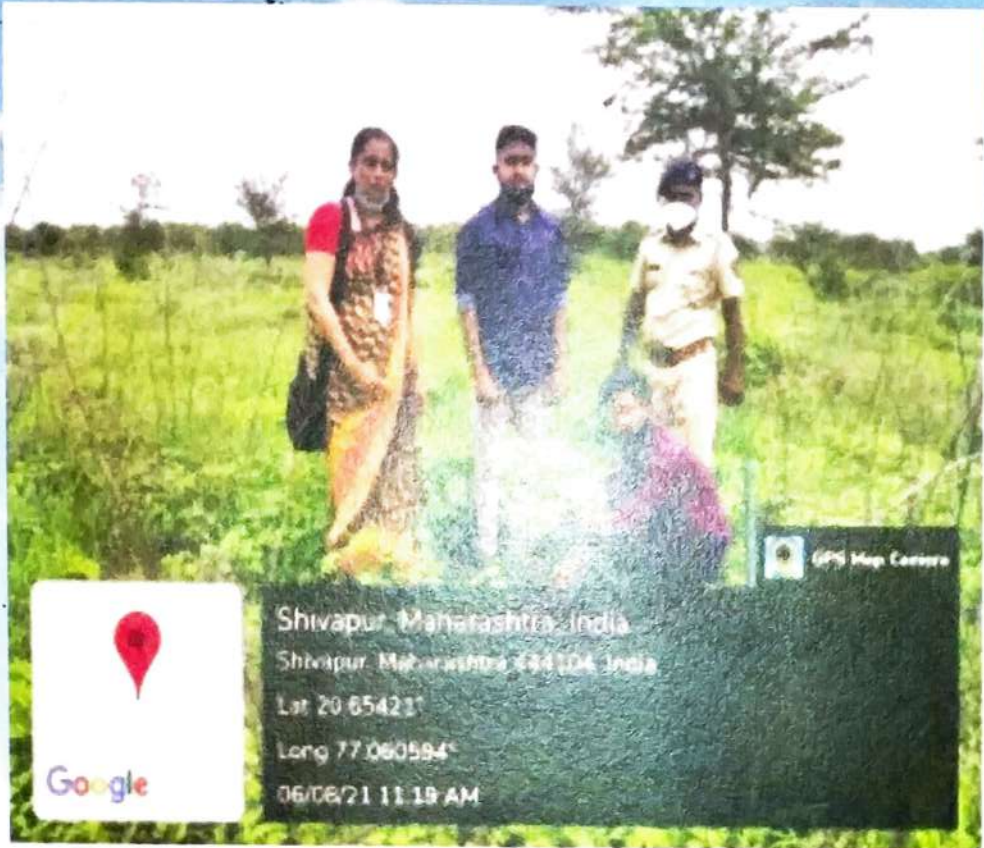
Internal Green & Environment Audit Committee surveyed and scrutinized the overall environmental performance and came out with the following recommendations:

- i) Recommendation is made to strengthen present internal and external sewage system ASAP.
- ii) The Internal Green and Environment Audit Committee recommends to installing an automatic water pump controller circuit to all the water pumps installed in the college campus to ensure that no water is wasted due to negligence. This recommendation was also made in last years audit report. It is observed that the college has installed such automatic pump which completely stooped wastage of water once the water tank is full in its capacity.
- iii) To monitor and take measures in reducing daily consumption of electricity the committee recommends to designating a person who will control the proper use of all electrical gadgets on the campus. The college will give special privileges to report the misuse of electricity if any, in any department or campus area. The committee has been formed and it is taking care to minimize the use of electricity in the campus.
- iv) The Internal Green and Environment Audit Committee expects the college to maintain a record of several number of papers used by all departments in order to review its use and make efforts to reduce its consumption on year on year basis. This recommendation was also made in last years audit report. It is observed that the office staff has made procedure to sanction paper from printing is given. This will give exact ideo of how paper is consumed.
- v) The Internal Green and Environment Audit Committee recommends to initiating measures that may reduce pollutants on the campus. The Primary Air Quality Testing showed a slight increase in the TVOC range which itself suggests adding barriers in between the adjacent road and the campus. The committee recommends to consulting a subject specialist to bring down pollutant numbers to some extent. **This recommendation was also made in last years audit report. It is observed that the efforts made by the college are not satisfactory. More efforts are needed to plant more trees at suggested places.**
- vi) The Internal Green and Environment Audit Committee recommends college focus on bringing down sound pollution and vehicular pollution by putting a sound barrier in between the adjacent road and the college classroom. The sound pressure levels detected inside classrooms in the college are slightly above prescribed limits. The committee recommends consulting subject specialists and reduces the noise coming from vehicles passing by the adjacent road. **This recommendation was also made in last years audit report. It is observed that the efforts made by the college are not satisfactory. More efforts are needed to plant more trees at suggested places.**
- vii) The Internal Green and Environment Audit Committee appreciates the way Botanical Garden and trees are maintained, but the committee recommends adding more trees, shrubs in pots at every possible place on the campus. The binomial names are to be displayed on every floral species to promote education for the students and the visitors of the college.
- viii) College must monitor and recycle old used, broken damaged glass, cans, white, colored, and brown paper, plastic bottles, batteries, print cartridges, cardboard, and furniture on a time to time basis.





Various environment protection initiative taken by the college.




Plantation Drive by College NSS and NCC Units at Shivapur 2020-21



Plantation Drive by College NSS and NCC Units at Shivapur 2020-21



Various environment protection initiative taken by the college.



प्रकृति के रंग

प्रकृति के रंग

The Bharat General Education Society's
Shri R L T College of Science, Akola
Old Lane, Akola, Maharashtra - 431001
(Recognized by NAAC with 'A' Grade CGPA-2.1)

**STATE LEVEL E-WORKSHOP ON
ECO-FRIENDLY HOLI**

Organised by

Department of Botany
Environment Cell & IQAC
in Collaboration with Gramayan Pratishthan
(NGO), Nagpur

27th March 2021 at 4.00pm

Registration link <https://forms.gle/5WCC06wF2C3H2D93>

Our Patrons

Adv. M. G. Mohite
President
The Bharat General Education Society, Akola

<p>Shri V. S. Toshmal Sr. Vice President The B. G. E. Society, Akola</p> <p>Shri P. N. Maheshwari Hon. Secretary The B. G. E. Society, Akola</p>	<p>Dr. R. C. Jain Jr. Vice President The B. G. E. Society, Akola</p> <p>Dr. A. G. Paranjape Joint Secretary The B. G. E. Society, Akola</p>
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All Executive Committee Members of the B. G. E. Society, Akola

Organizing Committee

Chief Organizer
Dr. Vijay D. Nanoty
Principal
Shri R. L. T. College of Science, Akola

IQAC Coordinator
Dr. L. R. Rangaekar

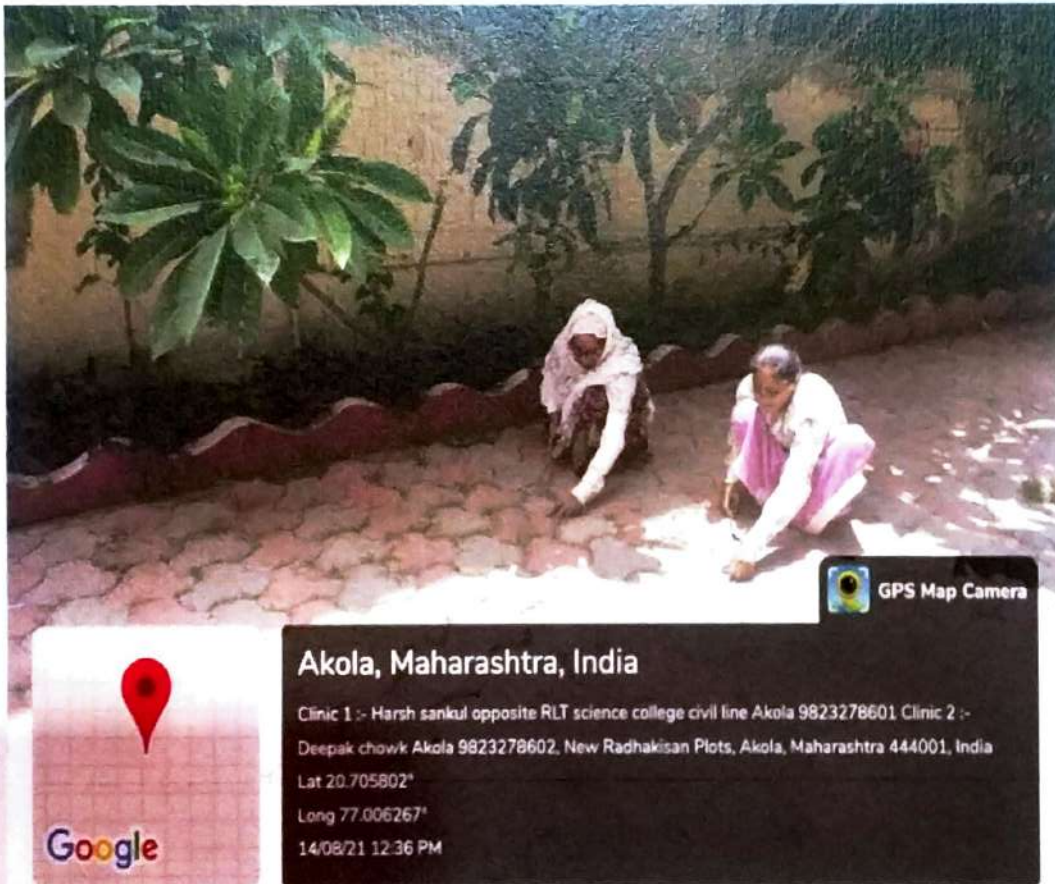
<p>Convener Dr. J. S. Zangade Assistant Professor Department of Botany</p> <p>Members Dr. S. V. Madavi Assistant Professor Department of Botany</p>	<p>Organizing Secretary Mrs. V. N. Badgujar Head Department of Botany</p> <p>Members Dr. S. R. Jaiswal Assistant Professor Department of Physics</p>
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All members of Environment Cell

Technical Support

Dr. T. S. Jaiswal
Associate Professor
Department of Computer Science

State Level E- Workshop On Eco-FRIENDLY HOLI with GRAMAYAN PRATISHTHAN (NGO)

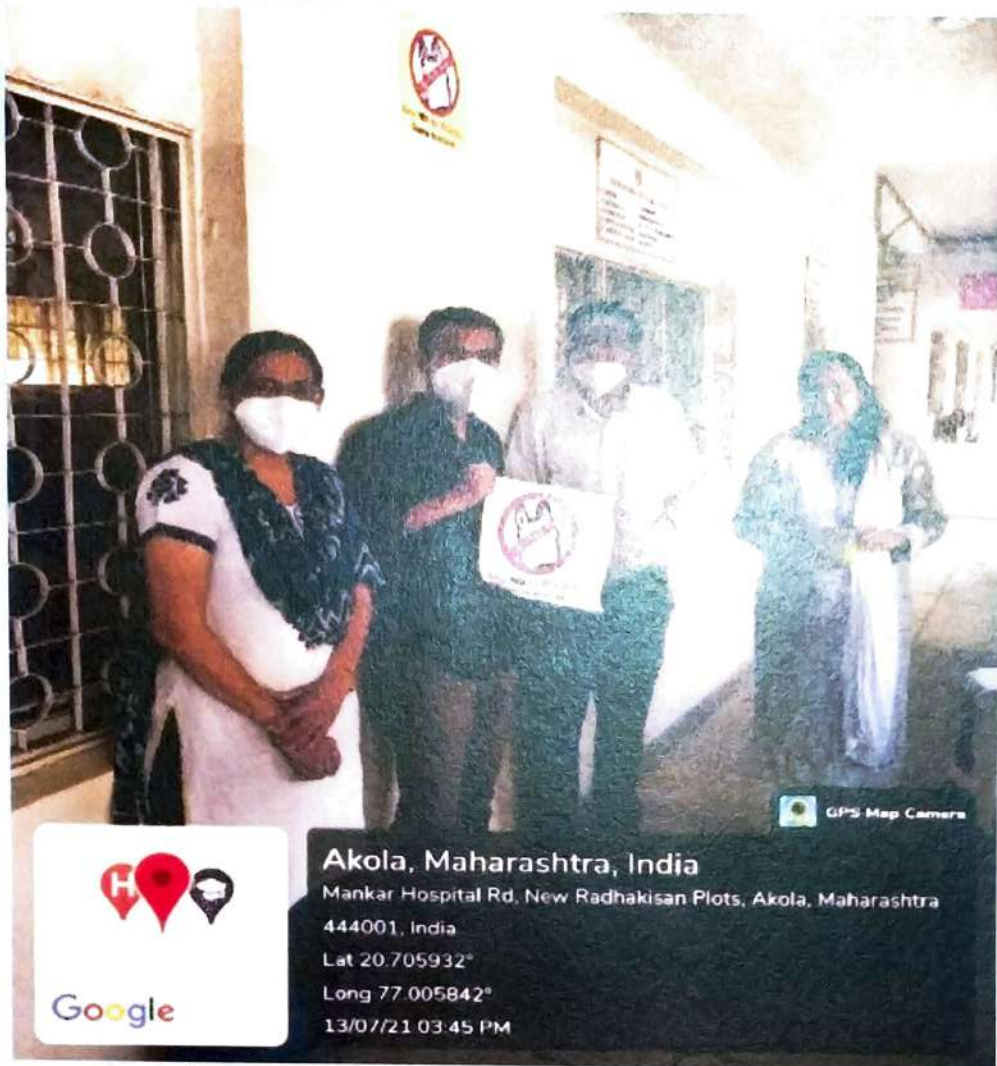


Akola, Maharashtra, India

Clinic 1 :- Harsh sankul opposite RLT science college civil line Akola 9823278601 Clinic 2 :-
Deepak chowk Akola 9823278602, New Radhakisan Plots, Akola, Maharashtra 444001, India
Lat 20.705802°
Long 77.006267°
14/08/21 12:36 PM

Regular Garden and Campus cleaning by the gardener and Swacchata Doot of the College.

Various environment protection initiative taken by the college.



Fixing "Avoid single use plastic carry bags" sign stickers in the campus by NSS Unit



Collecting Water sample from the drinking water purifier to check the purity of water.



Various environment protection initiative taken by the college.



संस्नेह मित्राण

श्री. रा. ल. तो. विज्ञान महाविद्यालय, MICRANS
व निसर्गकट्टा यांच्या
संयुक्त विद्यमाने आयोजित



पक्ष्यांचे ज्युस सेंटर

अर्थात पक्ष्यांना मधुरस
देणाऱ्या वृक्षांचे रोपण.

वृक्षारोपण समारंभ

:: प्रमुख उपस्थिती ::

मा. डॉ. विजय नागोटी

(प्राचार्य, श्री.रा.ल.तो. विज्ञान महाविद्यालय, अकोला)

मा. श्री. प्रदिप किडीले

(अध्यक्षीय सदस्य, विज्ञान-संस्था, अकोला)

वेळ : दि २४ जुलै २०२० सकाळी ९.३० वा.

स्थळ : श्री.रा.ल.तो. विज्ञान महाविद्यालय परिसर,
सिध्दील टाईम्स रोड, अकोला.

Department of Microbiology in Collaboration with Nisarg-Katta planted summer flowering plants
College premises on 24th July 2020. Trees planted were Palash, Saptaparni and Bahawa etc.

Various environment protection initiative taken by the college.



On the occasion of 75th Independence Day Department of Botany and Environmental Cell of the College Organised Tree plantation programme. Speciality of these programme was Higher quantity of oxygen producing plants were planted. Outdoor plants like *Tecoma stans*, *Nyctanthes arbor-tristis*, *Sapindus mukorossi*, *Bauhinia recemosa*, *Putranjiva roxburghi*, *Dalbergia sissoo*, *Anthocephalus cadamba*, *Moringa olifera*, *Murraya koenigi*, *Nerium indica* & Some Indoor or In shade plants like *Ocimum sanctum*, *Ficus benjamina*, *Dypsisis lutescens*, *Dracena trifasciata* were planted.


District Level Webinar on Conservation of Water on Monday 15th March 2021, at 12.00 noon with Theme— Catch the Rain, Where it fall, When it fall.+

Shri. Radhakisan Laxminarayan Toshniwal College of Science, Akola and Nehru Yuva Kendra (Ministry of Youth Affairs and Sports), Akola has jointly organized the webinar on the topic 'Conservation of water' under the theme of 'Catch the Rain, where it falls, when it falls'. Online Quiz Competition was carried out for the participants. Winners got Cash prize, certificate and memento. Number of Participants for the webinar was 406.




Various environment protection initiative taken by the college.

The Berar General Education Society's
Shri R. L. T. College of Science, Akola
Department of Zoology Zebra Cell & IQAC



Celebrating Virtual World Wild-Life Week-2020

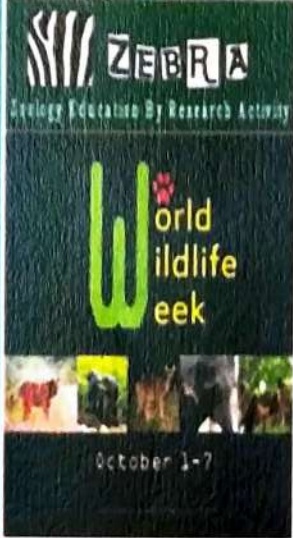


- o Essay Competition (Dr. Rashmi Joshi)
- o Mobile Photography Competition (Dr. S. Nagrale)
- o Quiz Competition (Dr. Rashmi Joshi & Dr. S. Nagrale)
- o Article Writing competition (Dr. Archana Sawarkar)
- o Wild Life Documentary (Dr. S. Nagrale)

Dr. Sushil Nagrale
H.O.D.

Dr. R. L. Rahotgaonkar
IQAC Coordinator

Dr. Archana Sawarkar **Dr. Sudhir Kohchale** **Dr. Rashmi Joshi**
 Department of Zoology
 Shri R.L.T. College of Science, Akola



ZEBRA
Zoology Education By Research Activity

World Wildlife Week

October 1-7

Celebration of Wildlife conservation week: ZEBRA Cell, Department of Zoology celebrated World Wildlife Week- 2020 by organizing various activities like - Article Writing Competition on the topic "Wonderful World of Butterflies", Virtual Essay Competition on the topic: "Impact of Covid-19 Pandemic on Wild-life and Environment", Documentary show on Tiger, Tiger Poaching Tiger Census, Conservation of Tigers in India, Mobile Photography Competition on theme ' Wildlife and Nature', Quiz Competition on theme 'Wildlife Conservation'



Solar water installed at Girls Hostel reduced electrical energy consumption at a great extent.

Various environment protection initiative taken by the college.

**The Maharashtra Education Society's
Shri R. L. T. College of Science, Arts
& Commerce - Women's Hostel**

Biogas from Kitchen and Food Waste

AIM: The aim of the college is to solve the problem of waste disposal from kitchen and dining of girls hostel as well as garbage of college campus and to generate energy from waste.

IMPORTANCE: A biodegradable waste fed biogas plant in college campus is a best and ecofriendly technology for the treatment of kitchen and dining waste. It also becomes an effective tool to solve the fuel supply needs of the hostel.

OBJECTIVE:

1. Biogas is a green and renewable energy fuel.
2. Biogas is the gas produced by the breakdown of organic waste by anaerobic microbial fermentation in the absence of oxygen. It is the ultimate waste product of the anaerobic digestion of the organic biodegradable waste through the process of anaerobic digestion performed by microorganisms.
3. Biogas generally comprises of 75-85% methane, 25-30% carbon dioxide, 0.5-1.0% hydrogen sulfide and traces of water vapour.


INTRODUCTION:

1. In the first step the fermentable substrate (e.g. Renewable resources) like above mentioned is collected into a reactor.
2. In the second stage, substrate bacteria (e.g. Anaerobic) decompose the substrate into organic acids, methane and other gases.
3. When acids yield has been produced in sufficient quantities, methanogenic bacteria convert it into methane. This last step is called methane production or methanogenesis.
4. The intermediate carbon or nitrogenous wastes completely used methane.
5. Final product of fermentation is the combustible biogas.

1. Hydrolysis **2. Fermentation** **3. Acetogenesis** **4. Methanogenesis**

Kitchen waste → Organic waste → Acetic acid → Biogas (CH₄, CO₂)


Component	Concentration
Hydrogen	0.5 - 1.0 Vol %
Carbon dioxide	15 - 25 Vol %
Water vapor	5 - 10 Vol %
Oxygen	0.1 - 0.2 Vol %
Nitrogen	0.2 - 0.5 Vol %
Ammonia	0.1 - 0.2 Vol %
Hydrogen sulfide	0.1 - 0.2 Vol %




ADVANTAGES OF BIOGAS

- Fuel production
- Saving cooking time
- Saving money
- Improving hygienic conditions
- Production of high quality fertilizers
- Electricity generation
- Reducing water and electricity consumption
- Reducing the number of flies


Other Applications of BIOGAS in various fields



Mushroom cultivation



Poultry



Fish culture

Sandeep Ashok, Technival

The practice is under the microbiology department and started for the girls Hostel in the premises. The kitchen waste and Canteen waste, remaining food, perished food products are used in the biogas plant. The energy generated is used in the girls hostel.

ORGANIC-COMPOSTING

Best Waste



- Improves soil Structure
- Improves Drainage
- Reduce Soil Erosion
- Improves Soil Fertility
- Improves Water Holding Capacity
- Reduces Pests & Diseases on plants

Project By : Department of Microbiology



Vermi- Composting Practice is done in the premises since few years. The waste and left-over plant garbage, nirmalya in Ganesha Festival, and all the dry waste as well wet waste is used for composting.

Licence for possessions of certain chemicals.



FORM B & II

Rule 3 (1) (A)

Handwritten text in Hindi at the top right of the form, including a date and other details.

Licence No. _____

Licence for the possession and use of rectified spirit including denatured alcohol for industrial, medicinal, scientific and educational purposes.

Licence is hereby granted, under and subject to the provisions of the Denatured Alcohol Act, 1948 (Act No. XXV of 1948) and the rules, regulations and orders made thereunder, to College of Science, Durgam Cheru, Hyderabad (hereinafter called "the licensee") the payment of a fee of Rs. 1000/- (Rupees One Thousand) following him to buy, possess and use rectified spirit including absolute alcohol (hereinafter called "spirit") during the period from 1-1-1984 to 31-12-1984 at the premises situated at Hyderabad (hereinafter referred to as "the licensed premises"), subject to the following conditions, namely:-

Conditions

1. The licensee shall not use the spirit for any purpose except for Educational.
2. (1) The licensee shall not buy spirit except on a requisition countersigned by an Officer of the Prohibition and Excise Department duly authorized in that behalf.
 (2) The licensee shall not buy spirit in any one month exceeding Rectified Spirit & Absolute Alcohol with value Rs. 5000/- in the aggregate.
3. The licensee shall not have in his possession more than 500 litres of spirit at any one time.
4. The licensee shall keep all the spirit received by him in a place in the licensed premises approved by the local inspectors of Prohibition and Excise under lock and key and all issues of spirit from the said place shall be made in the presence of the licensee or a person duly authorized by him in writing in such receipt.
5. (1) The licensee shall maintain such accounts as may be prescribed by the Director of Excise and Prohibition under the Act. The account shall be kept in a bound book, pagged and stamped with the seal of the Collector.
 (2) The licensee shall keep, along with the account book, the requisitions and transport passes relating to the spirit received at the licensed premises.
 (3) The licensee shall submit such returns as may be prescribed by the Director of Excise and Prohibition under the Act.
 (4) The licensee shall furnish to the Collector such other information relating to the subject matter of this licence as the Collector may from time to time require.
6. The licensee shall pay to Government such cost of the Prohibition and Excise staff if it is appointed of Excise and Prohibition for supervision over the use of rectified spirit, as may be fixed by the Director.
7. The licensee shall, the spirit kept therein and the account books, requisition and transport passes referred to in condition 5 and the licence shall at all times be open to inspection by the Collector, or any Assistant and Excise or Police Officer not lower in rank than a Sub-Inspector of Prohibition and Excise or Police as the case may be, or by any other officer empowered under section 27 of the Denatured Alcohol Act, 1948, who may be deputed or authorized by the Collector or the Superintendent of Prohibition and Excise in this behalf.
8. The accounts, requisitions and transport passes referred to in condition 5 and the licence shall be preserved by the licensee during the whole of the period of this licence.

Issued this _____ day of _____ 1984



Collector of _____

The provisions of this Act shall be read as if they were contained in the Denatured Alcohol Act, 1948.



Licence for possessions of certain chemicals.

अनुज्ञापनी क्र. 79/2018-20
मुदनीकरण शुल्क रु. 500/- इंचलन क्र. 0116/2378
दिनांक 31/03/2018 मुदत वरत करण पुर्वीच्य
शर्तीवर या अनुज्ञापनीचे दि. 01/04/2018 ते
दि. 31/03/2019 पर्यंत मुदनीकरण करण्यांत घेत आहे.

दि. 31/03/2018 पर्यंत मुदनीकरण करण्यांत घेत आहे.
जिल्हाधिकारी, अकोला
कारिता

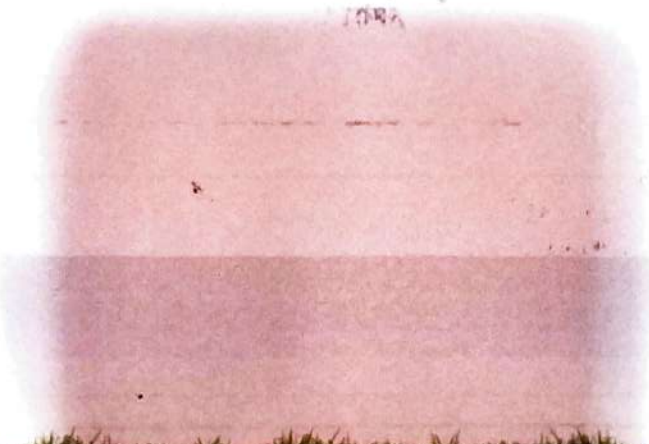


अनुज्ञापनी क्र. 11/2020-21
मुदनीकरण शुल्क रु. 400/- इंचलन क्र. 12/55928/2019
दिनांक 16-3-2020 मुदत वरत करण पुर्वीच्य
शर्तीवर या अनुज्ञापनीचे दि. 01/04/2020 ते
दि. 31/03/2021 पर्यंत मुदनीकरण करण्यांत घेत आहे.

दि. 31/03/2021 पर्यंत मुदनीकरण करण्यांत घेत आहे.
जिल्हाधिकारी, अकोला
कारिता

अनुज्ञापनी क्र. 11/2021-22
मुदनीकरण शुल्क रु. 425/- इंचलन क्र. 12836201
दिनांक 24/03/2021 मुदत वरत करण पुर्वीच्य
शर्तीवर या अनुज्ञापनीचे दि. 01/04/2021 ते
दि. 31/03/2022 पर्यंत मुदनीकरण करण्यांत घेत आहे.

दि. 31/03/2022 पर्यंत मुदनीकरण करण्यांत घेत आहे.
जिल्हाधिकारी, अकोला
कारिता



Conclusion:

Internal Green & Environment Audit was conducted by an Internal Green & Environment Audit Committee i.e. IGEAC. The committee consisted of teaching, non-teaching staff, and external subject specialist members. It started in the month of April 2020 with the organizing Pre Audit Training Workshop. The workshop gave clear directives and directions to all members. Subject specialists offered a complete set of directives about data collection and the importance of the Questionnaire. The questionnaire was provided to the committee and data collection started in September 2020. The necessary information and crucial data collection were completed and a draft report was complete in April 2021. The review meeting was organized in May 2021. The special meeting was called upon in June 2021 to approve, accept, and release Internal Green & Environment Audit Report for the year 2020-2021.

A conclusion can be made from the Internal Green & Environment Audit Report for the year 2020-2021 that the environment in the R.L.T. College of Science is healthy. The committee has made short-term and long-term recommendations to take environmental protection and its management practices to higher levels.

Internal Green & Environment Audit Report for the year 2020-2021 will become an effective tool for all the future Internal Green & Environment Audit Reports. The procedures, processes, and practices followed in the report-making will surely evolve every year. The Internal Green & Environment Audit committee will strive hard to make audit reports more informative and useful. Internal Green & Environment Audit Committee thanks each & everyone involved directly and indirectly in making this Internal Green & Environment Audit Report.

B. G. E. Society's



Shri R.L.T. College of Science

New Radhakisan Plots, Akola Maharashtra 444001, India

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT

**Energy Audit Report
2020-21**
(Shri R.L.T. College of Science, Akola.)

Submitted

to

Principal,

Shri R.L.T. College of Science, Akola

By






Internal Energy Audit Committee


Shri R.L.T. College of Science College, Akola

Shri R.L.T. College of Science College, Akola

Internal Energy Audit Committee

2020-21

Sr. No.	Name	Designation	Committee Roal	Sign
1	Mr. R. D. Chadhuri	Assistant Prof. Dept of Electronics	Co-ordinator	
2	Dr.Mrs. A. S. Sawarkar	Associate Prof Dept of Zoology	Member	
3	Mr. S. R. Jaiswal	Assistant Prof Dept of Physics	Member	
4	Dr.Mrs. R. P. Joshi (Sawalkar)	Assistant Prof Zoology	Member	
5	Mr. S. C. Zyate	Assistant Prof. Dept of Chemistry	Member	
6.	Ganesh. D. Nare	-	Extid members External member.	


(DR. VIJAY D. NANOTY)
Principal

ENERGY AUDIT CERTIFICATE

This is to certify that an “Energy Audit” of Shri R.L.T. College of Science Akola has been conducted by Internal Energy Audit Committee for 2020-21, to find energy costs, availability and reliability of supply of energy, Energy conservaton technologies and ways to reduce energy consumption.

Place : AKOLA

Date : 22/07/2021



Sachin Gadak



Preface

Data Collection for energy audit of the Shri R.L.T. College of Science Akola Campus was conducted by team for the period of 1 July 2020 to 30 June 2021. The main aim of this audit is to reduce electric consumption and to save electricity and money also to drop the energy utilization for betterment of health and safety. It is also studied to find different electrical appliances used in college campus. The energy audit survey was completed by Internal Energy Audit Committee. All data collected from each classroom, laboratory, office. The work is completed by considering, how much tube lights, fans, A.Cs, electronic instruments, etc. required in each room. How much was participation of each component in total electricity consumption. Thus in this way energy audit is done.

Energy Audit Report

Shri R.L.T. College of Science College, Akola

Introduction :

In India the entire field of education and other fields of intelligent activities had been monopolized by a handful of men before independence. But today we are marching towards the desirable status of a developed nation with fast strides. But the development should be a sustainable. For achieving such development energy management is essential. As far as electricity is concern, we are facing lack of electricity during work for institutional management. It is necessary to maintain eco-friendly atmosphere in college campus. A successful energy management program begins with energy conservation. By considering all these factors, it is necessary to plan of being self-sufficient in electricity requirement.

The present study, college energy audit has been done. In this study practical laboratory, instrument, tube lights, fans, air conditioners, Computers etc are considered. We have studied total budget of electricity consumption, electricity units required in the college.

Experimental and data collection:

All required data is collected by Internal Energy Audit Committee. Following data was collected from different laboratory, class rooms, office.

Total Power Requirement of various Department

Department /Instr	Fan	LED Tube light	CFL Tube light	A.C.	Fridge	Computer	Printer	Scanners	Xerox Machine	Projector	Bore well Motor	Music	Ovan
Office	14	20	20	2	..	7	3	2	1	1			
Physics Lab.	6	8				1	1						
Zoology Lab.	10	18			1	2	1			1			
Botany Lab.	8	14			1	2	1			1			
Chemistry Lab.	22	40			2	4	2			1			
M.Sc. Chem.Lab	7		25		1	1							4
Computer Lab.	7		20			24	2	1		1			
Exam. Dept	8	14				6	1	1					
Electronic Sci.	10	16				30	1	1					
Library	10	30				6	2	1	1				
Classroom	144	150											
Digital Class R..	17		26							3		3	
Sport	3	6				1	1						
Micro Lab.	23	15	48	1	1	2	1	1		1			3
Electronic Lab.	11	14				2	1	1		1			
Washroom		14											
Seminar Hall	14	30								1		3	
Passage	20										2		
Phy.Lab -2	20	12	42			2				3			
Math Dept.	3	6				3	1	1					
Total Quantity	357	407	181	3	6	93	18	9	2	14	2	6	7
Total Power Consume in '1' hours (Watt)	55	22	40	1424	2000	346	230	30	3000	340	750	100	1000
Total Power Consume in hours (Watt)	19635	8954	7240	4272	12000	32178	4140	270	6000	4760	1500	600	7000
Total Power Requirement of All Instrument = 111549 WATT PER HOUR KW. 111.549 KW													


Ganesh Electricals
 Ganesh D. Nare
 Lic. No. 193755
 Mob.: 942286347

Power Consumption of Electricity Board

Sr. No.	Month	Consumption Unit (KW)	
		Meter - 1 310070527919	Meter - 2 310070527935
1	Jul-20	2219	209
2	Aug-20	5416	617
3	Sep-20	1219	683
4	Oct-20	1128	776
5	Nov-20	2413	651
6	Dec-20	803	858
7	Jan-21	821	744
8	Feb-21	879	657
9	Mar-21	681	619
10	Apr-21	706	554
11	May-21	311	470
12	Jun-21	1422	605
	Total	18018	7443
Total Power Consumption in Yearly		KW 18018	KW 7443
Average Power Consumption in Monthly		1501 KW	620 KW


Ganesh Electricals
Ganesh D. Nare
Lic. No. 193756
Mob.: 942286347

RECOMMENDATIONS

Following recommendations are suggested :-

- 1) Replace all CFL Tube light by LED Bulb, to save more power
- 2) Replace CRT monitor by LED or LCD monitor.
- 3) Use separate connection of electricity for office, Computer Lab. and class rooms.
- 4) Use water tank overflow alarm system to save electricity & water.
- 5) Arrange activities on use of Fire Extinguisher


Ganesh Electricals
Ganesh D. Nare
Lic. No. 19375b
Mob.: 942286347

**Green and Environment Audit
2021-22**



This is to certify that the Internal Green Audit Report of

Shri R.L.T. College of Science

New Radhakisan Plots, Akola, Maharashtra 444001, India

is based on the data collected during the physical visits to the college. Further it is certified that the core information related to green initiatives and activities were collected and scrutinized by Internal Green Audit Committee. College has successfully established eco-friendly practices and management systems at all levels. The evidences are substantial. We appreciate the efforts taken by the staff and students towards keeping the campus green.

Term of validity : April 1st 2021 - March 31st 2022

Devendra Telkar

Internal Green Audit Committee Member

Srushti Vaibhav

Nature Conservation Society

Devdatta Apartment, Gaddam Plots, Akola



Uday Vaze

Internal Green Audit Committee Member

Environmental Management Consultant

Environment & Forest Education Center

Ramdass Peth, Akola 444001 M.S. India

Conservation is a state of harmony between men and land. - Aldo Leopold



Internal Environment Audit Program

This is to certify that the Internal Environment Audit Report of

Shri R.L.T. College of Science

New Radhakisan Plots, Akola, Maharashtra 444001, India

is based on the data collected during the physical visits to the college. Further it is certified that the core information related to environment protection & monitoring activities were collected and scrutinized by Internal Environment Audit Committee. College has successfully established environmental practices and management systems at all levels. The evidences are substantial.

Term of validity : April 1st 2021 - March 31st 2022

Devendra Telkar

Internal Environment Audit Committee Member
Srushti Vaibhav
Nature Conservation Society
Devdatta Apartment, Gaddam Plots, Akola



Uday Vaze

Internal Environmentt Audit Committee Member
Environmental Management Consultant
Environment & Forest Education Center
Ramdas Peth, Akola 444001 M.S. India





Shri R.L.T. College of Science

New Radhakisan Plots, Akola, Maharashtra 444001, India

2021- 2022

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT



Prepared by:

Internal Green & Environment Audit Committee
Shri R.L.T. College of Science
Akola, Maharashtra

Acknowledgement

Internal Green and Environment Audit Committee would like to thank the **management of the B.G.E. Society**, teaching & non-teaching staff, students, parents, and adjoining community for extending their co-operation and valuable inputs in gathering data. This is a significant step taken by the college and their efforts towards their contribution in conservation of resources, worth mentioning here.

Internal Green and Environment Audit Committee also wish to thank EFEC for helping Internal Green and Environment Audit Committee in organizing 'Workshop on understanding Environment Management System' and appreciate their cooperation in extending their knowledge throughout the process of Internal Green and Environment Audit program.

Internal Green & Environment Audit Committee expresses gratitude towards the selfless contribution made by various NGOs and individuals in contributing their knowledge and expertise in compiling technical data required in the preparation of the audit.

Our special thanks are due to the Principal Dr. V. D. Nanoty of Shri R.L.T. College of Science, Akola for giving us valuable guidance.

About Shri R.L.T. College of Science

Shri R.L.T. College of Science, Akola affiliated to Sant Gadge Baba Amravati University, Amravati was established under The Berar General Education Society, Akola on 1st April 1970 and celebrating its Golden Jubilee year. The college is re-accredited by NAAC with an 'A' Grade, CGPA-3.12 (Third Cycle). The college offers B.Sc. , M. Sc., Ph. D. and career-oriented programs like CCLT, DCLT, and ADCLT. It also comprises 11th and 12th standard education. At present, there are 14 departments in college i.e. Biochemistry, Bioinformatic, Botany, Chemistry, Computer Science, Electronics, Information Technology, Mathematics, Microbiology, Physics, Zoology, Languages, Physical Education and Library. The college is one of the premier institutions delivering excellent education through dedicated collaborated efforts towards achieving recognition and honor at the national and international levels.

Google map satellite photo of Shri R. L. T. College of Science, Akola
Latitude : 20°42'21.47"N - Longitude : 77° 0'21.85"E





B. G. E. Society's

Shri R.L.T. College of Science

New Radhakisan Plots, Akola, Maharashtra 444001

IGEAC : Internal Green and Environment Audit Committee

Sr.No.	Name	Designation	Sign
01	Dr. V. D. Nanoty	Principal/Chairman	
02	Dr. R. L. Rahatgaonkar	IQAC, Co-ordinator	
03	Dr. Archana Sawarkar	Co-ordinator, IGEAC	
04	Mr. Devendra Telkar	External Member, IGEAC	
05	Mr. Uday Vaze	NGO, Srushti Vaibhav External Member, IGEAC	
06	Dr. S. M. Nagrale	EPEC HOD, Member, IGEAC	
07	Mrs. V. N. Badgujar	HOD, Member, IGEAC	
08	Dr. P. T. Agrawal	HOD, Member, IGEAC	
09	Dr. P. M. Khadse	Member, IGAEC	
10	Dr. S. R. Kohchale	Member, IGEAC	
11	Dr. K. M. Heda	Member, IGEAC	
12	Dr. R. P. Joshi	Member, IGEAC	
13	Prof. S. V. Madavi	Member, IGEAC	
14	Prof. S. N. Gawande	Member, IGEAC	
15	Mr. Deepak Wankhade	Member, IGEAC Non-Teaching Staff Representative	
16	Mr. S. B. Shelke	Member, IGEAC, Gardner	

The Internal Green & Environment Audit Committee authenticate observations and recommendations in this report.

Internal Green & Environment Audit Key Steps

Pre Audit Training Workshop : April 2021

Questionnaire Data Collection started : September 2021

Draft report completed : April 2022

Review Meeting : May 2022

Final report completed : June 2022

Synthesis Document

Internal Green & Environment Audit is assigned to the Criteria 7 of NAAC, National Assessment, and Accreditation Council. The Internal Green & Environment Audit Committee was formed. The committee planned for conducting an Internal Green and Environmental Audit of the college in July 2021. The intention to carry an Internal Green & Environment Audit was to make sure that the practices, processes, and activities followed in the campus are eco-friendly. The questionnaire was obtained by an external member of the Internal Green & Environment Audit Committee. It was observed and evidence was brought together 'what degree to which the Departments comply with the applicable regulations, policies, and standards to ensure that the development of the college aims at sustainable development and keeping the college campus green. The methodology used included was right from collecting data through questionnaire, insight inspection, evaluation, computation, conducting physical survey and review of the relevant documentation.

Statement of Assertion

The Internal Green & Environment Audit Committee has adopted the audit procedure that meets the terms of International Standards of Internal Auditing Practices. The committee is causing to feel certain that adequate and relevant audit procedures were followed, concrete evidence was gathered and conclusions were drawn from facts. The Internal Green and Environment Audit committee believes that recommendations are for improving the effectiveness of environmental management efforts made by Shri R.L.T. College of Science. Changes or additions in management practices should be systemic, must be done through series of small steps and every concerned individual must be well informed about changes and additions made in management practices. Recommendations are based on evidence compiled in this report as they existed at the time of the audit in 2021-22.

Compendium

It was truly evident from the data collected at Shri R. L. T. College of Science that teaching & non-teaching staff, students, vendors, and service providers of the college are aware of the importance of efforts to save and protect the environment in the campus in every day's work. The college staff follows the best course of action such as reducing all types of waste, time to time garden maintenance, follow composting practices, ways and means to reduce energy consumption, conduct review meetings, organize environmental educational activities for staff as well as for students. Although, it was also observed that, many of the practices followed in the college are still incipient and needs further action to improve course of actions.



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Introduction

The expeditious urbanization and economic development at the local, national and international levels have led to several environmental and ecological emergencies. To prevent damages due to site-specific activities, practices, processes, and procedures followed by various institutions, businesses, organizations, or factories, it becomes essential to adopt methods, processes, and procedures for making green campuses for the institutions, businesses, organizations, or factories which will lead for sustainable development. Every organization has systems to manage finance, health, and safety, it is equally important that every organization must have an Environmental Management Performance Checking System for managing environmental issues.

Shri R.L.T. College of Science is very much aware of its responsibility towards keeping campus green and strives hard to make it pollution-free. The college strives hard to maintain an eco-friendly ambiance and achieve continual improvement in environmental performance. The main intention of conducting the Internal Green and Environmental auditing is understood and continuous efforts are made in achieving objectives mentioned in the Environment Policy of the college. The college invites consultants and subject specialists in environment conservation to modify its working on every six months interval. The methodology to conduct Internal Green Audit & Environmental Audit was designed with the help of consultants and NGOs with the teaching staff of the college. It includes a draft of the questionnaire, in-situ site inspection of the campus, scrutinize documentation, monitors procedures, practices, and processes carefully. The formation of an internal audit committee with the involvement of an external subject specialist has made significant recordings. The internal audit committee has made short time and long term recommendations. The committee proposed remedial procedures to reduce the carbon footprint of the college. It works for the betterment of eco-friendly campuses including air, water, noise, soil quality, waste management, care for flora & fauna on campus, the importance of paperless working, plans for adopting alternative energy creation by adopting solar-powered energy sources.

Internal Green Audit

An Internal Green Audit is a process of systematic identification, evaluation, documentation, reporting, and analysis of components of environmental diversity of various institutions, businesses, organizations, or factories. It aims to analyze environmental practices and processes within and outside of the targeted institution, business, organization, or factory, which will have an impact on the ecologically friendly environmentally safe ambiance.

Internal Environment Audit

An Internal Environmental Audit is an assessment performed to ensure that institutions, businesses, organizations, or factories are complying with environmental policies. It examines the amount of harm or risk of injury that may be posed by the assessed entity and determines the types of pollution being produced by looking at a broad range of site-specific activities, practices, processes, and procedures. The information compiled from these factors determines what remedial procedures are required to be added for the better good.

Scope

Internal Green Audit & Environmental Audit play a significant role in the continuous operation of institutions, businesses, organizations, or factories. It keeps institutions, accountable by scrutinizing their site-specific activities and determining what remedial measures are required to be added or put in place to ensure institutions, businesses, organizations, or factories are following the proper statute.

Objective

The key objectives of an Internal Green and Environmental Audit, therefore, are to determine how well the environmental management systems and equipment are performing, verify compliance with the relevant national, local, or other laws and regulations, minimize human exposure to risks from environmental, health and safety problems.

Methodology

In the first meeting of Internal Green & Environment Audit Committee, it was unanimously decided that an external party will look into the overall infrastructure, procedures, practices, and operation of the collage and will draft a detailed Questionnaire. Questionnaires provide a relatively rapid and efficient way of obtaining large amounts of information from a large number of people. Questionnaire are easy to respond to. Specifically, answers obtained through closed-ended questions with multiple choice answer options are easy to obtain and less time-consuming. Answers obtained to the open-ended questionnaire are analyzed using qualitative methods and they involve discussions and critical analyses without any difficulty. It is useful because the information can lead to concrete conclusions. The methodology also included a physical inspection of the campus, observation, and review of the documentation, interviewing key persons and data analysis, measurements, and suggesting recommendations.

The efforts were taken to understand the following focus areas and emphasis was given to know facts on the ground :

What measures are taken by the college to maintain greenery and the efforts taken for keeping environment protection policy as priority as declared by the college in its Environment Policy?

What efforts have been put in by the college to offer clean water to students and staff of the college?

What efforts are made by college to maintain and control Rain Water Harvesting, Waste Water Management effectively?

What efforts are made by the college to conserve energy such as electrical use?

How does the college monitor and control all types of waste?

How extra efforts are taken to control vehicular pollution caused by automobiles passing by adjacent roads along the college campus?

To monitor and evaluate how collage benefits to the community in and around the college campus.

To scrutinize the data provided by the college in regard to efforts and initiatives taken by the NSS and Environment Cell.

To make physical verification of positive impact made by initiative by the college such efficacy of Bio-gas plant, solar plant, and floral species on the campus.

To study and evaluate various green initiatives and activities are organized by the college.

To interview stakeholders of the college about plans for environment protection practices, processes, and procedures.

To review recommendations made earlier year and act upon it.

Environment Policy

Shri R.L.T. College of Science not only target to impart quality education but also understand responsibility towards the protection of the environment for the future generation. The college wishes to create environmentally safe practices to ensure that the college campus is kept green by reducing its carbon foot-print. The college will monitor its operation and make it economically successful & sustainable along with being socially responsible.

Environment Policy will compel every one of the college to follow practices, processes, and operations supported by identified groups and individuals. Environment Policy has the potential to develop exciting new co-curricular and extracurricular practices that encourage students to take part voluntarily that benefits them in any way.

Environment Policy also targets to enroll external parties such as vendors and suppliers in achieving the environment conservation objective in their relevant fields too.

Aims and Objectives of Environment Policy

Managing environment

- To promote stringent environmental management systems, processes, and operations.
- To reduce sources of pollution at every extent of its operation and to adopt the PDCA model to it.
- To find ways to improve its environmental performance.
- To ensure that students get updated knowledge about environment conservation practices.
- To involve the community in and around the collage to achieve its clean environment objective.

Efficient use of energy

- To achieve success in efficient use of energy to reduce its carbon footprint.
- To combat pollution caused by vehicular pollution by maintaining greenery on campus.
- To install energy efficient gadgets by introducing solar technology in the creation of clean energy.

Sensible use of water

- To make everyone aware of importance of the water.
- To find out new ways for reducing water footprint.
- To appeal and enroll all vendors and suppliers to supply eco-friendly products and services to promote sustainable resource management practices.

Efforts to waste reduction

- To identify sources of waste generation and reduce them.
- To segregate the waste and ensure its safe disposal with the help of Akola Municipal Corporation and with authorized E-waste disposal agencies in & around the Akola district.

Ethical practice

- To promote activities that protect bio-diversity on the campus.
- To plan and act on continuous improvement in line with environmental protection.
- To enhance the profile of the college by elevating the best academic and environmental practices.

Extension education activities

- To make special efforts about organizing workshops and activities in line with environmental education.
- To make aware the staff and students of the college about environmental impact & it's performance.

Location of the college

Shri R.L.T. College of Science at Akola in Maharashtra, India is a prominent science college of the Vidarbha region as well as in India. It is in center of the Akola city. It is well connected by road and railway network, enabling students from adjoining district to reach the college with ease.

Latitude : 20°42'21.47"N

Longitude : 77° 0'21.85"E

Internal Green and Environment Audit Training

Shri R. L. T. College of Akola has a well-defined decentralized and participatory organizational structure to coordinate and promote academic and administrative functions. The organizational structure has different units of statutory bodies. The principal of the college always strives hard to promote environmental conservation in every possible way. The college has organized Pre Internal Green & Environment Audit Orientation Program and taken special efforts in enrolling teaching, non-teaching staff, students, and community representatives to attend the meeting. Environmentalists & subject specialists presented various topics such as protecting the environment by preventing wrong practices, enhancing environmental performance, introducing new ways to reduce pollution.

Audit Questionnaire & Audit Forms

Internal Green and Environment Audit Committee were given a host of audit forms and questionnaires. The committee was well supported by the teaching and non-teaching staff of the college to collect the data. The evidence were collected by referring Questionnaire and by making field visits to the college.

Sound Pressure Level Testing

Several sound pressure level tests were carried out to measure noise pollution created by vehicles passing by the college campus. The college is situated in the heart of the city. The road adjacent to the college campus is one of the busiest roads in the city. The results of the tests came out to be slightly above the prescribed limit. To combat the noise pollution caused by vehicular noise the Internal Green and Environment Committee has recommended remedial measures.

Primary Air Quality

Several primary air quality tests were carried out. The results of the tests came out to be within the prescribed limit. To stop air pollution caused by vehicular emissions entering the campus. The committee has recommended remedial measures to improve the air quality of the campus caused due to vehicular pollution made by vehicles passing by city road adjacent to the college. The recommendation is to create a barrier made by thick plantations. The Internal Green & Environment Committee has suggested specific species which are to be planted by the college.





Installation of Biogas Plant

Due to COVID 19 Pandemic the kitchen was not in any operation, no organic waste (vegetable & food waste) is generated in the kitchen of the college girl's hostel. Shri R.L.T. College of Science has installed a biogas plant that generates half of the gas required for cooking in the kitchen. The installation of solar panels, a biogas plant, and a rainwater harvesting system are noteworthy initiatives the college has endeavored recently.

Biodiversity on campus: Flora

The college has been planting and conserving trees, climbers, creepers, herbs, and shrubs since its inception in 1970. A wide variety of floral species can be seen thriving on the campus. The college has taken a painstaking effort in maintaining green cover. A botanical garden nurture host of the wide variety of medicinal species for educational purpose.

Fauna

The green cover in the campus helps in creating favorable conditions for many living organisms such as butterflies, insects, ladybird beetles, spiders, birds, and squirrels.

Green initiatives

Shri R. L. T. College of Science is a premier institute in Vidarbha and is aware of importance of educating students about environment and special efforts are taken by Environment Cell and NSS unit in initiating activities that reduces its adverse impacts on environment. Initiative such as Tree Plantations, No Vehicle Day, Save Energy, Burn Ban, Reducing Paper Usage, Bio-gas Plant, Rain Water Harvesting, Plastic Waste Free Campus, Regular Maintenance Of Electrical Gadget, Installing Energy Efficient Electrical Fixtures, Awareness Training Workshops, Waste Disposal, Solid Waste Management, Organic Waste Management, are organized by the college. (Annex-D) Internal Green & Environment Committee has recommended few remedial measures.

Recommendations

Short term and long term recommendations are given by Internal Green & Environment Audit Committee. The recommendations made by the committee will improve the environment and will make positive impact on environment performance of the college.

Shri R. L. T. College of Science has received many awards and recognition over the last few years. (Annex-F)

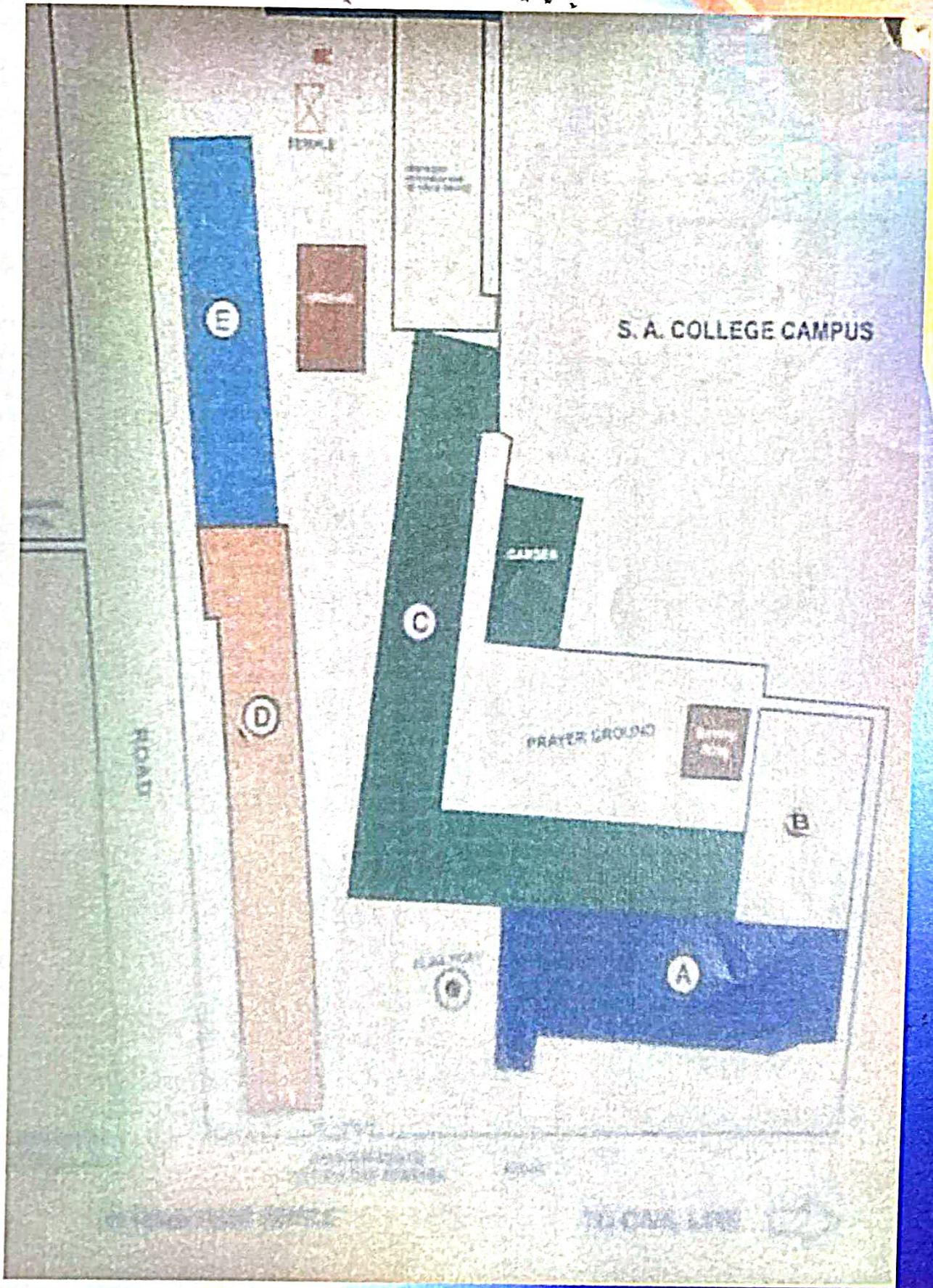
Post Green & Environment Audit Commitments

Review meeting was organized to discuss about recommendations made by committee after the Internal Green & Environment Audit process was completed. The Internal Green & Environment Audit Committee has given special attention to train every member of the college about PDCA model. PDCA i.e. Plan Do, Check and Act model surely helps in bringing continuous improvement in every working of the college.

Internal Green & Environment Audit Document Storage

All the documents related to Internal Green and Environment Audit are stored at IQAC chamber in the cupboard. And it can be viewed by any member of the committee or by any stakeholder with a prior appointment with IQAC co-ordinator.

Schematic diagram of college campus.



Bio-diversity in campus: Flora

List of plants at various places in the campus

English Name		Botanical Name	Type	Place	Total Plants
False Ashoka	अशोक	<i>Polyalthia longifolia</i>	Tree	Admin bldg, Adm, Ch Lab, Ph Lab	11
Yellow trumpet flower		<i>Ticoma stans</i>	Tree	Admin Bldg, Aud Ph Lab,	6
Cactus	केतकी	<i>Opuntia ficus-indica</i>	Cactus	Admin Building	1
Korean Arbor	थुजा	<i>Thuja koraiensis</i>	Tree	Admin Bldg, BG	6
Cycad	सायकस	<i>Cycas revoluta</i>	Cycad	Admin Bldg, BG	2
Bougainvillea	बोगनवेल	<i>Bougainvillea spectabilis</i>	Shrub	Auditorium, BG	4
Neem Tree	कडुलिंब	<i>Azadirachta indica</i>	Tree	Lib, Ladies Hostel	4
Croton	क्रोटॉन	<i>Codiaeum variegatum</i>	Herb	Lib, Ch Lab, Ph Lab, BG	40
Jasmin	मोगरा	<i>Jasminum officinale</i>	Herb	Lib	1
Jasmin sp	जुई	<i>Jasminum auriculatum</i>	Vine	Lib	1
Indian Fig	औदुंबर	<i>Ficus glomerata</i>	Tree	Ladies Hostel	1
Sodom Apple	रुई	<i>Calotropis procera</i>	Shrub	Ladies Hostel	2
Golden Champ	सोन चाफा	<i>Michelia champaca</i>	Tree	Ch Lab	3
Mango	आंबा	<i>Mangifera indica</i>	Tree	Ch Lab, BG	2
Cassia	मोठी तरवड	<i>Cassia glauca</i>	Tree	Ch Lab	7
Oyster Plant	---	<i>Tradescantia spathacea</i>	Shrub	Ch Lab	5
Asparagus	शतावरी	<i>Asparagus racemosus</i>	Shrub	Ch Lab, BG	9
Peacock Flower	शंकासूर	<i>Caesalpinia pulcherrima</i>	Tree	Ph Lab,	1
Indian Almond	गोड बदाम	<i>Terminalia catappa</i>	Tree	Ph Lab,	1
Sugar Apple	सिताफळ	<i>Annona quamosa</i>	Tree	Ph Lab,	1
Passion Flower	कृष्णकमळ	<i>Passiflora incarnata</i>	Vine	Ph Lab,	1
Euphorbia Pink	---	<i>Euphorbia milli</i>	Shrub	Ph Lab	1
Hibiscus	जारचंद	<i>Hibiscus rosa-sinensis</i>	Tree	Botanical Garden BG	4
Cassia	निरगुडी	<i>Vitex negundo</i>	Shrub	BG	6
Crape Jasmine	नगर	<i>Tabernaemontana divaricata</i>	Shrub	BG	2
Indian Gooseberry	आवळा	<i>Emblica officinalis</i>	Tree	BG	1
Bamboo	बांबू	<i>Bambusa bambos</i>	Tree	BG	5
Night-fl Jasmine	पारिजात	<i>Nyctanthes arbor-tristis</i>	Tree	BG	1
Jungle Jerenium	---	<i>Ixora coccinea</i>	Tree	BG	2
Aloe Vera	अॅलोव्हेरा	<i>Aloe barbadensis miller</i>	Shrub	BG	4
Scarlet Bush	---	<i>Hamelia patens</i>	Shrub	BG	1
Basil	तुळस	<i>Ocimum sanctum</i>	Tree	BG	6
Periwinkle	सदाफुली	<i>Vinca rosea</i>	Shrub	BG	6
Whistling Pine	सरु	<i>Casuarina equisetifolia</i>	Tree	BG	1
Narium	कण्हेर	<i>Narium oliender</i>	Tree	BG	1
D. Mahatma	महात्मा	<i>Cordyline Terminalis</i>	Shrub	BG	2
Golden Pothos	---	<i>Epipremnum aureum</i>	Vine	BG	5

Bio-diversity in campus : Flora

cont from page no.

English Name	Botanical Name	Type	Place	Total Plants
Lemon Grass गवती चहा	<i>Cymbopogon flexuosus</i>	Herb	BG	5
Travellers Palm पाम	<i>Ravenala madagascariensis</i>	Palm	BG	1
Fever Tree	<i>Pinckneya pubens</i>	Shrub	BG	1
Schott Indica ब्रम्ह राक्षस	<i>Alocasia indica</i>	Shrub	BG	25
Indian Pennywort ब्राम्ही	<i>Bacopa monnieri</i>	Shrub	BG	5
Green Chiretta काळमेघ	<i>Andrographis paniculata</i>	Shrub	BG	5
Devils Backbone कांडवेल	<i>Cissus quadrangularis</i>	Orn	BG	5
Red Flame Ivy निरगूडी	<i>Hemigraphis colorata</i>	Shrub	BG	5
Indian Laburnum अमलतास	<i>Cassia fistula</i>	Tree	BG	5
Touch me not लाजाळू	<i>Mimosa pudica</i>	Herb	BG	5
Star Grass Lily जं. लसूण	<i>Iphigenia stellata</i>	Herb	BG	5
Bhringraja माका	<i>Eclipta alba</i>	Shrub	BG	5
Indian Borage पान ओवा	<i>Coleus amboinicus</i>	Herb	BG	5
Mint Plant पुदिना	<i>Mentha spicata</i>	Herb	BG	5
Coleus माईनमुळ	<i>Coleus forskohlii</i>	Herb	BG	5
Basil राम तुळस	<i>Ocimum canum</i>	Herb	BG	5
Basil तुळस	<i>Ocimum Spp.</i>	Herb	BG	5
Basil लवंग तुळस	<i>Ocimum gratissimum</i>	Herb	BG	5
Basil सब्जा	<i>Ocimum basilicum</i>	Herb	BG	5
Basil कापूर तुळस	<i>Ocimum kilimandscharicum</i>	Herb	BG	5
Arjun Tree अर्जून	<i>Terminalia arjuna</i>	Tree	BG	1
Sage-leaved Alangium अंकोल	<i>Alangium salviifolium</i>	Tree	BG	1
Gum Guggul गुग्गुळ	<i>Commiphora wightii</i>	Tree	BG	2
Soapnut Tree रीठा	<i>Sapindus trifoliatus</i>	Tree	BG	1
Ehretia खंडूचक्का	<i>Ehretia Laevis</i>	Shrub	BG	2

Total number of plants and trees are 267. Total number of species are 67 consists herbs, shrubs, climbers, small sized, mid sized and big size trees.



Arjun Tree अर्जून *Terminalia arjuna*



Bio-diversity in campus : Fauna

List of birds seen at various places in the campus

English Name	Scientific Name	Marathi Name
House Sparrow	<i>Passer domesticus</i>	भारतीय चिमणी
Coppersmith Barbet	<i>Megalaima haemacephala</i>	तांबट
Indian Roller	<i>Coracias benghalensis</i>	चाष
Little Green Bee Eater	<i>Merops orientalis</i>	वेडा राघू
Asian Koel	<i>Eudynamys scolopaceus</i>	भारतीय कोकीळ
Lesser Coucal	<i>Centropus bengalensis</i>	भारद्वाज
Alexandrine Parakeet	<i>Psittacula eupatria</i>	करण पोपट
Rose Ringed Parakeet	<i>Psittacula krameri</i>	लाल मान्या पोपट
Yellow Legged Green Pigeon	<i>Treron phoenicoptera</i>	हरीयल
Barn Owl	<i>Tyto alba</i>	पिंजरा घुबड
Blue Rock Pigeon	<i>Columba livia</i>	राखी कबुतर
White Breasted Waterhen	<i>Amaurornis phoenicurus</i>	लाजरी पाणकोंबडी
House Crow	<i>Corvus splendens</i>	कावळा

List of butterflies seen at various places in the campus

Common Tiger Butterfly	<i>Danaus chrysippus</i>	दाण्या कडवा
Striped Tiger	<i>Danaus genutia</i>	पट्टेरी दाण्या कडवा
Common Rose	<i>Pachliopta aristolochiae</i>	गुलाबी फुलपाखरू
Common Grass Yellow	<i>Eurema hecabe</i>	पिवळी गवत भिरभिरी
Common Mormon	<i>Papilio polytes</i>	मोरमोन

List of other insects seen at various places in the campus

Common Mosquito	<i>Anopheles SPP.</i>	डास
Praying Mantid	<i>Mantis religiosa</i>	प्रार्थना कीटक

List of other spiders seen at various places in the campus

Cyclosa Spp.	Trashline Spider
Gnaphosidae gnaphosidae	Ground Spider
Hersiliidae hersilis	Long-spinnered Bark SpiderL
Oxyopidae oxyopes	Striped Lynx Spider
Salticide rhene	Jumping Spider
Pholcidae pholcus	Celler Spider

List of other mammals seen at various places in the campus

<i>Rattus rattus</i>	House Rats
<i>Bandicota bengalensis</i>	Indian Mole Rat
<i>Funambulus palmarum</i>	3 Striped Palm Squirrel
<i>Felis catus</i>	The Spotted Cat
<i>Bandicota indica</i>	Greater Bandicoot Rat

List of green initiatives by Shri R.L.T., College

1. Alternate sources of energy conservation measures:
 - Solar panels of solar based LED lights.
 - Solar water heater in girl's hostel. (Refer Page No. 014)
2. Management of various types of degradable and non-degradable waste:
 - Solid waste management: Biogas plant at the Girls hostel is a best technology for the treatment of kitchen and dining waste.
 - Vermicomposting: Various organic wastes mainly Garden waste are used as substrates for the preparation of Vermicompost in college premises.
 - Liquid waste management: Waste water of chemistry lab is carried through underground drainage and soak pit.
 - Biomedical waste management: Solid and dry waste material from Microbiology laboratory is packed into biohazards bag after disinfection and handed over to waste collection vehicle of Akola Municipal Corporation. Used media are properly autoclaved before disposal.
 - E-waste management: Minor repair of gadgets are done by concerning laboratories staff. Fabricated experimental kits are developed in Department of Physics by using e waste. Old E- waste are sold as scrap to local garbage dealer in order to ensure their safe recycling. (Refer Page No. 015)
3. Water conservation:
 - i. Rain water harvesting
 - ii. Bore well recharge
 - iii. Construction of tank (Refer Page No. 016)
4. Green campus initiatives:
 - i. Healthy practice of use of bicycles at 1st day of every month. Restricted entry of automobiles. Students are expected to use bicycles to ensure healthy, sustainable environment in the campus. (017)
 - ii. Students and staff members are encouraged to use Battery powered vehicle. College also having Charging point for battery powered vehicles to promote E-vehicles. (Refer Page No. 017)
 - iii. Ban on use of Plastic in college premises and canteen. (Refer Page No. 018)
 - iv. Drinking Water quality as well as air quality testing is performed periodically.
 - v. Sufficient number of Dustbins are kept in every class room and in all the campus for deposition of waste. Akola Municipal Corporation's 'Garbage pickup agency' collect the waste material from garbage bins daily. (Refer Page No. 018)
 - vi. Clean and green college campus is maintained.
5. Restricted entry of automobiles is welcomed by the students and the staff.
6. Organization of Environment Awareness programmes: Tree plantation in college campus: On 1st July 2021 "Krushi Divas" was celebrated in all over Maharashtra by Tree plantation. Owing to this, 'Krushi Din' was celebrated by Dept. of Botany & Environmental cell by Tree plantation activity in college campus. On this occasion, Dr. Nanoty Sir focused on the importance of plantation and significance of the day. On 4th Oct. 2021, "Tree plantation" was done at the hands of Hon. Vice-Chancellor of SGBAU, Dr. Dilip Malkhede in college campus. Tree plantation on "Krushi Divas. (Refer Page No. 025)
7. Workshop on E-Waste Management: Reduce, Repair, Refurbish, Recycle & Reuse (11-08-2021): Department of Computer Science, Electronics and Physics in collaboration with Parent Teacher Association (PTA) organized online Workshop on "E-Waste Management: Reduce, Repair, Refurbish, Recycle & Reuse" on dated 11-08-2021. (Refer Page No. 019)

List of green initiatives by Shri R.L.T., College

Recycle & Reuse" on dated 11-08-2021. This workshop was organized for making awareness in students and their parents about E-Waste and its Managements.

YouTube Link: <https://youtu.be/vQhivK6EaZ4> (Refer Page No. 019)

8. Online Mobile Photography Competition(19/08/2021): On the occasion of World Photography Day, Department of Zoology organized Online Competition on Mobile Photography. Theme of Mobile Photography competition was Biodiversity and Environmental Impact. (Refer Page No. 019)

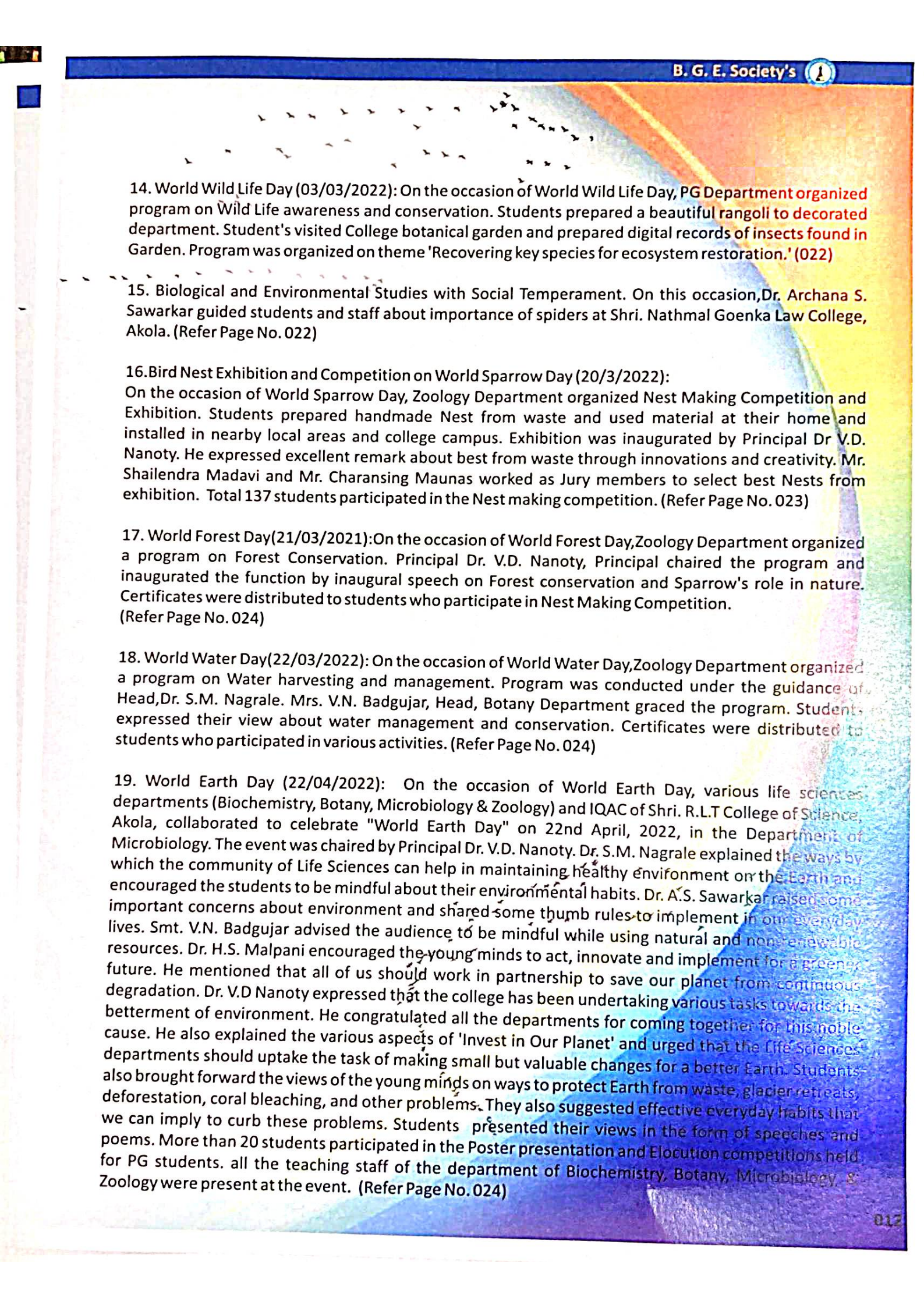
9. Awareness program to save electricity, paper and energy(26/08/2021):Shri R.L.T College of Science, Akola and EFEC (Environment and Forest Education Centre) jointly organized an awareness program to save electricity, paper and energy on 26th August 2021. Posters carrying message for environment conservation were released. Stickers displaying the message of protecting environment, saving electricity, papers and energy were posted on key places in college premises. Honourable District Collector Nima Arora expressed importance on public awareness programs and expects that the citizens will try hard to save environment from pollution and misuse of resources. (Refer Page No. 020)

10. Cleanliness drive in campus (02/10/2021): The Birth Anniversary of Mahatma Gandhiji and Lal Bahadur Shastri was celebrated by the NSS unit on 02nd October 2021. The Salutation Program was taken at 9:30 am at the hands of Hon. Principal Dr. V.D. Nanoty by garlanding the photos of Mahatma Gandhiji and Lal Bahadur Shastri. The NSS Programme Officer Dr. Rashmi Joshi Sawalkar and Dr. Samadhan Munde organized the event of Cleanliness drive in college campus. On this auspicious day the Swacchata doot of the college were felicitated by offering them Masks and Flowers. Some Volunteers joined the event by keeping social distancing & following the guidelines for Covid-19 pandemic. The volunteers along with swacchata doot cleaned the premises of the college. (026)

11. Farmers Day of India (23/12/2021): Birth anniversary of the former Prime Minister of India Late. Chaudhary Charan Singh is celebrated as the Farmer's Day of India. Owing to this, our Alumni association, Dept. of Chemistry, Dept. of Botany and Environment cell celebrated the Farmer's Day. On this occasion felicitation of one hardworking farmer was done in presence of Principal Dr. V.D. Nanoty, Shri Amar Goud, teaching and non-teaching staff. (Refer Page No. 021)

12. World Wildlife Week- 2021(02/10/2021 to 05/10/2021): ZEBRA Cell, Department of Zoology celebrated World Wildlife Week- 2021 by organizing various events like- Virtual Poster Competition on the topic: "Wild life", Virtual Essay Competition on the topic: "My Favourite Wild Life", Virtual Rangoli Competition on Theme 'Impact of Deforestation on Wildlife', organised online Quiz Competition on theme 'Wildlife Conservation' etc. It was a small effort to create nature love and wild life conservation in the young hearts of the students. Best entries were selected for the certificates and prizes. (Refer Page No. 022)

13. Guest Lecture on Nature, Wildlife & Environment awareness programme (04/01/2022): Department of Zoology organized a Guest Lecture of Mr. Amol Sawant, Founder of NGO Nisarga Katta, Akola, on topic "Nature, Wildlife & Environment awareness programme". Dr. Milind Shirbhate, Associate Professor in Zoology, Shankarlal Khandelwal Mahavidyala, Akola, guided about student's role in Nature, Wildlife and Environment Conservation. On this occasion, Nature Calendars were distributed by NGO Nisarga Katta. (Refer Page No. 021)



14. World Wild Life Day (03/03/2022): On the occasion of World Wild Life Day, PG Department organized program on Wild Life awareness and conservation. Students prepared a beautiful rangoli to decorated department. Student's visited College botanical garden and prepared digital records of insects found in Garden. Program was organized on theme 'Recovering key species for ecosystem restoration.' (022)

15. Biological and Environmental Studies with Social Temperament. On this occasion, Dr. Archana S. Sawarkar guided students and staff about importance of spiders at Shri. Nathmal Goenka Law College, Akola. (Refer Page No. 022)

16. Bird Nest Exhibition and Competition on World Sparrow Day (20/3/2022): On the occasion of World Sparrow Day, Zoology Department organized Nest Making Competition and Exhibition. Students prepared handmade Nest from waste and used material at their home and installed in nearby local areas and college campus. Exhibition was inaugurated by Principal Dr V.D. Nanoty. He expressed excellent remark about best from waste through innovations and creativity. Mr. Shailendra Madavi and Mr. Charansing Maunas worked as Jury members to select best Nests from exhibition. Total 137 students participated in the Nest making competition. (Refer Page No. 023)

17. World Forest Day(21/03/2021): On the occasion of World Forest Day, Zoology Department organized a program on Forest Conservation. Principal Dr. V.D. Nanoty, Principal chaired the program and inaugurated the function by inaugural speech on Forest conservation and Sparrow's role in nature. Certificates were distributed to students who participate in Nest Making Competition. (Refer Page No. 024)

18. World Water Day(22/03/2022): On the occasion of World Water Day, Zoology Department organized a program on Water harvesting and management. Program was conducted under the guidance of Head, Dr. S.M. Nagrale. Mrs. V.N. Badgujar, Head, Botany Department graced the program. Students expressed their view about water management and conservation. Certificates were distributed to students who participated in various activities. (Refer Page No. 024)

19. World Earth Day (22/04/2022): On the occasion of World Earth Day, various life sciences departments (Biochemistry, Botany, Microbiology & Zoology) and IQAC of Shri. R.L.T College of Science, Akola, collaborated to celebrate "World Earth Day" on 22nd April, 2022, in the Department of Microbiology. The event was chaired by Principal Dr. V.D. Nanoty. Dr. S.M. Nagrale explained the ways by which the community of Life Sciences can help in maintaining healthy environment on the Earth and encouraged the students to be mindful about their environmental habits. Dr. A.S. Sawarkar raised some important concerns about environment and shared some thumb rules to implement in our everyday lives. Smt. V.N. Badgujar advised the audience to be mindful while using natural and non-renewable resources. Dr. H.S. Malpani encouraged the young minds to act, innovate and implement for a greener future. He mentioned that all of us should work in partnership to save our planet from continuous degradation. Dr. V.D. Nanoty expressed that the college has been undertaking various tasks towards the betterment of environment. He congratulated all the departments for coming together for this noble cause. He also explained the various aspects of 'Invest in Our Planet' and urged that the Life Sciences departments should uptake the task of making small but valuable changes for a better Earth. Students also brought forward the views of the young minds on ways to protect Earth from waste, glacier retreats, deforestation, coral bleaching, and other problems. They also suggested effective everyday habits that we can imply to curb these problems. Students presented their views in the form of speeches and poems. More than 20 students participated in the Poster presentation and Elocution competitions held for PG students. All the teaching staff of the department of Biochemistry, Botany, Microbiology & Zoology were present at the event. (Refer Page No. 024)

20. Garden project on World Environment Day (05/06/2022): NSS unit of college celebrated World Environment Day on 5th June 2022. The theme for this year was 'Only One Earth'. The NSS team cleaned the botanical garden in campus and a new Poshan Bag (A Small Nutrition Garden) was developed. New fertile soil with organic fertilizers was added to the plants of botanical garden. On this occasion, Principal Dr. V.D. Nanoty had given information about, how the vegetables can be cultivated and these vegetables are used in the girl's hostel and in the college canteen. They told the volunteers that we can conserve the mother earth by doing such small activities. He informed the students and encouraged about doing such activities and be the part to keep our Mother Earth and Environment Pollution free. (Refer Page No. 025)

21. Beyond the campus environmental promotion activities: Plantation Program at Shivapur (06/08/2021): The NSS and NCC team of college conducted the plantation program at Shivapur, near Suncity in collaboration with District Forest Office, Akola. Total 75 saplings were planted by RLT team. Mr. Arjuna K. R. Deputy Conservator of Forest, Mr. Suresh Wadode, Asst. Conservator, Mr. Ingle, Round Officer and Rajesh Bidkar, forest Guard were present for the event. (Refer Page No. 025)

22. Rally and cleanliness drive in Apoti village (21/03/2022): NSS volunteers cleaned the village area and convinced the villagers that cleanliness is the real key to good health. In the morning, Prabhat Feri was conducted to create awareness among the people of the village about health, environment and cleanliness. (Refer Page No. 026)

23. Construction of soak pits at adopted village Apoti (24/03/2022): During the 6 days of the camp, 4 soak pits were prepared at different 4 places in adopted village. Volunteers and NSS program officers dig the pits and fill them with ballast and mud. (Refer Page No. 026)

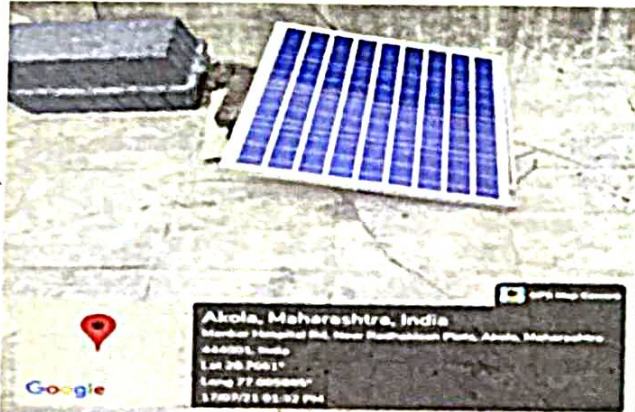
24. Workshop on Making Herbal Products (25/03/2022): One day workshop on "Making Herbal Products" to train the women from adopted village Aapotikhurd was organized by Women cell of Shri R.L.T. college of Science, Akola. Hands on training was given to some of the ladies from village. Dr. Poonam Agrawal, Associate professor, Head Dept of Chemistry and Crystal Club members had given demonstration to make Herbal products. (Refer Page No. 027)

25. Plastic pollution free River, an activity on World Environment Day: The NSS unit of Shri R.L.T College of Science, Akola organized Cleanliness drive on the World Environment Day, 5th June 2022. As per the guidelines by MGNCRE (Mahatma Gandhi National Council for Rural Education) for plastic ban and plastic pollution free River activity was conducted. The volunteers under the guidance of Program Officer Dr. Rashmi Joshi done the cleanliness by collecting the plastic waste at the bank of Morina River, Akola. The volunteers were informed about the harmful effects of plastic pollution in the rivers and other water bodies. As we all are responsible citizens, then it is our duty to keep the environment clean and healthy, and conserve it for future generations. (Refer Page No. 027)

26. AATBI steering committee member: Principal Dr. V. D. Nanoty, Dr. Archana Sawarkar, Dr. H. S. Malpani and Dr. Rashmi Joshi got honour of working as the steering committee member of "AATBI" (Akola's All Taxa Bio-diversity Inventory). The synergy is making research, data collection to gather detail information about bio-diversity of all taxa and will make one consolidated check list of all living creatures found in Akola district. This project is undertaken by EFEC (Environment & Forest Education Center), Akola. (Refer Page No. 027)

27. On the occasion of World Spider Day, 14th March 2022, Dr. Archana S. Sawarkar was felicitated by EFEC (Environment & Forest Education Centre), Akola with AATBI's (Akola's All Taxa Bio-diversity Inventory) Enroll & Educate Award for her contribution in spider research at Shri. Nathmal Goenka Law College, Akola. (Refer Page No. 028)

1. Alternate sources of energy conservation measures:



Solar panels of solar based LED lights.



Solar water heater in girl's hostel.



Biogas Plant in Girl's Hostel



Water tank overflow alarm system; Sensor based energy conservation



LED bulbs in auditorium, classrooms & laboratories

2. Management of various types of degradable and non-degradable waste:



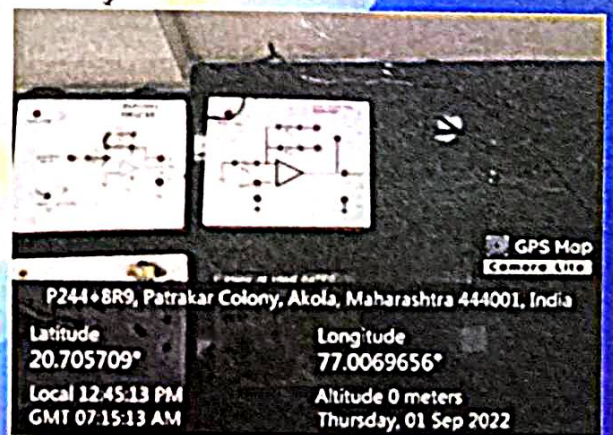
Biogas & Vermicompost Plant installed at the Girls Hostel in our college premises.



Waste water to soak pit through underground drainage from P.G. Laboratory of Chemistry.



Biomedical waste management.

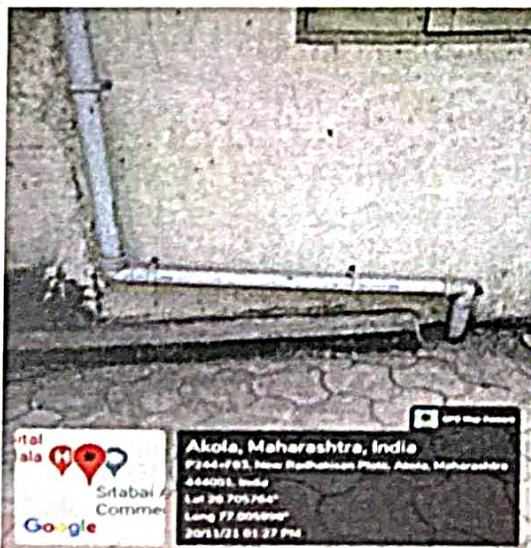


E-waste management.

Best from Waste:



3. Water conservation:
 i. Rain water harvesting. ii. Bore well recharge.
 iii. Construction of tank.



3. Water conservation:

- i. Rain water harvesting.
- ii. Bore well recharge.
- iii. Construction of tank.



4. Green campus initiatives:

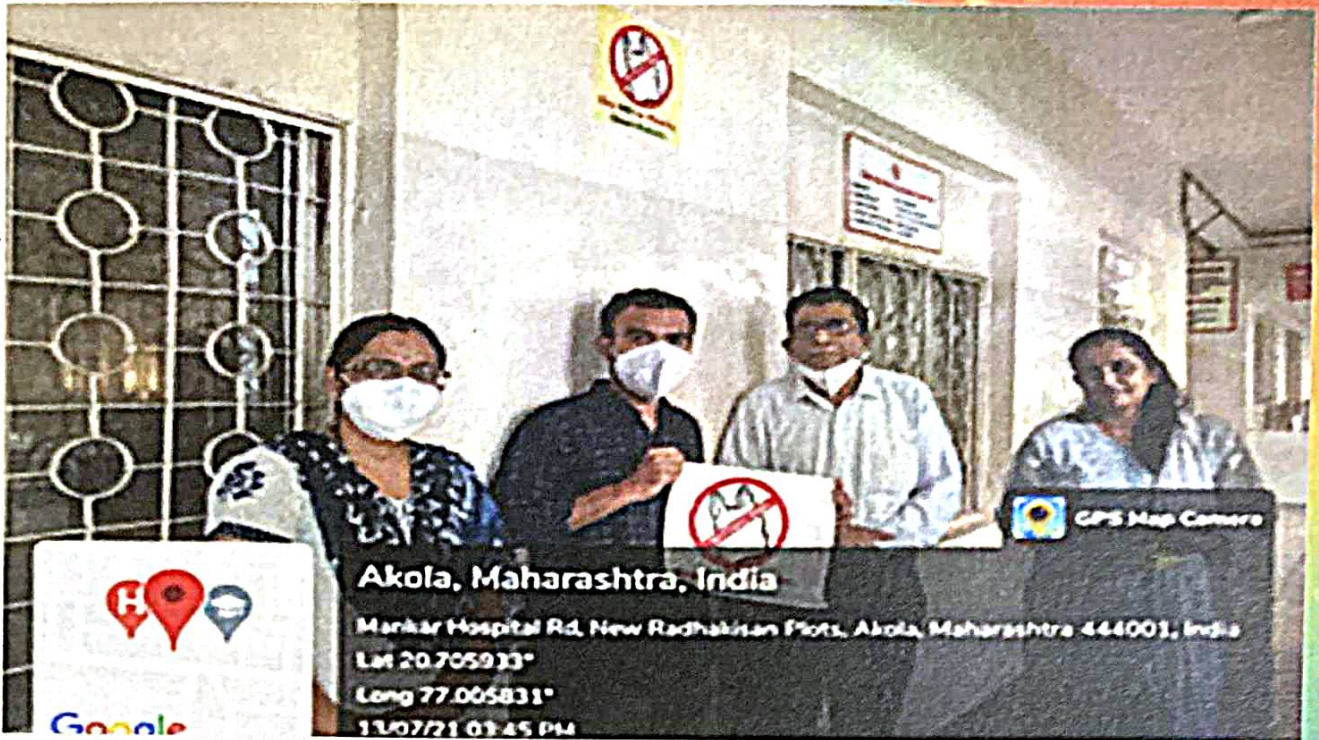


Healthy practice of use of bicycles at 1st day of every month.

Discipline & Code of Conduct

- A. Students must not loiter in the college compound or in the corridors. They should spend their leisure time in the library.
- B. While ascending or descending the stairs, students should avoid overcrowding and shouting. They must keep to their left on the stairs.
- C. Students are strictly forbidden to enter the office, Professors common room and Principal's office without permission.
- D. Noisy behavior by any student in the college premises, lecture hall or near the office is strictly prohibited.
- E. Students shall be in their seats in the classroom before start of the lecture. No student should enter or leave the class without permission,
- F. Student not attending the theory classes of a particular subject will not be allowed to attend the practical of the subject.
- G. Students must take proper care of the college properties such as furniture and electrical fixtures etc.
- H. Students must not bring with them unauthorized person in the college premises Strict disciplinary action will be taken against the students who violate this rule.
- I. Students shall not organize their own picnics, excursions or any programs without prior written permission of the Principal.
- J. Students are appealed to use bicycles or e-vehicles to encourage healthy, sustainable and eco-friendly mode of transport to the college

Prohibiting use of single use plastic in campus. ↓



Akola Municipal Corporation's 'Garbage pickup agency' ↓ collect the waste material from garbage bins daily.



Sufficient number of Dustbins are kept in every class ↑ room and in all the campus for deposition of waste.



Biodiversity of college campus:

6. Organization of Environment Awareness programmes:

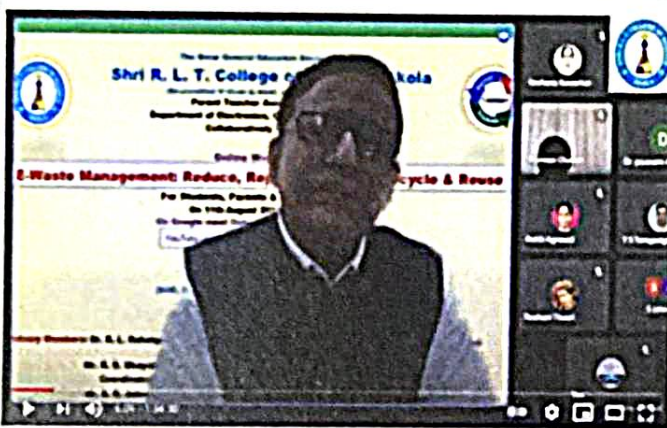


Tree plantation on "Krushi Divas".



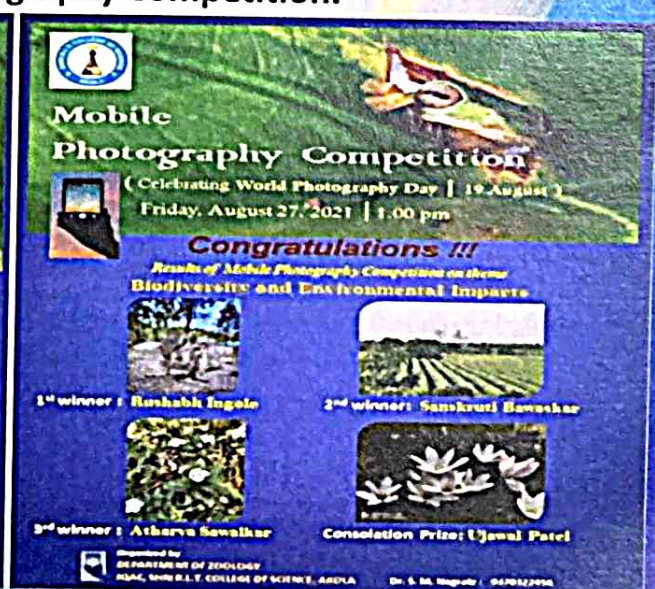
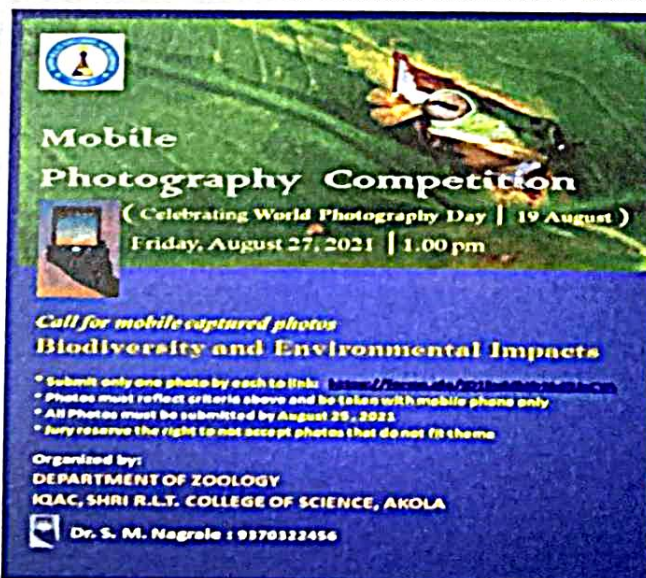
Tree plantation at the hands of Hon. V.C., Dr. Dilip Malkhede

7. Workshop on E-Waste Management:



Reduce, Repair, Refurbish, Recycle & Reuse.

8. Online Mobile Photography Competition.





Awareness program to save electricity, paper and energy.



Hon. Collector Neema Arora and others releasing save energy poster.



SHRI R.L.T. COLLEGE OF SCIENCE, AKOLA

In Collaboration with

EFEC (ENVIRONMENT & FOREST EDUCATION CENTER)



Awareness Program To save Electricity, Paper & Energy

26th August 2021

President: Dr. Vijay Nanoty

Resource Person: Mr. Uday Vaze

Coordinator: Dr. Archana Sawarkar

Organized by
Environment Cell



Awareness program
to save electricity,
paper and energy





World Wildlife Week- 2021

World Wild Life Week Programme* 2nd to 8th October 2021
Zebra Cell Department of Zoology

Organizes different activities like Rangoli, Poster and Essay writing competitions on the occasion of "World Wildlife Week".

Objectives of Celebrating Wild Life Week

1. To make people more aware of the conservation and protection of the wildlife.
2. To implement more services to conserve the wildlife.
3. To discuss all issues related to the conservation of the Wild life.

Details of Programme Activities

1. Poster Presentation - Date: 2nd, 5th October 2021

Co-ordinator: Dr. S. M. Nagrale (Mob. no. 9370322456)

Instructions:

1. Prepared poster on the theme "Wild life"
2. After completion of the poster, click its photo, convert it to PDF and upload it on the given google form Link.

2. Essay Writing - Date: 2nd, 5th October 2021

Co-ordinator:

Dr. Anshika S. Sawarkar (Mob. no. 9850141186) & Dr. Sudha R. Kulkarni

Instructions:

1. Write an essay on the given topic: "My Favourite wild Animal"
2. Only one entry is allowed.
3. Write an essay in 1000 words.
4. Upload your handwritten essay on given google form Link.

3. Rangoli Competition - Date: 2nd to 8th October 2021

Theme: Impact of Deforestation On Wildlife

Co-ordinator: Dr. Rashmi Joshi Sawarkar (Mob. no. 9923074666)

Instructions:

1. Rangoli of any Wild Animal
2. After completion of Rangoli, click its photo with you in Gootag app and upload it on the given google form Link.
3. Result will be declared on 8th October 2021.

4. Quiz Competition - Date: 6th October 2021

Co-ordinators: Dr. Rashmi Joshi Sawarkar & Dr. S. M. Nagrale

The link for the Quiz is given below and the responses will be open for 2 days, at 6th and 7th October 2021! <https://forms.gle/DrXzLrLPHvQfWtM>

Attractive Prizes for winners.

Google Form Link for registration and to upload your material

<https://forms.gle/DrXzLrLPHvQfWtM>



Farmers Day of India.



Akola, Maharashtra, India

P244+FJ4, New Radhakrishnan Plots, Akola, Maharashtra 444001, India
Lat 20.706338°
Long 77.006334°
23/12/21 02:40 PM



Akola, Maharashtra, India

P244+FJ4, New Radhakrishnan Plots, Akola, Maharashtra 444001, India
Lat 20.706323°
Long 77.006338°
23/12/21 02:38 PM

Guest Lecture on Nature, Wildlife & Environment awareness program.



Akola, Maharashtra, India

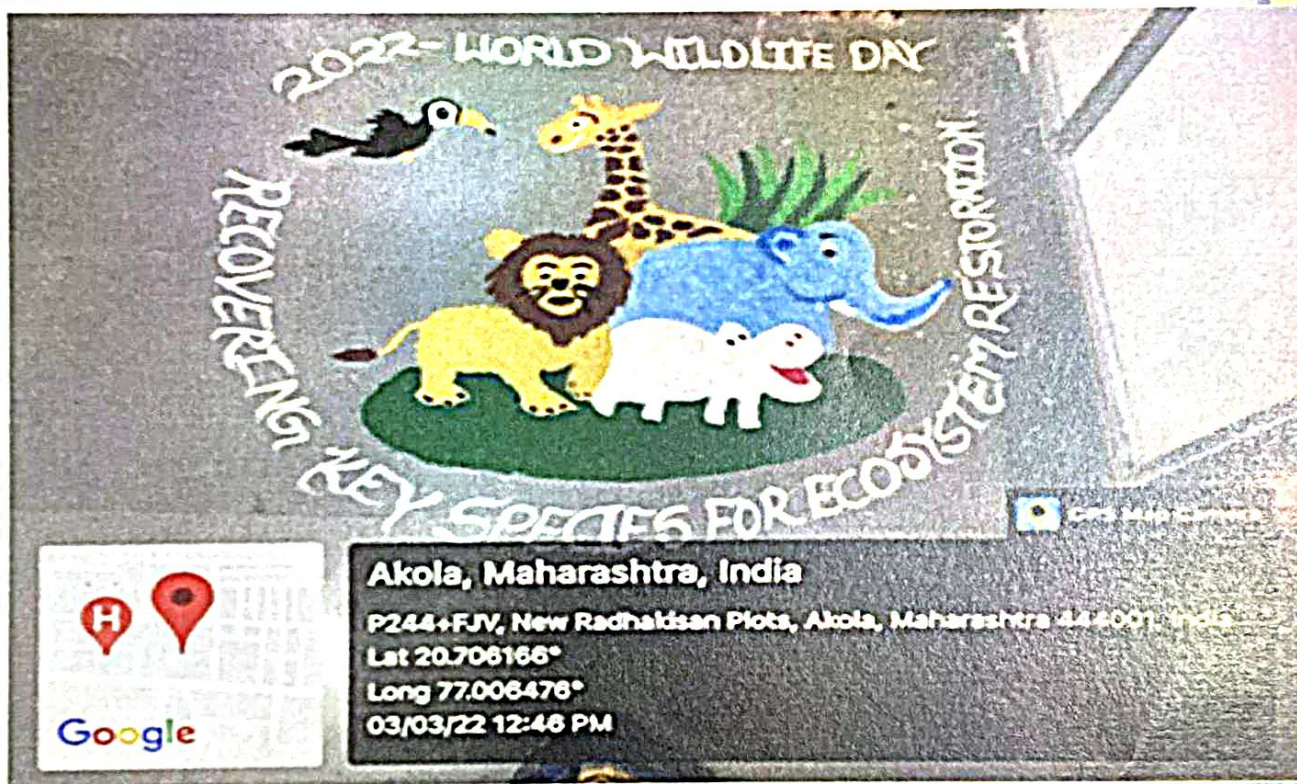
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Long 77.006131°
04/01/22 01:38 PM



Akola, Maharashtra, India

P244+FB3, New Radhakrishnan Plots, Akola, Maharashtra 444001, India
Lat 20.705821°
Long 77.006131°
04/01/22 01:45 PM

World Wild Life Day (03/03/2022):



World Spider Day (14/03/2022):



Bird Nest Exhibition and Competition on World Sparrow Day (20/3/2022):



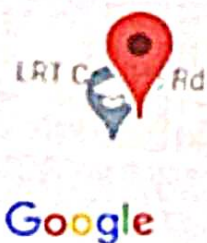
 GPS Map Camera



Akola, Maharashtra, India
P244+FJV, New Radhakisan Plots, Akola,
Maharashtra 444001, India
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Long 77.006486°
21/03/22 01:12 PM



 GPS Map Camera



Akola, Maharashtra, India
P244+FJV, New Radhakisan Plots, Akola, Maharashtra 444001,
India
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Long 77.006487°
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World Forest Day(21/03/2021):



Akola, Maharashtra, India
 P244+FJV, New Radhakisan Plots, Akola,
 Maharashtra 444001, India
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 21/03/22 01:04 PM



Akola, Maharashtra, India
 P244+FJV, New Radhakisan Plots, Akola,
 Maharashtra 444001, India
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 Long 77.006473°
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World Water Day(22/03/2022):



Akola, Maharashtra, India
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 Long 77.006531°
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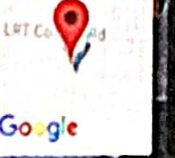


Akola, Maharashtra, India
 P244+FJV, New Radhakisan Plots, Akola, Maharashtra 444001, India
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 Long 77.00649°
 22/03/22 05:13 PM

World Earth Day (22/04/2022):



Akola, Maharashtra, India
 P244+F83, New Radhakisan Plots, Akola,
 Maharashtra 444001, India
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 Long 77.005896°
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Akola, Maharashtra, India
 P244+F83, New Radhakisan Plots, Akola, Maharashtra 444001, India
 Lat 20.70606°
 Long 77.005921°
 22/04/22 04:35 PM

Earth Day



Garden project on World Environment Day (05/06/2022):



Beyond the campus environmental promotion activities.



Rally and cleanliness drive in Apoti village (21/03/2022):



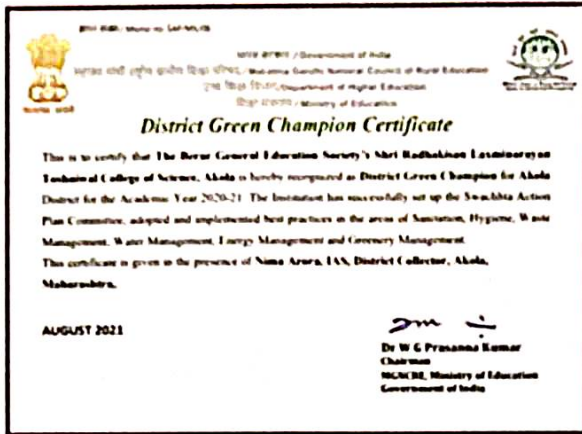
Construction of soak pits at adopted village Apoti (24/03/2022):



Distribution of Bird Feeders in Apoti Village.



6. Evidence of success





Evidence of success

Swachh Vidyalaya Puraskar
Department of School Education & Literacy
Ministry of Education, Government of India

7.0
Azadi Ka
Amrit Mahotsav

Swachh Bharat
Swachh Vidyalaya

SWACHH VIDYALAYA PURASKAR 2021-22

District Level Award - Sub Category

This is to certify that SHRI R.L.T. COLLEGE OF SCIENCE AKOLA School With UDISE-Code 2705077784 has received the District Level Award in Swachh Vidyalaya Puraskar 2021-22 in the sub category of HANDWASHING WITH SOAP with a score of 99 % with ★★★★★ rating

District Collector

Sub Category Wise Self evaluation Scores

Score: 100% Score: 95 & Handwashing with Soap: 100% Operation and Maintenance: 100% Behavior Change and Capacity Building: 100% OHS&P Preparation and response: 100%

↑ Below 25% Poor | ★ 25% 50% Fair | ★★ 50% 75% Good | ★★★ 75% 85% Very Good | ★★★★★ 85% 100% Excellent

Rating Norms

Swachh Vidyalaya Puraskar
Department of School Education & Literacy
Ministry of Education, Government of India

7.0
Azadi Ka
Amrit Mahotsav

Swachh Bharat
Swachh Vidyalaya

SWACHH VIDYALAYA PURASKAR 2021-22

District Level Award - Sub Category

This is to certify that SHRI R.L.T. COLLEGE OF SCIENCE AKOLA School With UDISE-Code 2705077784 has received the District Level Award in Swachh Vidyalaya Puraskar 2021-22 in the sub category of OPERATION AND MAINTENANCE with a score of 99 % with ★★★★★ rating

District Collector

Sub Category Wise Self evaluation Scores

Score: 100% Score: 95 & Handwashing with Soap: 100% Operation and Maintenance: 100% Behavior Change and Capacity Building: 100% OHS&P Preparation and response: 100%

↑ Below 25% Poor | ★ 25% 50% Fair | ★★ 50% 75% Good | ★★★ 75% 85% Very Good | ★★★★★ 85% 100% Excellent

Rating Norms

Swachh Vidyalaya Puraskar
Department of School Education & Literacy
Ministry of Education, Government of India

7.0
Azadi Ka
Amrit Mahotsav

Swachh Bharat
Swachh Vidyalaya

SWACHH VIDYALAYA PURASKAR 2021-22

District Level Award - Sub Category

This is to certify that SHRI R.L.T. COLLEGE OF SCIENCE AKOLA School With UDISE-Code 2705077784 has received the District Level Award in Swachh Vidyalaya Puraskar 2021-22 in the sub category of BEHAVIOR CHANGE AND CAPACITY BUILDING a score of 99 % with ★★★★★ rating

District Collector

Sub Category Wise Self evaluation Scores

Score: 100% Score: 95 & Handwashing with Soap: 100% Operation and Maintenance: 100% Behavior Change and Capacity Building: 100% OHS&P Preparation and response: 100%

↑ Below 25% Poor | ★ 25% 50% Fair | ★★ 50% 75% Good | ★★★ 75% 85% Very Good | ★★★★★ 85% 100% Excellent

Rating Norms

Swachh Vidyalaya Puraskar
Department of School Education & Literacy
Ministry of Education, Government of India

7.0
Azadi Ka
Amrit Mahotsav

Swachh Bharat
Swachh Vidyalaya

SWACHH VIDYALAYA PURASKAR 2021-22

District Level Award

This is to certify that SHRI R.L.T. COLLEGE OF SCIENCE AKOLA School With UDISE-Code 2705077784 has received the District Level Award in Swachh Vidyalaya Puraskar 2021-22 and has achieved an overall score of 99 % with an overall rating of ★★★★★

District Collector

Sub Category Wise Self evaluation Scores

Score: 100% Score: 95 & Handwashing with Soap: 100% Operation and Maintenance: 100% Behavior Change and Capacity Building: 100% OHS&P Preparation and response: 100%

↑ Below 25% Poor | ★ 25% 50% Fair | ★★ 50% 75% Good | ★★★ 75% 85% Very Good | ★★★★★ 85% 100% Excellent

Rating Norms

Licence for possessions of certain chemicals.



FORM R. S. II.

[Rule 5 (1) (b)]

आजि (अधिकारी) को फॉर्म नं. 1
दि. 20/07/2000 को मान्यतेने सदर
अनुमती-पत्र (आ. 50) दि. 20/07/2000
900 लिटर (शंभर) लिटरचा कश्चात
आका आहे.

Licence No. 2/15/00

Licence for the possession and use of rectified spirit including absolute alcohol for industrial, medicinal, scientific and educational purposes.

Licence is hereby granted, under and subject to the provisions of the Bombay Prohibition Act, 1949, (Bom. XXV of 1949), and the rules, regulations and orders made thereunder, to Principal, Rajhalsan Laxminarayan Tassarwal College of Science, Akola (hereinafter called "the licensee") on payment of a fee of Rs. 11,000/- in advance, authorising him to buy, possess and use rectified spirit including absolute alcohol (hereinafter called "spirit") during the period from 1-4-1955 to 31-3-1956, at his premises situated at Akola (hereinafter referred to as "the licensed premises"), subject to the following conditions, namely :-

Conditions.

- The licensee shall not use the spirit for any purpose except for Educational
- (1) The licensee shall not buy spirit except on a requisition countersigned by an Officer of the Prohibition and Excise Department duly authorised in that behalf.
(2) The licensee shall not buy spirit in any one month exceeding 60 (Sixty) litres only of Rectified Spirit & Absolute Alcohol in the aggregate.
- The licensee shall not have in his possession more than 60 (Sixty) litres only of spirit at any one time.
- The licensee shall keep all the spirit received by him in a place in the licensed premises approved by the local Inspector of Prohibition and Excise under lock and key and all issues of spirit from the said place shall be made in the presence of the licensee or a person duly authorised by him in writing in that behalf.
- (1) The licensee shall maintain such accounts as may be prescribed by the Director of Excise and Prohibition under the Act. The account shall be kept in a bound book, pagged and stamped with the seal of the Collector.
(2) The licensee shall keep, along with the account book, the requisitions and transport passes relating to the spirit received at the licensed premises.
(3) The licensee shall submit such returns as may be prescribed by the Director of Excise and Prohibition under the Act.
(4) The licensee shall furnish to the Collector such other information relating to the subject matter of this licence as the Collector may from time to time require.
- The licensee shall pay to Government such cost of the Prohibition and Excise staff if it is appointed of Excise and Prohibition for supervision over the use of rectified spirit, as may be fixed by the Director.
- The licensed premises, the spirit kept therein and the account books, requisition and transport passes referred to in condition 5 and this licence shall at all times be open to inspection by the Collector, or any Prohibition and Excise or Police Officer not lower in rank than a Sub-Inspector of Prohibition and Excise or Police, as the case may be, or by any other officer empowered under section 17 (a) of the Bombay Prohibition Act, 1949, who may be deputed or authorised by the Collector or the Superintendent of Prohibition and Excise in this behalf.
- The accounts, requisitions and transport passes referred to in condition 5 and the licence shall be preserved by the licensee during the whole of the period of this licence.

Granted this day of 195 ..



Collector of

* The purpose for which the spirit is to be used should be clearly stated here. In the case of use for industrial purposes the specific industrial purpose should be mentioned.



Licence for possessions of certain chemicals.

अनुज्ञप्ती क्र. 99/2019-20
 नुतनीकरण शुल्क रु. 400/- इषलने क्र. MHE/398/2019
 दिनांक 01/03/2020 नुतार वतुल करुन पुर्वीप्यव
 शर्तीवर या अनुज्ञप्तीचे दि. 01/04/2019 ते
 दि. 31/03/2020 पर्यंत नुतनीकरण करियांत येत आहे.
 दि. 05/04/19
 जिल्हाधिकारी, अकोला
 करिता



अनुज्ञप्ती क्र. 11/2020-21
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 दि. 31/03/2021 पर्यंत नुतनीकरण करियांत येत आहे.
 दि. 05/04/19
 जिल्हाधिकारी, अकोला
 करिता

अनुज्ञप्ती क्र. 11/2021-22
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 दि. 31/03/2022 पर्यंत नुतनीकरण करियांत येत आहे.
 दि. 05/04/19
 जिल्हाधिकारी, अकोला
 करिता

अनुज्ञप्ती क्र. 05-06/.....
 नुतनीकरण शुल्क रु. इषलने क्र.
 दिनांक नुतार वतुल करुन पुर्वीप्यव
 शर्तीवर या अनुज्ञप्तीचे दि. 01/04/2021 ते
 दि. 31/03/2022 पर्यंत नुतनीकरण करियांत येत आहे.
 दि. 05/04/19
 जिल्हाधिकारी, अकोला
 करिता

Conclusion

Internal Green & Environment Audit was conducted by an Internal Green & Environment Audit Committee i.e. IGEAC. The committee consisted of teaching, non-teaching staff, and external subject specialist members. It started in the month of April 2021 with the organizing Pre Audit Training Workshop. The workshop gave clear directives and directions to all members. Subject specialists offered a complete set of directives about data collection and the importance of the Questionnaire. The questionnaire was provided to the committee and data collection started in September 2021. The necessary information and crucial data collection were completed and a draft report was complete in April 2022. The review meeting was organized in May 2022. The special meeting was called upon in June 2022 to approve, accept, and release Internal Green & Environment Audit Report for the year 2021-2022.

A conclusion can be made from the Internal Green & Environment Audit Report for the year 2021-2022 that the environment in the R.L.T. College of Science is healthy. The committee has made short-term and long-term recommendations to take environmental protection and its management practices to higher levels.

Internal Green & Environment Audit Report for the year 2021-2022 will become an effective tool for all the future Internal Green & Environment Audit Reports. The procedures, processes, and practices followed in the report-making will surely evolve every year. The Internal Green & Environment Audit committee will strive hard to make audit reports more informative and useful. Internal Green & Environment Audit Committee thanks each & everyone involved directly and indirectly in making this Internal Green & Environment Audit Report.

B. G. E. Society's



Shri R.L.T. College of Science

New Radhakisan Plots, Akola Maharashtra 444001, India

INTERNAL GREEN & ENVIRONMENT AUDIT REPORT



The Berar General Education Society's
**Shri Radhakisan Laxminarayan Toshniwal
College of Science, Akola (M.S.)
(Shri R.L.T. College of Science)**



Recognized by Government of Maharashtra
Affiliated to Sant Gadge Baba Amravati University, Amravati
Re-accredited 'A' by NAAC, Bangalore With CGPA-3.12



**4th Cycle of NAAC
ASSESSMENT AND ACCREDITATION**

**CRITERION VII
INSTITUTIONAL VALUES AND BEST PRACTICES**

**Key Indicator – 7.1
Institutional Values and Social Responsibilities**

**7.1.3.2
Energy Audit**

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7.1.3.2. Energy Audit		
1	Certificate of Energy Audit 2019-20	
2	Certificate of Energy Audit 2020-21	
3	Certificate of Energy Audit 2021-22	
4	Detail report of Energy Audit 2019-22	

PPS Energy Solutions

PPS Energy Solutions Pvt. Ltd.

Regd. Off: B-403, Bharti Vihar, S.No-78, Bharti Vidyapith Campus, Katraj, Pune – 411046 Ph: +91-20-2523 2858, 6400 0643

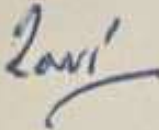
Date: 18th April 2020

CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify that, we M/s. PPS Energy Solutions Pvt. Ltd. has successfully completed Energy Audit at Shri R.L.T. College of Science, Akola and submitted report.

For PPS Energy Solutions Pvt. Ltd, Pune



Dr. Ravi. G. Deshmukh
Director

Date: 16th April 2021

CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify that, we M/s. **PPS Energy Solutions Pvt. Ltd.** has successfully completed **Energy Audit at Shri R.L.T. College of Science, Akola** and submitted report.

For PPS Energy Solutions Pvt. Ltd, Pune



Dr. Ravi. G. Deshmukh
Director

Date: 10th April 2022

CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify that, we M/s. **PPS Energy Solutions Pvt. Ltd.** has successfully completed **Energy Audit at Shri R.L.T. College of Science, Akola** and submitted report.

For PPS Energy Solutions Pvt. Ltd, Pune



Dr. Ravi. G. Deshmukh
Director

DETAILED ENERGY AUDIT REPORT



SHRI R.L.T. COLLEGE OF SCIENCE, AKOLA

Sitabai Art College Road
Akola

10th April 2022

Conducted By

PPS Energy Solutions Pvt. Ltd.

Plot No-18, Girish Housing Society
Warje, Pune – 411058, Maharashtra, India.

For PPS Energy Solutions Pvt. Ltd.

Ravi

Dr. Ravi G. Deshmukh
Energy Auditor Class - A
MEDA/ECN/2021-22/EA-01



MAHARASHTRA ENERGY DEVELOPMENT AGENCY



Maharashtra Energy Development Agency

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ECN/2021-22/CR-28/3412

06th July, 2021

**CERTIFICATE OF REGISTRATION
FOR CLASS 'A'**

We hereby certify that, the firm having following particulars is registered with **MAHARASHTRA ENERGY DEVELOPMENT AGENCY (MEDA)** under given category as "Energy Planner & Energy Auditor" in Maharashtra for Energy Conservation Programme of MEDA.

Name and Address of the firm : M/s PPS Energy Solutions Pvt. Ltd.
B-403, Bharat Vihar, S.No-78,
Bharti Vidyapith, Campus,
Katraj, Pune-411043.

Registration Category : *Empanelled Consultant for Energy Conservation
Programme for Class 'A'*

Registration Number : *MEDA/ECN/2021-22/Class A/EA-11*

- Energy Conservation Programme intends to identify areas where wasteful use of energy occurs and to evaluate the scope for Energy Conservation and take concrete steps to achieve the evaluated energy savings.
- MEDA reserves the right to visit at any time without giving prior information to verify quarterly activities performed by the firm and canceling the registration, if the information is found incorrect.
- This empanelment is valid till **05th July, 2023** from the date of registration, to carry out energy audits under the Energy Conservation Programme
- The Director General, MEDA reserves the right to cancel the registration at any time without assigning any reasons thereof.

General Manager (EC)



WHY ENERGY AUDIT?

An energy audit determines the amount of energy consumption affiliated with a facility and the potential savings associated with that energy consumption. Additionally, an energy audit is designed to understand the specific conditions that are impacting the performance and comfort in your facility to maximize the overall impact of energy-focused building improvements.

An energy audit is a systematic review of the energy consuming installations in a facility to ensure that energy is being used sensibly and efficiently. An energy audit usually commences with the collection and analysis of all information that may affect the energy consumption of the facility, then follows with reviewing and analyzing the condition and performance of various installations and facility management, with an aim at identifying areas of inefficiency and suggesting means for improvement.

Through implementation of the suggested improvement measures, facility owners can get the immediate benefit for paying less energy bills. On the other hand, lowering of energy consumption in facility will lead to the chain effect that the power supply companies will burn less fossil fuel for electricity generation and relatively less pollutants and greenhouse gases will be introduced into the atmosphere, thus contributing to conserve the environment and to enhance sustainable development.



ACKNOWLEDGEMENT

We express our sincere gratitude to the authorities of R.L.T. College of Science, Akola for entrusting and offering the opportunity. It is our immense pleasure to present the detailed energy audit report.

We acknowledge the positive support from management in undertaking the task of Detailed Energy Audit of all electrical system, thermal systems, utilities and other area and for continuous help and support before and during the Detailed Energy Audit.

We are also thankful to all field staff and agencies working with whom we interacted during the field studies for their wholehearted support in undertaking measurements and eagerness to assess the system / equipment performance and saving potential. We admire the help of all concerned staff for their active participation in completing official documentations.

We express our sincere gratitude to the authorities of R.L.T. College of Science, Akola for entrusting PPS Energy Solutions Pvt. Ltd.

For PPS Energy Solutions Pvt. Ltd.

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About PPSES

M/s. PPS Energy Solutions Pvt. Ltd (PPSES) is an ambitious company, established by enterprising engineering professionals in the year 2009. The company offers services pertaining to Energy and Engineering to clients across the globe. Our team is based in Pune, a city known for its Software and Engineering talent in India. We are a rapidly growing company with a team of about 100 people which includes highly trained and experienced Techno-Managers, Analysts, and Engineers & Detailers.

We are presently working in India (Maharashtra, Assam, Madhya Pradesh, Gujarat, Andhra Pradesh, Delhi, Orissa, Chhattisgarh, Bihar, Andhra Pradesh, Telangana and Jharkhand) and Abroad (Bahrain, Stanford)

- We serve in majorly four areas,
 - Energy Audit, Management and System Evaluations
 - Power Distribution System Design, Evaluations and Monitoring
 - MEP Design and Project management
 - Research and Training

PPSES Team Members

Name	Role	Academics and Expertise
Dr. Ravi Deshmukh	ECM verification, Report verification and presentation	Accredited Energy Auditor, PhD, M tech, MBA (Power), Graduate E&TC Engineer with over 18 years of experience in Energy Management, Management of Power System, street light projects, Power Exchange Operations, Power Trading and Analysis, Electrical Automation. Has worked as Expert in Iron & Steel sector and Energy
Mr .Nilesh Saraf	Co-ordination with officers, project status review.	Expert in Energy sector with 16 years of experience in Energy efficiency assessment, Industrial engineering sector & Renewable Energy.
Mr. Vinayak Apte	Energy Audit Expert	Graduate Electrical Engineer with more than 10 years of experience in various sectors. He handled Energy Audits, Energy Conservation and Energy Efficiency projects in Industries, Commercial and Residential Buildings, Pump House
Mr. Vedmurthy Swamy	Field study, data tabulation and analysis, report preparation	Graduate Mechanical Engineer with 5 years of experience in project management, energy efficiency assessment



1. EXECUTIVE SUMMARY

Detailed Energy Audit was undertaken in order to evaluate energy performance and identify potential energy conservation measures. Detailed Energy Audit was undertaken in three steps, i.e. document review of data and information initially provided by facility, site visit and preparation of this report.

Energy Audit team conducted the site visit. The site visit includes interaction with staff, electricians of facility, the collection/review of further data and a field inspection of the facility and equipment.

The salient observations and recommendations are given below.

1. The Total Cost of Energy is around **Rs. 3,25,534/-** per Annum
2. Average monthly units consumed are **3,707 kWh** equivalent to **Rs. 27,128/-**
3. Average electricity charges works out to be **Rs. 7.5/-**

This brief report has therefore sought to provide a high-level overview of the status of energy efficiency at facility, combined with an illustration of areas where further, previously unidentified savings opportunities may exist.

Our survey has identified further potential opportunities, ranging from “no & low cost” measures, through to those that will require significant capital expenditure.

Note: Investment figures mentioned in are only indicative, further detailed study is recommended.

Summary of Recommended Energy Conservation Measures:

Sr.No.	Equipment Name	ECM Details	Investment (Rs. In Lacs)	Savings (kWh/year)	Carbon credit (Tons of Co2)	Saving (Rs.In Lacs /Year)	Payback (Years)
1	Tube Lights	Replacement of conventional lights with suitable LEDs	5.11	3686.40	3.13	0.28	16.51
2	Fans	Replacement of existing fans with energy efficient Super fans	7.43	9550.80	8.12	0.72	10.37



Sr.No.	Equipment Name	ECM Details	Investment (Rs. In Lacs)	Savings (kWh/year)	Carbon credit (Tons of Co2)	Saving (Rs.In Lacs /Year)	Payback (Years)
3	AC	Optimize the temperature setting to 23-25 degree celsius	0.00	15.88	0.01	0.00	0.00
4	Pump	Replacement of Existing Pumpsets with Energy Efficient Pumpsets	0.42	104.44	0.09	0.01	53.48
5	Refrigerator	Optimize the temperature setting of Refrigerators	0.00	4698.00	4.20	0.35	0.00
6	APFC	Optimize the Power Factor	0.34	0.00	0.00	0.12	0.24
7	Other Appliances	Replacement of old appliances (like fridge, air cooler, water cooler etc) with 5 star rating	2.11	2713.50	2.43	0.20	10.35
8	Main Incomer	Optimization of Neutral Current	0.00	157.68	0.14	0.01	0.00
Total			15.41	20926.70	18.13	1.69	9.14

Note: Estimated savings may base on operating conditions

During the Energy Audit, Total Estimated Investment of Rs. 15,41,000/- yields Total Estimated Savings of Rs. 1,69,000/- which 52 % of the Total Energy Cost of Rs. 3,25,534/- with an overall payback period of 9.14 Years.

Other Recommendations:

- A. Regular cleaning and maintenance of equipment's is important to reduce energy losses.
- B. Use of star rated equipment's is also strongly recommended specially in case of Fans and Air conditioning.
- C. Cleaning of ceiling fan and exhaust fan blades will reduce the drag on the fan and intern will reduce energy loss.
- D. Awareness amongst energy users is very essential step to reduce wastage of electricity



E. Energy conservation awareness programs can be conducted once a year. Increasing energy awareness of energy users motivates them to work as a team can lead to reductions in energy consumption and save the money.

Year	Investment (Rs. In Lacs)	Saving (Rs.In Lacs /Year)	Cum Savings(Rs Lakh)	Net savings (Rs Lakh)
0	-15	0	0	-15
1	0	2	2	-14
2	0	2	3	-12
3	0	2	5	-10
4	0	2	7	-9
5	0	2	8	-7
6	0	2	10	-5
7	0	2	12	-4
8	0	2	13	-2
9	0	2	15	0
10	0	2	17	1
11	0	2	19	3
12	0	2	20	5
13	0	2	22	7
14	0	2	24	8
15	0	2	25	10

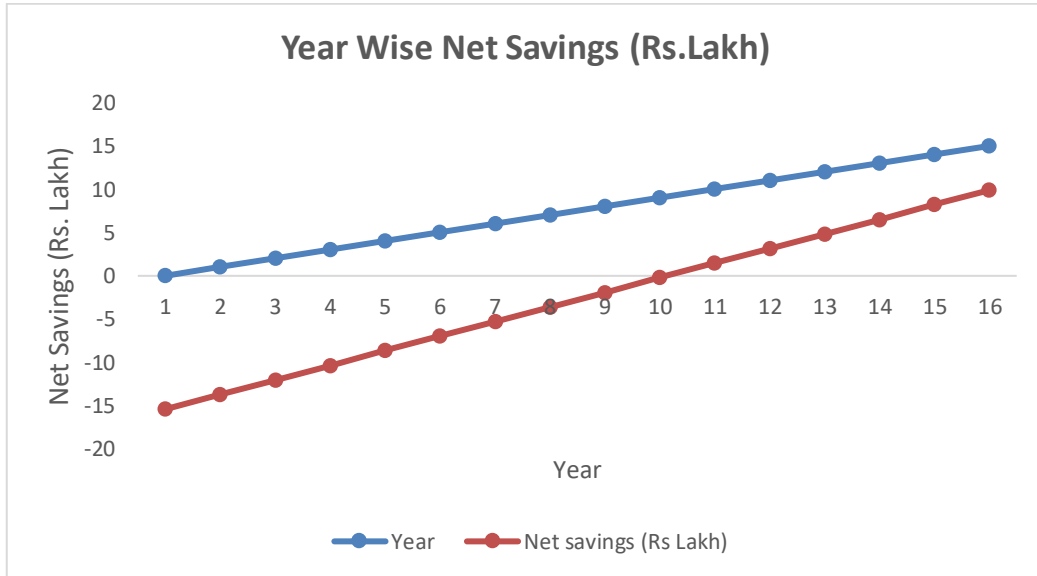


Figure 1 Net Savings (Rs. Lakhs) Vs Year

For PPS Energy Solutions Pvt. Ltd.

Dr. Ravi G. Deshmukh
Energy Auditor Class - A
MEDA/ECN/2021-22/EA-01



2. GENERAL AUDIT REVIEW

Facility can implement faster payback energy conservation measures (ECMs) which have already been considered and for which the ECMs are fully developed.

Other General Points:

1. Energy conservation awareness programs can be conducted once a year. Increasing energy awareness of staff, students and motivating them to work as a team can lead to reductions in energy consumption and save the money. Savings estimates range in the order of 5 to 10%. When implemented effectively these savings can be realized quickly and cost effectively.
2. Most of the fans are of older design and not energy efficient.
3. Most of the places the tube light installed are energy efficient and fittings are in healthy condition.
4. Natural day light is efficiently used in corridor and few classrooms and labs areas.

It is believed that with the current approach and organization of energy management, energy can be reduced in a systematic, cost effective manner. We hope that this report will help facility to implement these changes and provide direction to the Energy Management Team.



3. ABOUT ENERGY AUDIT

Objective

The overall objective of the assignment is to quantify energy saving in existing system and achieve reduction in energy consumption pattern.

Hence, the detail objectives are as under,

1. To calculate the energy consumption
2. To evaluate the performance of the equipment
3. To find out the energy saving opportunities
4. To quantify the total energy savings
5. To find out the ways to achieve energy efficiency

3.1. Scope of Work

Following is the scope of work envisaged for this assignment,

Data Collection

To collect the details of various electrical and mechanical system and their ratings, the available drawings and details shall be studied. Detail load list shall be prepared and checked.

A, B, C Analysis

With the details available from load list, analysis shall be carried out depending on the present usage trends. All the power consuming equipment's shall be classified in three categories depending on their ratings, condition and operating time. The area for larger potentials for savings shall be identified.

Field Study

The detail field study on site shall include the following as well as all other measures required for energy audit study,

- a. Lay out the system and study of Electrical distribution
- b. Study of area wise power distribution and Measurement of power consumption
- c. Study of instrumentation provided
- d. Measurement of motor currents, voltages, power etc. parameters by energy analyzer and measurement of water flow, pressures etc. parameters of pumps simultaneously and



other measurements as needed to characterize the system and required for calculating efficiency at various combinations

- e. Study of air conditioner operations and system requirements
- f. Analysis of readings obtained from field with the standard consumption.

3.2. Approach and Methodology

1. Understanding the Scope of Work and Resource Planning

2. Identification of Key Personnel for the assignment/ project

3. Structured Organization Matrix

4. Steps in preparing and implementing energy audit assignment

- a) Discussions with key facility personnel
- b) Site visits and conducting “walk-through audit”.
- c) Preliminary Data Collection through questionnaire before audit team’s site visit
- d) Steps for conducting the detailed audit
 - Plan the activities of site data collection in coordination with the facility in-charge.
 - Study the existing operations involving energy consumption
 - Collect and collate the energy consumption data with respect to electricity consumption
 - Conduct performance tests to assess the efficiency of the system equipment/ electricity distribution, lighting, and identify energy losses.
 - Discuss with facility personnel about identified energy losses.

5. List proposed efficiency measures

- Develop a set of potential efficiency improvement proposals
- Baseline parameters
- Data presentation
- System mapping
- List of potential Energy Savings proposals with cost benefit analysis.
- Review of current operation & maintenance practices

6. Preparation of the Draft Energy Audit Report

7. Preparation and submission of final Energy Audit Report after discussion with concerned persons



4. ENERGY DETAILS

Maharashtra State Electricity Distribution Company Limited (MSEDCL) provides the electricity supply for facility. Billing is carried out with the help of Two meter according to 073/LT VII (B) Tariff.

Detailed Energy Audit was conducted for the load connected to the mains supply used.

Mainly energy is used on this facility for the following purposes:

- 1) Lighting Load
- 2) Ceiling Fans
- 3) Refrigerator
- 4) Exhaust Fans
- 5) Water Pump
- 6) Oven

Based on above it is clear that followings equipments have highest potential for energy savings

Table 1 Name of Equipment

Sr. No.	Name of the Equipment
1	Lighting Load
2	Ceiling Fan
3	Water Pump
4	Refrigerator
5	Other Appliances

4.1. Electricity Bill Analysis

4.1.1. Details of Consumer No.: 310070527919

Consumer Details

Table 2 Consumer Details

Parameter	Details
Consumer No.	310070527919
Consumer Name	THE PRINCIPAL R T COLLEGE OF SCIENCE
Address	SITABAI ART COLLEGE ROAD AKOLA
Pin Code	444001
Date of Connection	01-01-1980
Sanctioned load (KW)	2.00
Tariff	073/LT VII(B)
Bu/ Circle No	4592

Consumption Details

Table 3 Billing Data

Month	kWH	Commercial Unit rate (Rs/kWh)	Demand Charges (Rs)	Wheeling Charges (Rs)	Other charges	Energy Charges (Rs)	Total Current Bill (Rs)	Total Unit Rate (INR)
Aug-21	503	4.68	373	694.14	814.22	2354.04	4235.4	8.42
Sep-21	2552	4.68	373	3521.76	3811.91	11943.36	19650.0	7.70
Oct-21	1585	4.68	373	2187.30	2397.18	7417.80	12375.3	7.81
Nov-21	1453	4.68	373	2005.14	2204.07	6800.04	11382.3	7.83
Dec-21	6767	4.68	373	9338.46	9978.45	31669.56	51359.5	7.59
Jan-22	2214	4.68	373	3055.32	3317.42	10361.52	17107.3	7.73
Feb-22	1226	4.68	373	1691.88	1871.99	5737.68	9674.6	7.89
Mar-22	2313	4.68	373	3191.94	3462.25	10824.84	17852.0	7.72
Apr-22	1918	4.57	376	2589.30	3216.27	8765.26	14947.1	7.79
May-22	3469	4.57	760	4683.15	-9335.98	15853.33	11960.8	3.45
Jun-22	1927	4.57	384	2601.45	3192.94	8806.39	14984.8	7.78
Jul-22	8331	4.57	768	11246.85	6192.32	38072.67	56279.8	6.76
Avg	2855	4.64	439	3901		13217	20151	7.06
Max	8331	4.68	768	11247		38073	56280	6.76
Min	503	4.57	373	694		2354	4235	8.42
Sum	34258		5273	46807		158606	241809	

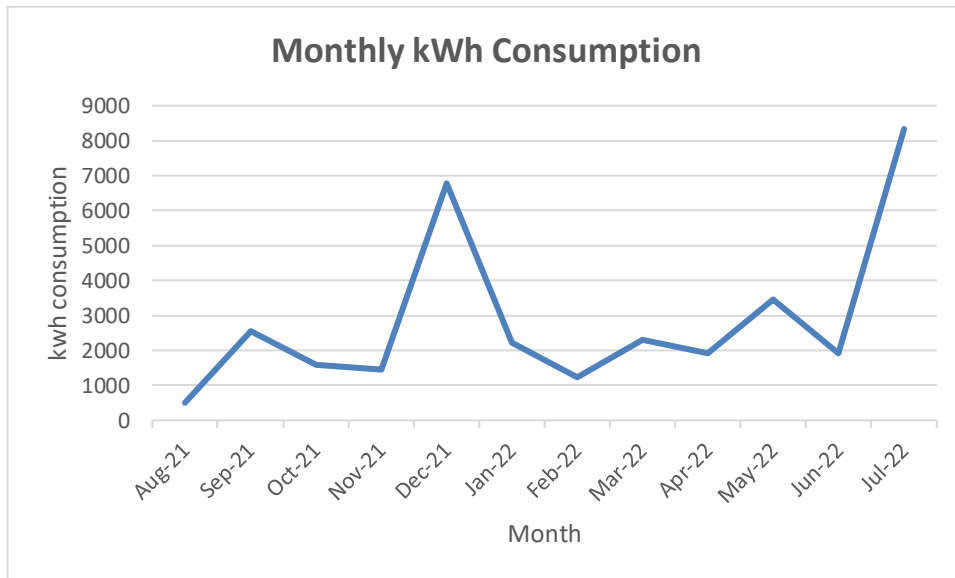


Figure 2 Monthly kWh Consumption

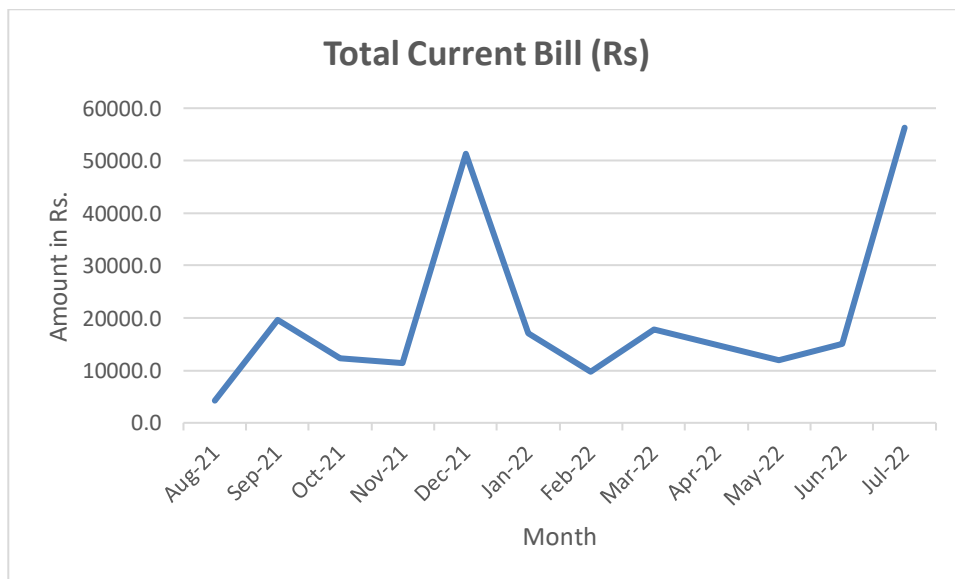


Figure 3 Monthly Electricity Bill

Comments:

1. Average monthly units consumed is **2,855 kWh** equivalent to **Rs. 20,151/-**
2. Average electricity charges works out to be **Rs. 7.06/-**



4.1.2. Details of Consumer No.: 310070527935

Consumer Details

Table 4 Consumer Details

Parameter	Details
Consumer No.	310070527935
Consumer Name	THE PRINCIPAL R L T COLLEGE
Address	CHOUDHRI HOSPITAL ROAD AKOLA
Pin Code	444001
Date of Connection	1/19/1972
Sanctioned load (KW)	12.00
Tariff	73 LT-VII B I
Bu/ Circle No	4592

Consumption Details

Table 5 Billing Data

Month	kWH	Commercial Unit rate (Rs/kWh)	Demand Charges (Rs)	Wheeling Charges (Rs)	Other charges	Energy Charges (Rs)	Total Current Bill (Rs)	Total Unit Rate (INR)
Jul-21	933	4.68	373	1287.54	1443.31	4366.44	7470.3	8.01
Aug-21	785	4.68	373	1083.30	1226.78	3673.80	6356.9	8.10
Sep-21	712	4.68	373	982.56	1119.98	3332.16	5807.7	8.16
Oct-21	733	4.68	373	1011.54	1150.71	3430.44	5965.7	8.14
Nov-21	497	4.68	373	685.86	805.64	2325.96	4190.5	8.43
Dec-21	633	4.68	373	873.54	1004.41	2962.44	5213.4	8.24
Jan-22	402	4.68	373	554.76	666.44	1881.36	3475.6	8.65
Feb-22	591	4.68	373	815.58	942.97	2765.88	4897.4	8.29
Mar-22	986	4.68	373	1360.68	1699.80	4614.48	8048.0	8.16
Apr-22	1349	4.57	384	1821.15	2259.41	6164.93	10629.5	7.88
May-22	1342	4.57	384	1811.70	2248.11	6132.94	10576.8	7.88
Jun-22	1259	4.57	384	1699.65	3256.58	5753.63	11093.9	8.81
Avg	852	4.65	376	1166		3950	6977	8.19
Max	1349	4.68	384	1821		6165	11094	8.22
Min	402	4.57	373	555		1881	3476	8.65
Sum	10222		4509	13988		47404	83725	

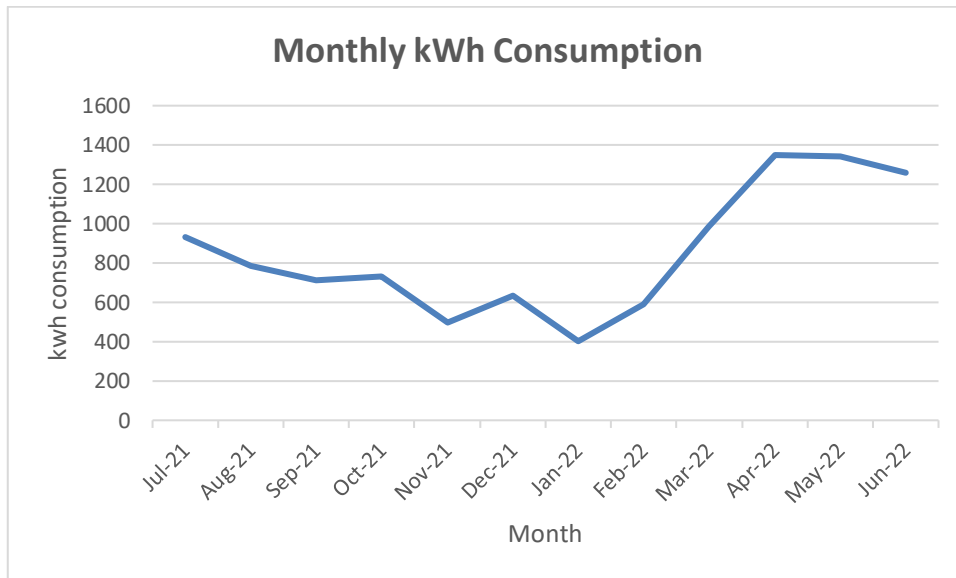


Figure 4 Monthly kWh Consumption

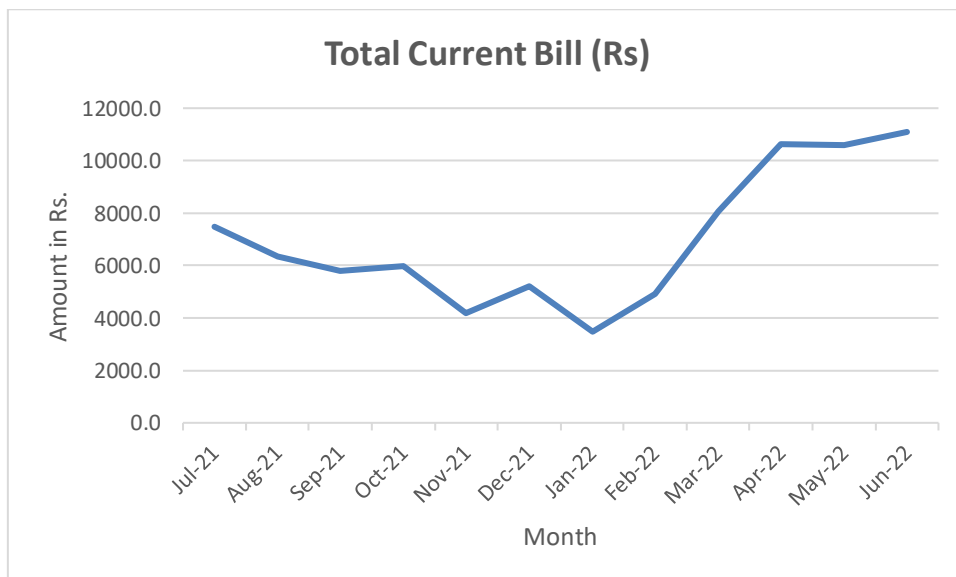


Figure 5 Monthly Electricity Bill

Comments:

1. Average monthly units consumed is **852 kWh** equivalent to **Rs. 6,977/-**
2. Average electricity charges works out to be **Rs. 8.19/-**



4.2. Connected Load Quantity of Buildings

Table 6 Connected Load of Facility

Fixtures	Watt age	Wing-D			Wing-C			Wing-B			Wing-A		Total Qty	Total Connected Load in KW
		Ground Floor	First Floor	Second Floor	Ground Floor	First Floor	Second Floor	Ground Floor	First Floor	Second Floor	Ground Floor	First Floor		
Ceiling Fan	75	36	21	50	28	35	34	22	8	24		4	262	19.65
Ceiling Fan	100	4	14	5	5		12	9	23				72	7.20
LED Tube Light	18	36	71	60	8	37		7	17	37	18	5	296	5.33
LED Light POP	18	19	1					66					86	1.55
CFL Tube Light	28	1	1	9	36	6	47	4	3				107	3.00
Computer	200	8	3	2	2	11	1		4				31	6.20
Printer	150	6	5		2	2	1	1	2				19	2.85
Laser Printer (Small)	120	1							3				4	0.48
LED Screen	55	1											1	0.06
Xerox Machine	350	1											1	0.35
Street Light LED	50	14					4					1	19	0.95
Amplifier	300	3									1		4	1.20
Projector	150	3	2	1				1	2	2			11	1.65
Exhaust Fan	35	1		2									3	0.11
Monitor	100		22										22	2.20
CPU	100		1										1	0.10
Tube Light	40		5	2	1				14				22	0.88
Table Fan	55		1										1	0.06



Fixtures	Watt age	Wing-D			Wing-C			Wing-B			Wing-A		Total Qty	Total Connected Load in KW
		Ground Floor	First Floor	Second Floor	Ground Floor	First Floor	Second Floor	Ground Floor	First Floor	Second Floor	Ground Floor	First Floor		
CFL Bulb	15		16		2				3			3	24	0.36
LED Bulb	15		12										12	0.18
Micro-Oven	2000		2										2	4.00
Refrigerator (5*)	750		1						1				2	1.50
Laptop	100		1						2				3	0.30
Wall Fan	55		1										1	0.06
Refrigerator	700			1									1	0.70
Hot air Oven	2000												0	0.00
Hot air Oven	2500												0	0.00
Auto Clave Machine	250			1									1	0.25
Refrigerator	700			1									1	0.70
Deep Refrigerator	700			1	1				1				3	2.10
Lab Equipments	100			7	2				2				11	1.10
Tube Light	36			4				5	8				17	0.61
Motor	1490	1											1	1.49
Sub. Pump	746	2											2	1.49
Exhaust Fan	55				4								4	0.22
LED Light POP	15				30								30	0.45
Hot air Oven	1450				3								3	4.35
Oven	800				1								1	0.80
Refrigerator	800				2				1				3	2.40
LED Light	15				4								4	0.06



Fixtures	Watt age	Wing-D			Wing-C			Wing-B			Wing-A		Total Qty	Total Connected Load in KW
		Ground Floor	First Floor	Second Floor	Ground Floor	First Floor	Second Floor	Ground Floor	First Floor	Second Floor	Ground Floor	First Floor		
POP														
Exhaust Fan	65				11								11	0.72
Wall Fan	35				2								2	0.07
Small R.O. Cooler	800				1	1							2	1.60
Air Cooler	1500				1								1	1.50
Street Light LED	30				8		3						11	0.33
Exhaust Fan	45							5					5	0.23
Halogen Light	200										6		6	1.20
Sound System	350										1		1	0.35
Oven	1300								3				3	3.90
Total												1130	86.81	

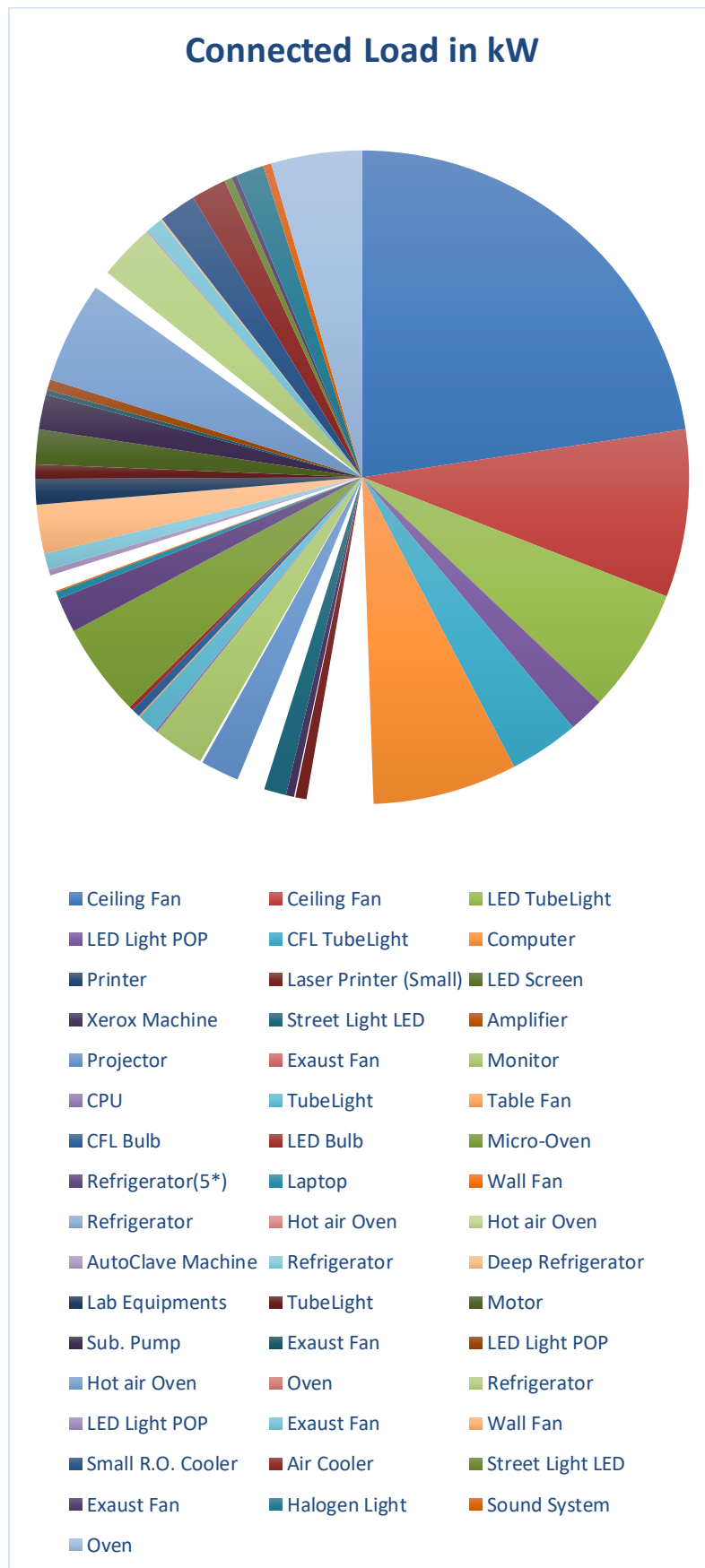


Figure 6 Distribution of Connected Load



5. ACTUAL MEASUREMENTS

5.1. Study of Loading Pattern for Facility:

The Three-phase portable power analyzer was installed at incoming panel and data is recorded. Following data shows the loading pattern, Voltage, Current PF variation.



Figure 7 Main Incomer

Table 7 Study of Loading Pattern of Facility

Parameter		R-Phase	Y-Phase	B-Phase	Total/Neutral
Voltage (V)	Avg	422.24	422.79	417.71	
	Max	424.00	424.50	419.80	
	Min	419.80	420.30	414.90	
Current (A)	Avg	8.96	12.89	4.29	8.40
	Max	13.74	18.20	13.34	12.28
	Min	6.92	11.07	3.41	4.17
Active Power (W)	Avg	1259.78	1522.34	710.46	3492.59
	Max	2017.00	2692.00	2019.00	4902.00
	Min	918.00	1244.00	612.00	3033.00
Power Factor	Avg	0.59	0.48	0.68	0.55
	Max	0.68	0.61	0.79	0.61
	Min	0.51	0.44	0.53	0.51
V % THD	Avg	2.04	2.00	2.15	
	Max	2.28	2.26	2.38	
	Min	1.78	1.79	1.90	
I % THD	Avg	14.74	24.95	12.71	39.93
	Max	18.86	42.45	17.84	-
	Min	8.77	17.39	4.42	25.36



Voltage Variation:

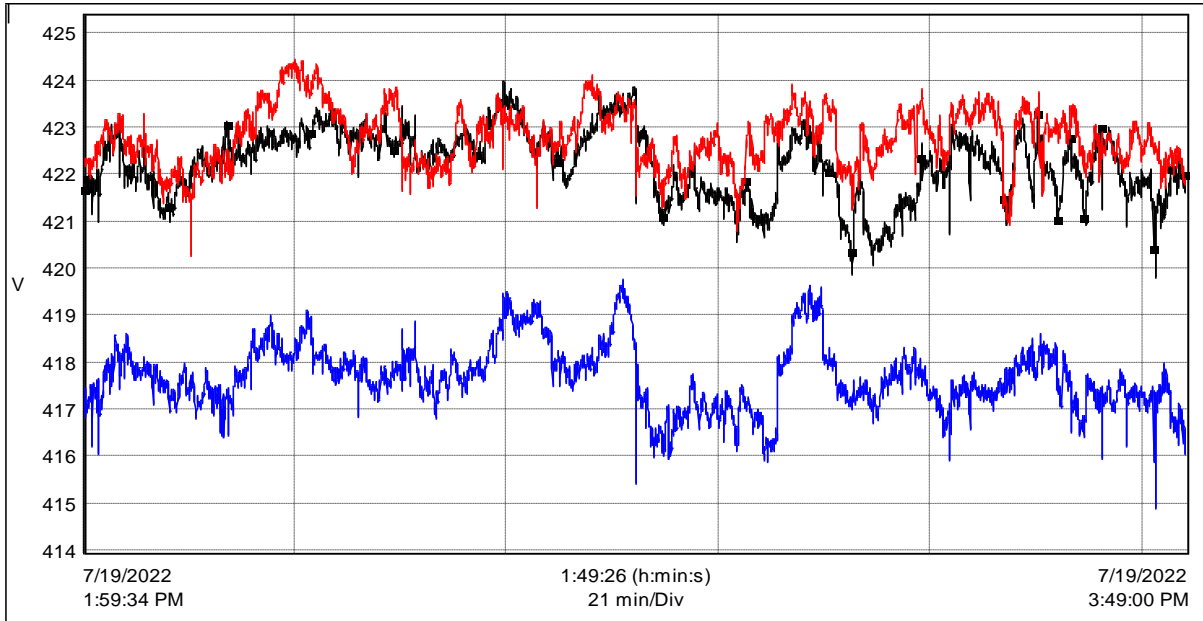


Figure 8 Voltage vs Time Period

Current Variation:

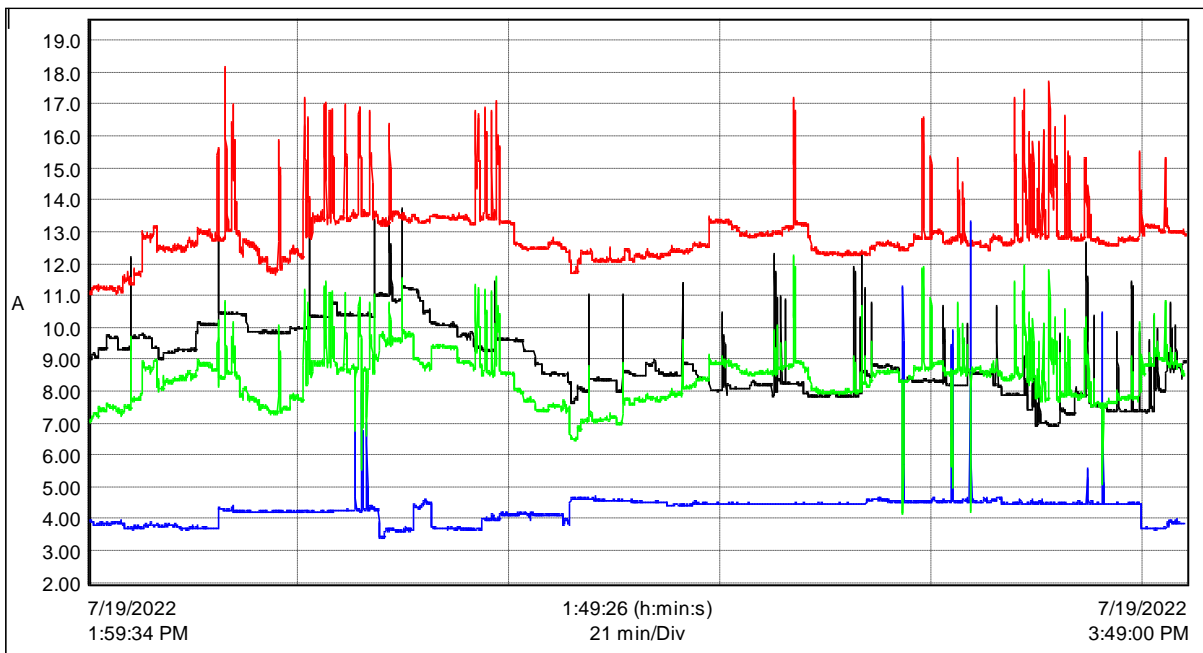


Figure 9 Current vs Time Period



Voltage Total Harmonic Distortion Variation:

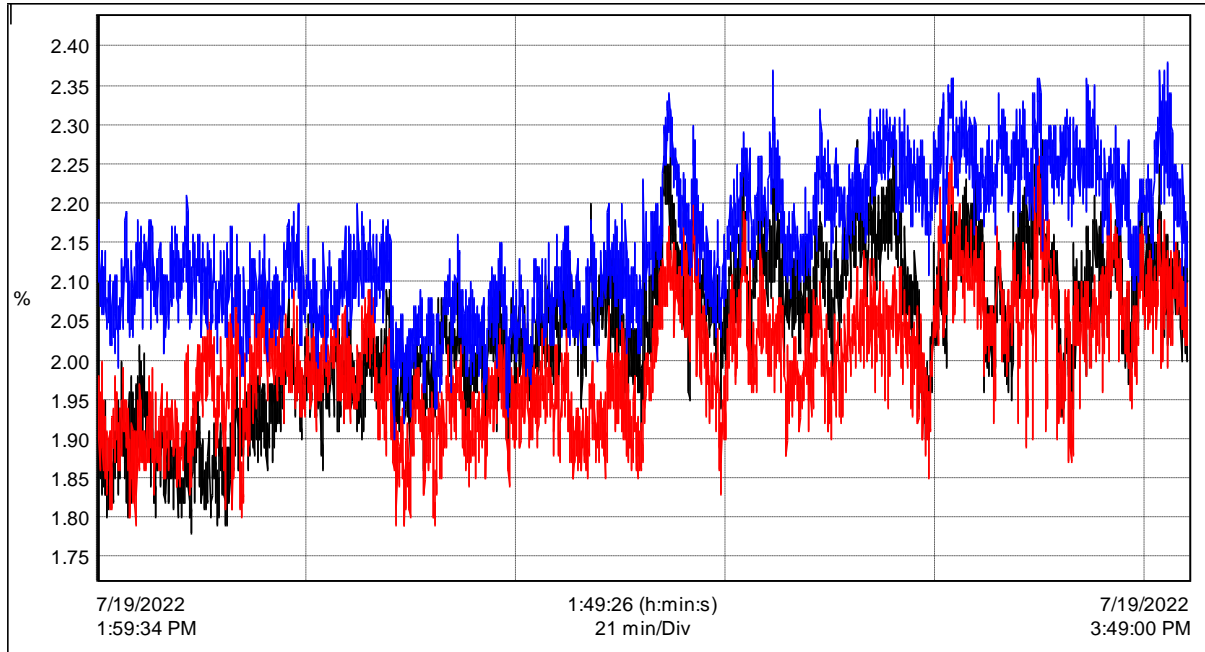


Figure 12 Voltage THD % vs Time Period

Current Total Harmonic Distortion Variation:

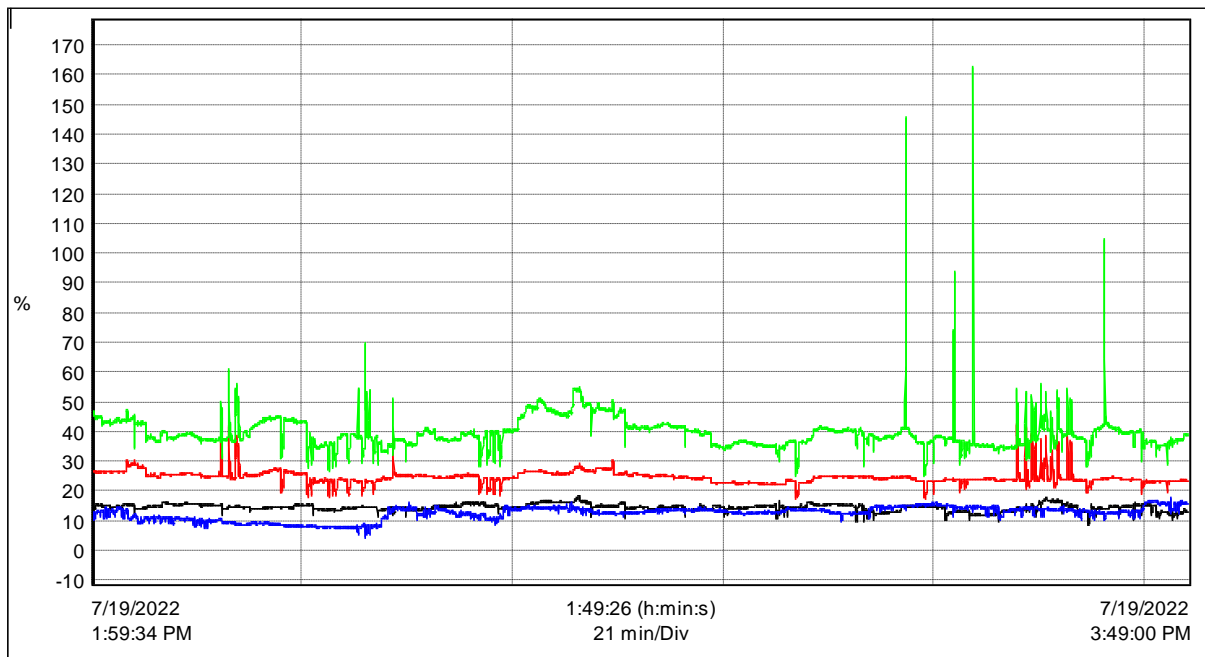


Figure 13 Current THD % vs Time Period



5.2. Study of Lighting Intensity for Facility:

It is observed that, in the entire campus on an average same lux level of 40-50. The team measured Lux level for one room on sample basis.

Table 8 Study of Lighting Intensity of Facility

ROOM 4	
Location	LUX
Point 1	30
Point 2	35
Point 3	55
Point 4	55
Point 5	30
Average	41

Recommendation:

- 1) It is recommended to install lighting fixtures given in ECMs, so that lux level can be maintained as per standard.



same fixture so there will not be retrofitting cost attached to the replacement. The replacement could be done in a phased manner. LED lights have better efficacy as well as better lifetime than conventional lights

Energy Saving Calculations:

Particular	Unit	Value
Energy Saving Calculation		
Power consumption of TL,CFL and Halogen lamps	KW	6.05
Power consumption of suitable LED	KW	4.00
Average power saving after replacement with LED lights	KW	2.05
Replacement of conventional lights with suitable LEDs	Nos	176
Average working hour per day	hrs	6
No. of working days in a year	Days	300
Cost Benefit Calculation		
Annual Energy Saving potential	kWh	3686
Electricity tariff	Rs/unit	7.5
Annual Cost Saving	Rs. Lakh	0.28
Total investment cost	Rs. Lakh	4.56
Annual Saving	Rs. Lakh	0.28
Simple Payback Period	Years	16.5

Type of Existing Fitting	Wattage	Qty	Proposed LED W	CS R NO	Price - Rs/Unit	Dismantling cost	TO T A L CO ST	Existing KW	Proposed KW	Saved kW	Investment Rs Lakh	GST 12%	Total Investment
Tube Light	28	107	20	2-1-23	926	15	1.13	3.00	2.14	0.86	1.13		
Tube Light	36	17	20	2-1-23	926	15	0.30	0.61	0.34	0.27	0.30		
Tube Light	40	22	20	2-1-23	926	15	0.34	0.88	0.44	0.44	0.34		
CFL Bulb	15	24	20	2-1-23	140	15	0.05	0.36	0.48	0.12	0.05		
Halogen Light	200	6	100	2-7-2.	13051	15	2.74	1.20	0.60	0.60	2.74		
TOTAL	319.00	176.00	180.00		15969.00	75.00	4.56	6.05	4.00	2.05	4.56	0.55	5.11



Investment Details

CSR no	Description	Material	Labour	Total	Dismantling cost	Quantity	Total Cost
2-1-23	Supplying & erecting LED 20W tube light fitting (4 feet) with aluminium housing, heat sink, integrated HF electronic driver complete.	881	45	926	15	107	112972
2-1-23	Supplying & erecting LED 20W tube light fitting (4 feet) with aluminium housing, heat sink, integrated HF electronic driver complete.	881	45	926	15	17	29632
2-1-23	Supplying & erecting LED 20W tube light fitting (4 feet) with aluminium housing, heat sink, integrated HF electronic driver complete.	881	45	926	15	22	34262
2-1-23	Supplying & erecting LED 20W tube light fitting (4 feet) with	135	5	140	15	24	5460



CSR no	Description	Material	Labour	Total	Dismantling cost	Quantity	Total Cost
	aluminium housing, heat sink, integrated HF electronic driver complete.						
2-7-2.	Supplying and erecting highbay LED fitting IP 65 with lamp 110W-120W, PF >0.95 duly connected complete with accessories as per specification no. FG-ODF/LED	12858	193	13051	15	6	274071
	Total						4.56
	12% GST on total investment cost						0.55
	Total cost						5.11



ECM 2: Replacement of Old Fan with Energy Efficient Super Fan

ECM No.	Energy Efficiency Improvement Measures	Investment Rs. In Lakh	Estimated saving		Estimated Savings Rs. In Lacs	Estimated Payback Years
			Electricity kWh	Carbon credit (Tons of CO ₂)		
2	Replacement of Existing Fans with Energy Efficient Fans	7.43	9550.80	8.12	0.67	11.11



Figure 15 Ceiling Fans

Observations:

During energy audit, it is observed that facility has old 100 W and 75 W fan and its energy consumption is on higher side.

Recommendations:

During energy audit it is observed that facility has installed non star rated fan of 100 W and 75 W so we recommend to replace energy consuming fan with energy efficient super fan



Energy Saving Calculations:

Particular	Unit	value
Existing energy consumption of Fan	kWh/year	24165
Wattage of Energy Efficient Super Fan	Watt	35
Energy consumption after replacing with Energy Efficient Super Fan	kWh/year	10521
Operating hrs/day	Hrs/day	3
No. of working days in a year	Days	300
Diversity factor	%	70%
Annual Saving	kWh/year	9551
Unit rate	Rs/kWh	7
Annual Saving	Rs. In Lacs	0.67

AC category	Nos	Estimated Running kW
Ceiling Fan 100W	72	7.20
Ceiling Fan 75 W	262	19.65
Total	334	26.85

Investment Details

CSR No	Description	Material	Labour	Total	Quantity	Total Cost
2-14-4	Dismantling the existing ceiling fan /exhaust fan / cabin fan / bracket fan complete with accessories, G.I. down rod, frame etc. and making the site clear.	0	37	37	334	12358
2-12-21.	Supplying and erecting five star rated energy saving Ceiling fan 230 V A.C. 50 cycles 1200 mm complete erected in position as per specification no. FG-FN/CF	1858	91	1949	334	650966
	Total					6.63
	12% GST on total Investment cost					0.80
	Total cost					7.43



ECM 3: Optimization of Set Temperature of ACs

ECM No.	Energy efficiency improvement measures	Investment Rs. In Lakh	Estimated saving		Estimated Savings Rs. In Lacs	Estimated Payback Years
			Electricity	Carbon credit		
			kWh	(Tons of CO ₂)		
3	Optimization of Set Temperature of ACs	0.00	15.88	0.01	0.00	0.00

Observations:

Facility has installed Split AC of 1 Ton 5 star in their premises

Recommendations:

During assessment, it is observed that Split AC of 1 Ton 5 star set point was 22⁰ C. Hence, it is recommended to increase set temperature setting to 23⁰ C as well as improve maintenance of AC frequency.

It is known that, a 1⁰C raise in evaporator temperature can help to save almost 3% on power consumption (this also can be verified from BEE guideline: Chapter 4. HVAC and Refrigeration System).

The TR capacity of the same refrigeration will also increase with increase in the evaporator temperature, as given in table below:

Effect of variation in Evaporator Temperature on Compressor Power Consumption			
Evaporator Temperature (°C)	Refrigeration Capacity* (tons)	Specific Power Consumption	Increase in kW/ton (%)
5	67.58	0.81	-
0	56.07	0.94	16
-5	45.98	1.08	33
-10	37.2	1.25	54
-20	23.12	1.67	106

* Condenser temperature 40⁰C



Energy Saving Calculations:

Particular	Unit	Value
Estimated Annual Consumption of ACs	kWh/hr	529
Estimated Saving	%	3%
Operating Hrs per day	hrs/day	3
Operating days per year	Days/year	90
Estimated Saving	kWh/year	16
Unit Rate	Rs/kWh	7.5
Annual Saving	Rs Lakh/year	0.00

Sr No	Type	Ton	Qty	Annual Consumption
1	Air Conditioner (Split) (2 Ton) (5*)	2	1	705.6
Total				705.6



ECM 4: Optimization of Set Temperature of Refrigerators

ECM NO.	Energy Efficiency Improvement Measures	Investment Rs. In Lakh	Estimated Saving		Estimated Savings Rs. In Lacs	Estimated Payback Years
			Electricity	Carbon Credit		
			kWh	(Tons of CO ₂)		
4	Optimize the temperature setting of Refrigerators	0.00	4698.00	4.20	0.35	0.00

Observations:

Facility has Refrigerators of wattages ranging from 700 to 800 W and Deep Freezer of 700 W in their premises

Recommendations:

During assessment, it is observed that Refrigerators of wattages ranging from 700 to 800 W set point was 4⁰ C and Deep Freezer of 700 W set point was -6⁰ C. Hence, it is recommended to increase set temperature setting by 1⁰ C as well as improve maintenance of refrigerator frequency.

It is known that, a 1°C raise in evaporator temperature can help to save almost 3% on power consumption (this also can be verified from BEE guideline: Chapter 4. HVAC and Refrigeration System).

The TR capacity of the same refrigeration will also increase with increase in the evaporator temperature, as given in table below:

Effect of variation in Evaporator Temperature on Compressor Power Consumption			
Evaporator Temperature (°C)	Refrigeration Capacity* (tons)	Specific Power Consumption	Increase in kW/ton (%)
5	67.58	0.81	-
0	56.07	0.94	16
-5	45.98	1.08	33
-10	37.2	1.25	54
-20	23.12	1.67	106

* Condenser temperature 40°C



Energy Saving Calculations:

Sr No	Name of Equipment	Wattage	Qty	Present Set Temp deg C	Recommnded Set Temp deg C	Differnc e of Temperature	Per Deg C Temperature Saving	Running Load (kW)	Avg. Running Hours/Day	Avg. Operating Days/Year	Present Energy Consumption (kWh/Year)	Percentage Saving (%)	Estimated Annual Energy Saving (kWh/Year)	Unit Rate (Rs./kWh)	Toatl Annual Saving (Rs.Lacs/Year)
1	Refrigerator (5*)	750	2	5	5	0	3	0.45	3	300	405.00	0	0.00	7.50	0.00
2	Refrigerator	700	1	4	5	1	3	0.42	3	300	378.00	3	1134.00	7.50	0.09
3	Refrigerator	700	1	4	5	1	3	0.42	3	300	378.00	3	1134.00	7.50	0.09
4	Deep Refrigerator	700	3	-6	-5	1	3	0.42	3	300	378.00	3	1134.00	7.50	0.09
5	Refrigerator	800	3	4	5	1	3	0.48	3	300	432.00	3	1296.00	7.50	0.10
	Total		10					2.190	3	300	1971.00		4698.00		0.35



ECM 5: Replacement of Existing Pumps with Energy Efficient Pumps

ECM No.	Energy efficiency improvement measures	Investment Rs. In Lakh	Estimated saving Electricity kWh	Carbon credit (Tons of CO2)	Estimated Savings Rs. In Lacs	Estimated Payback Years
5	Replacement of Existing Pumps with Energy Efficient Pumps	0.42	104.44	0.09	0.01	53.48

Observations:

During Energy Audit, it is observed that facility has 1 No of old Bore well pump and 1 No of old submersible Water pump to fulfil the water requirement

Recommendations:

We recommend to replace the existing pumps with energy efficient pumps to get the energy saving.

Load Calculations and Investment Details:

Location	Quantity	Type	H P	k W	csr	Cost	Working Hours/Day	Total Days/Year	Total Load
Water Pump	1	Submersible	1.5	1.12	12-2-51	21043	1	200	1.12
Water Pump	1	Submersible	1	0.75	12-3-6	16361	1	200	0.75
Total	2		2.5	1.87		37404	2	400	1.87

Energy Saving Calculations:

Particular	unit	value
Estimated Running load of old motors	Kw	1.87
Avg Operating hrs./day	Hrs	2.00
Avg Operating days/year	Days	400.00
Estimated saving	%	0.07
unit rate	Rs/Kwh	7.5
Estimated Existing Energy consumption kWh	Kwh/year	1492.00
Estimated Proposed Energy consumption Kwh	Kwh/year	1387.56
Annual saving	Kwh/year	104.44
Estimated savings	Rs in Lacs/year	0.01



ECM 6: Optimize the Power Factor

Sl. No.	Energy efficiency improvement measures	Investment Rs. In Lacs	Savings Rs. In Lacs	Payback Year
6	Optimize the Power Factor	0.00	0.00	#DIV/0!



Figure 16 Main Panel

Observations:

Facility is Maining average PF of 0.55



Calculation for KVAR Required based on Desired Unity PF:

Particular	Value	Unit
Total Annual Consumption	44480	kWh/Year
Unit Rate	7.5	Rs./kWh
Total Annual Energy Charges	333600	Rs./year
With Operation of all Capacitor banks, Annual Energy Saving	11676	Rs./year
Annual Energy Saving	0.11676	Rs (Lakhs)/year
Present Billed Power Factor	0.55	
Desired Billed Power Factor	1.00	
Multiplying Factor	1.519	
Total Connected Load	15	kW
Size of required Capacitor Bank	23	kVAR
Rate of Capacitor Bank with APFC	1500	Rs./KVAR
Total Investment	0.34	Rs (Lakhs)/year
Payback Period	0.24	Years

Recommendations:

To get the PF incentive/ get the savings in kWh, it is recommended to install APFC with 25 kVAR capacitor banks and check the operation of each capacitor bank installed once in a month and maintain the PF to unity.

ECM 7: Replacement of old appliances with 5-star appliances

ECM No.	Energy efficiency improvement measures	Investment Rs. In Lacs	Estimated saving		Estimated Savings Rs. In Lacs	Estimated Payback Years
			Electricity	Carbon credit		
			kWh	(Tons of CO ₂)		
6	Replacement of old appliances with 5-star appliances	2.11	2713.50	2.43	0.20	10.35



Figure 17 Water Cooler

Observations:

During energy audit it was observed that few appliances were old. Refrigerator, air cooler and water cooler were old and consuming more energy.

Recommendations:

It is recommended to replace old refrigerator, air cooler and water cooler with energy efficient new appliance with 5-star rating. It will reduce 50% of present energy consumption.



Energy Saving Calculations:

Particular	Unit	value
Existing energy consumption of old appliances e.g. fridge, air cooler water cooler etc.	kWh/year	5427
Wattage of Energy Efficient appliances (considered 50% reduction)	Watt	2714
Energy consumption after replacing with Energy Efficient appliances	kWh/year	2714
Operating Hours per day	Hrs/day	3
Operating days per year	Days	300
Diversity factor	%	90%
Annual Saving	kWh/year	2714
Unit rate	Rs/kWh	7.5
Annual Saving	Rs. In Lacs	0.20
Investment	Rs. In Lacs	1.88
Investment with 12% GST	Rs. In Lacs	2.11

Details of Equipment

Particular	Units	Value	CSR No.
Quantity of Fridge	No	3	
Wattage of Fridge	KW	0.80	
Quantity of Air Cooler	No.	1	
Wattage of Air Cooler	KW	1.5	
Quantity of Water Cooler	No.	2	
Wattage of Water Cooler	kW	0.80	
Total Wattage	kW	6.7	
Rate of 5-Star Refrigerator	Rs.	25509	3-3-2.
Rate of 5-Star Water Cooler	Rs.	50086	3-3-5.
Rate of 5-Star Air Cooler	Rs.	11391	3-4-3.
Total Investment	Rs. In Lakhs	1.88	
Total Investment with 12% GST	Rs. In Lakhs	2.11	

ECM 8: Optimization of Neutral Current

ECM No.	Energy efficiency improvement measures	Investment Rs. In Lacs	Estimated Saving		Savings Rs. In Lacs	Payback Year
			Electricity kWh	Carbon credit (Tons of Co2)		
			8	Optimization of Neutral Current		



Figure 18 MSEDCL Meter Panel

Observations:

During study with power analyser it was observed that neutral currents were varying between 4 A to 12 A, average neutral current 8 A. This flow of current through neutral can be reduced by balancing loads through each phase at various power distribution centres. It has been assumed that significant reduction in losses can be achieved. However, a tentative estimation was done for balancing of loads and considered average 6 A neutral current can be saved.

Recommendations:

Hence it is recommended to balance three phase loads at MCC/PDB level which can reduce this neutral current up-to targeted level.

Following observations were made by considering neutral resistance as 0.5 ohms and calculations were done for energy savings:

7. List of Instruments

POWER ANALYSER



Picture 1 ALM 20 Power Analyzer

ALM 20 Power Analyzer is designed for Measuring power network parameters

TECHNICAL SPECIFICATIONS

Number of channels	3U/3I
Voltage (TRMS AC + DC)	100V to 2000V ph-ph /50V to 1000V ph-N
Voltage ratio	Up to 650 kV
Current (TRMS AC + DC)	5mA to 10,000 Aac / 50 mA to 5,000 Adc (depending on Clamp)
Current ratio	Up to 25 kA
Frequency	42.5 - 69 Hz, 340 - 460Hz
Power values	W, VA, VAR, VAD, PF, DPF, $\cos \phi$, $\tan \phi$
Energy values	Wh, VAh, VARh
Harmonics, THD	on V, U, I & In up to 50th order
Electrical safety	IEC 61010, 1000V CAT III / 600V CAT IV
Protection	IP54



DIGITAL CLAMP METER



Picture 2 MECO 3150 DIGITAL CLAMP METER

Power Clamp meter is a Portable Digital multi-functional measuring instrument. Designed for Measuring selected power network parameters, AC/DC Voltage, AC/DC current, Resistance, Continuity, Diode and Frequency.

TECHNICAL SPECIFICATIONS

DC VOLTAGE (Auto Ranging)	
Ranges	4V, 40V, 400V, 1000V
Overload Protection	1200V DC/800V AC
AC VOLTAGE (Auto Ranging) 40-500Hz	
Range	4V, 40V, 400V, 750V
Overload Protection	1200V DC/800V AC
RESISTANCE (Auto Ranging)	
Range	400Ω, 4KΩ, 40KΩ, 400KΩ, 4MΩ, 40MΩ
Test Current	0.7mA on 400Ω, 0.1mA on 4KΩ
Diode Test	
Measurement Current	1.0 ± 0.6 mA Approx
Open Circuit Voltage	0.4V Approx
Overload Protection	500V DC / AC
Frequency (Auto Ranging)	
Range	10.00Hz, 50.00Hz, 500.0Hz, 5.000kHz, 50.00kHz, 500.0kHz
Sensitivity	3V
Overvoltage Protection	200V DC or AC peak



DIGITAL CLAMP METER



Picture 3 RISH POWER CLAMP 1000 A/400 A AC-DC

Power Clamp meter is a Portable Digital multi-functional measuring instrument. Designed for Measuring selected power network parameters, AC/DC Voltage, AC/DC current, Resistance, Continuity, Diode and Frequency.

TECHNICAL SPECIFICATIONS

Measuring function	Measuring range
kWh	9.999 kWh
	99.99 kWh
	999.9 kWh
	9999 kWh
Ahr	999.9 Ahr
Phase angle	0.0°....360.0°
Power Factor	-1...0...1
Harmonics (RMS & %)	1...13
	14...49
THD	0...99.9%
Crest Factor	1.0...2.9
	3.0...5.0
Power Clamp 1000A peak	1400 A/ 1400 V
Power Clamp 400A peak	100 A
	560 A/ 1000 V
Power Clamp 1000A INRUSH	999.9 A
Power Clamp 400A INRUSH	99.99 A
	400 A
Resistance	9999 Ohm
Continuity	Below 40 Ohm



THERMAL IMAGER



Picture 4 FLIR TG 167 Thermal imager

FLIR TG 167 Thermal imager is designed to easily find unseen hot and cold spots in electrical cabinets or switch boxes, giving you quality image detail on even small connectors and wires.

TECHNICAL SPECIFICATIONS

Accuracy	±1.5% or 1.5°C (2.7°F)
Detector Type	Focal plane array (FPA), uncooled micro bolometer
IR Resolution	80 × 60 pixels
Laser	Dual diverging lasers indicate the temperature measurement area, activated by pulling the trigger
Memory Type	Micro SD card
Object Temperature Range	-25°C to 380°C (-13°F to 716°F)
Thermal Sensitivity/NETD	<150 mK
Display	2.0 in TFT LCD



INFRARED THERMOMETER



Picture 5 HTC IRX 64 Infrared thermometer

HTC IRX 64 infrared thermometer is useful instrument to measure the surface temperature. Infrared thermometers are ideal for taking temperatures need to be tested from a distance. They provide accurate temperatures without ever having to touch the object you’re measuring (and even if your subject is in motion).

TECHNICAL SPECIFICATIONS

Specification	Range
IR	-50°C~1050 °C
Contact	-50°C~1370 °C
IR Temp. Resolution	0.1°C
Basic Accuracy	+/- 1.5% of reading
Emissivity	Adjustable 0.10 ~ 1.0
Optical resolution	30 : 1



LUX METER



Picture 6 Nishant NE 1010 Lux meter

Nishant NE 1010 Lux meter is used to measure the lux levels.

TECHNICAL SPECIFICATIONS

Measuring range	0 Lux □ 200, 000 Lux/0 Fc □ 185, 806 Fc
Accuracy	± 3% rdg ± 0.5% f.s.(<10,000 Lux)
	± 4% rdg ± 10% f.s.(>10,000 Lux)
Digital Updates	2 times/s
Photometric sensor	Silicon diode
Battery life	18 hours (continuous operation)
Operating temperature and humidity	0°C □ 40°C, 10% RH □ 90% RH
Storage temperature and humidity	-20°C □ 50°C, 10% RH □ 90% RH
Power	9V battery
Unit Size	52.5 x 52.5 x 166 mm
Auto power off	After 5 minutes



8. ANNEXURE (SOLAR)

1) Introduction

The solar energy has a great potential as future source of energy. With its availability in large quantity almost in every corner of the country, solar power has the distinctive advantage of generating power at local and decentralized levels and being one of the prime factors for empowering people at grassroots level. The solar mission, which is part of the National Action Plan on Climate change has been set up to promote the development and use of solar energy for power generation and other uses with the ultimate objective of making solar energy competitive with fossil-based energy options. The solar photovoltaic device systems for power generation had been deployed in the various parts in the country for electrification where the grid connectivity is either not feasible or not cost effective as also some times in conjunction with diesel based generating stations in isolated places, communication transmitters at remote locations. With the downward trend in the cost of solar energy and appreciation for the need for development of solar power, solar power projects have recently been implemented. A significant part of the large potential of solar energy in the country could be developed by promoting solar photovoltaic power systems of varying sizes as per the need and affordability coupled with ensuring adequate return on investment.

2) Benefits of Solar Energy

- a. Power from the sun is clean, silent, limitless and free.
- b. Photovoltaic process releases no CO₂, SO₂, or NO₂ gases which are normally associated with burning finite fossil fuel reserves and don't contribute to global warming.
- c. Photovoltaic are now a proven technology which is inherently safe as opposed to other fossil fuel based electricity generating technologies.
- d. Solar power shall augment the needs of peak power needs.
- e. provides a potential revenue source in a diverse energy portfolio
- f. Assists in meeting renewable portfolio standards goals.

This proposal is prepared for design, engineering, procurement / manufacture and installation of solar power generating system. The grid-tie solar photovoltaic power generation system is mainly composed of PV array, String Inverter, and PV mounting structure.

It also consists of supporting devices like AC / DC switchgears, Lighting Arrestor, Earth Electrodes, AC / DC cables. As there is no any battery, it's maintenance cost is negligible and initial investment per KW is very low.



3) Objective

- Provide reliable, clean, regulated, un-interrupted power on demand to the pre-identified critical loads
- System to provide low life cycle cost and maximize savings to the beneficiaries.
- To save diesel in institutions and other commercial establishments including industry facing huge power cuts especially during daytime.

4) Design Assumptions

General

- a. The Solar Radiation Data's are based on standard books & simulation software as NASA and Metronome. The Mean Hourly Radiation Data is considered.
- b. The module rating considered is tentative. The exact module sizing and rating will depend on the availability of cell grade and site suitability.
- c. Solar Panels are roof/ground mounted in one location. Environmentally protected, closed, ventilated, inverter room at minimum distance from PV modules.
- d. Application: Self consumption, captive grid or NET metering.
- e. Emergency Backup: Generator or any other source in absence of Grid.

5) System Description:

Solar Power Plant comprises of the main equipment and components listed below:

1. Solar PV Modules
2. String Inverter with MPPT
3. Module mounting system
4. Monitoring system
5. Cables & connectors

Each of the sub systems has been described for the functionality and operation modes. The physical construction of the system follows a modular approach, which is field-tested and is regularly used for delivery of power systems.

5.1 Solar PV Module (Electrical Features)

The PV modules convert the light reaching them into DC power. The amount of power they produce is roughly proportional to the intensity and the angle of the light reaching them. They are therefore required to be positioned to take maximum advantage of available sunlight within sitting constraints.



5.2 Solar PV Module (Mechanical Features)

Solar Module design will conform to following Mechanical requirements:

- Toughened,
- low iron content,
- High transmissivity from glass.
- Anodized Aluminum Frame.
- Ethyl Vinyl Acetate (EVA) encapsulating.
- Tedlar/Polyester trilaminate back surface.
- ABS plastic terminal box for the module output termination with gasket to prevent water & moisture.
- Resistant to water, abrasion hail impact, humidity & other environment of actors for the worst situation at site.

5.3 Module Mounting Structure

The structure shall be designed to allow easy replacement of any module and shall be in line with site requirement. Structure shall be designed for simple mechanical and electrical installation. It shall support SPV modules at a given orientation, absorb and transfer the mechanical loads to the ground properly. There shall be no requirement of welding or complex machinery at site. The array structure shall have tilt arrangement to adjust the plane of the solar array for optimum tilt.

5.4 Junction Box

The junction boxes shall be dust, vermin and waterproof and made of FRP/ABS Plastic with IP65 protection. The terminals shall be connected to copper bus bar arrangement of proper sizes. The junction boxes shall have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables. Suitable marking shall be provided on the bus bar for easy identification and cable ferrules shall be fitted at the cable termination points for identification

5.5 String Inverter

The STRING INVERTER is A combination of Solar Charger (MPPT), Inverter and synchronization unit for two different AC supplies, all housed in a single unit. Maximum power point tracker (MPPT) shall be integrated into it to maximize energy drawn from the solar array. The Inverter converts the DC available from the array into an AC output. The output of the inverter is filtered to reduce the harmonics to an acceptable level (less than 5%). MPPT shall be microprocessor/micro controller based to minimize power losses and maximize energy utilization. The efficiency of MPPT shall not be less than 90% and shall be designed to meet the solar PV Array capacity.



5.6 AC /DC Cables

We use DC & AC cables of Lap, Apar, Polycab, Havels, Finolex or equivalent make to ensure minimum losses in transmission.

In order to complete the energy study that leads to the construction of a photovoltaic installation, hourly series of global horizontal irradiation values for a complete year are used, which resume the irradiation and other meteorological parameters behavior over a long term. We use PV. SYST. Software to workout optimum power production at site with minimum loses.

5.7 Grounding and Lighting Protection

- A protective earth (PE) connection ensures that all exposed conductive surfaces are at the same electrical potential as the surface of the Earth, to avoid the risk of electrical shock. It ensures that in the case of an insulation fault (a "short circuit"), a very high current flows, which will trigger an over current protection device as fuses and circuit breakers that disconnects the power supply.
- A functional earth connection serves a purpose other than providing protection against electrical shock. In contrast to a protective earth connection, a functional earth connection may carry a current during the normal operation of a device.
- Lightning protection is a very specialized form of grounding used in an attempt to divert the huge currents from lightning strikes. A ground conductor on a lightning arrester system is used to dissipate the strike into the earth.
- Lightning ground conductors must carry heavy currents for a short period of time. To limit inductance and the resulting voltage due to the fast pulse nature of lightning currents, lightning ground conductors may be wide flat strips of metal, usually run as directly as possible to electrodes in contact with the earth.
- In proposal, the entire system is fully provided with the required lighting and grounding protection.

6) Solar PV Locations

Area Considered for Solar Power Installation

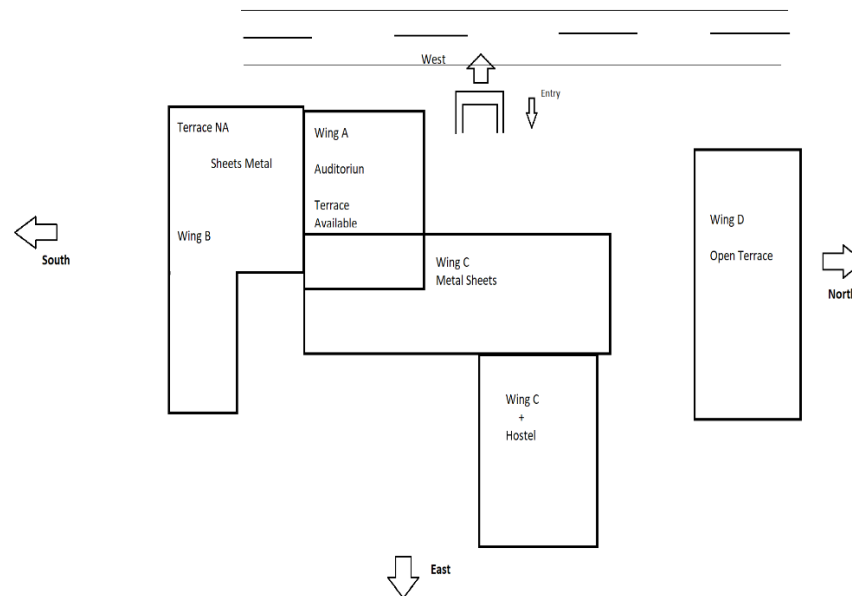


Figure 19 Solar Area

Details of Facility:

Total Unit Consumption / year of facility is 44480 kWh (Ref. 12 months Electricity Bills)

Sr. No.	Area	Length	Width	Area	Plant Installed (kW)
		(ft.)	(ft.)	(Sq. ft.)	
1	Wing D	200	80	16000	200
2	Wing A	80	60	4800	60
3	Wing C	100	80	8000	100
Total				28800	360

Total Available Area = **28,800 Sq. Ft.** & As per available shadow free Area maximum **360 KW** Plant can be installed at facility as per details mentioned in above table.

7) Capacity Evaluation

Calculation for Required Solar Capacity plant to fulfill In-house Requirement

Calculation to Fulfill Building Total Load Requirement			
Sr. No.	Details	Value	Unit
1	Total electrical consumption per year	44480	KWh
2	Units generated per day per KWp	4.5	KWh/KWp/day
3	Units generated per Year per KWp (330 days / Year)	1485	KWh/KWp/Year
4	Solar KW capacity For 44480 KWh consumption / year	30	KWp



As per electrical consumption (Building Load), capacity of Solar Power Plant required is 30 KWp. As per shadow free space available on college building maximum 360 KWp plant can be installed which is more than the actual requirement of full Electrical Load. As per MSEDCL bill total Sanctioned load is 2 kW + 12 kW = 14 kW.

It is suggested to install Solar Plant of Capacity 30 KWp, by increasing sanctioned load of 12 kW to 30 kW, which can be installed & it covers all required load.

The SPV power plant with proposed capacity of 30 KWp would be connected to the main electrical distribution panel. The system would meet full load requirement of the connected load during the day. Advance control mechanism in the Power Conditioning Unit will ensure that the maximum power generated by PV modules will be utilized first and the balance requirement of power will be met by either grid or DG set

The 30 KWp SPV Power Plant is estimated to afford annual energy feed of 44480 KWh/year (After considering all losses) considering efficiency of the solar module as 15.16%, Power Conditioning Unit (PCU) efficiency as 98.3% and losses in the DC and AC system as 3%.

8) Budgetary Estimation of the Project

Details	Value	Unit
Shadow free space required for approx. 1 KWp Solar Plant	80	Sq.Ft
Shadow free space available at Facility		Sq.Ft.
Solar Plant capacity to be Installed at Facility	0.00	KWp
Solar Plant Requirement as per actual consumption	30	KWp
Installation Cost Per KW for 1 KWp Solar Plant	0.57	Rs. In Lakh
Gross Estimated System cost (For 30 KWp Grid Connected Solar Plant)	17	Rs. In Lakh
Unit generated per day per kWp	4.5	KWh
Electricity generation per day for 30 KWp Grid Connected Solar Plant	135	KWh/day
Electricity generation per year for 30 KWp Grid Connected Solar Plant (330 days/year)	44480	KWh/year
Average Electricity Unit Cost	7.5	Rs./KWh
Electricity cost saved per year	3.34	Rs. In Lakh
Simple Payback Period	5.12	Years



The Berar General Education Society's
**Shri Radhakisan Laxminarayan Toshniwal
College of Science, Akola (M.S.)
(Shri R.L.T. College of Science)**



Recognized by Government of Maharashtra
Affiliated to Sant Gadge Baba Amravati University, Amravati
Re-accredited 'A' by NAAC, Bangalore With CGPA-3.12



**4th Cycle of NAAC
ASSESSMENT AND ACCREDITATION**

**CRITERION VII
INSTITUTIONAL VALUES AND BEST PRACTICES**

Key Indicator – 7.1

Institutional Values and Social Responsibilities

7.1.3.3

Clean and Green Campus Initiatives

Index

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The Berar General Education Society's Akola
SHRI RADHAKISAN LAXMINARAYAN TOSHNIWAL COLLEGE OF SCIENCE

Civil Lines, Akola, 444001 (Maharashtra)

Affiliated to Sant Gadge Baba Amravati University, Amravati

Re-accredited by NAAC with "A" Grade with CGPA 3.12

AISHE CODE: C-43124

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Website: www.rltsc.edu.in

COLLEGE CODE: 210

Principal: Dr. Vijay D. Nanoty

phone: 0724-2415480, 9822724504

Ref. No: RLT/IQAC/C-VII/7.1.3.3

Date:

DECLARATION

This is to declare that, the information, data, true copies of the supporting documents etc. furnished in this file of **7.1.3.3 Clean and Green campus initiatives** is checked and verified by IQAC, Shri R. L. T. College of Science, Akola and found to be correct.

Dr. R. L. Rahatgaonkar
IQAC Co-ordinator
Shri R.L.T. College of Science,
Akola

Principal
Shri R.L.T College of Science
Civil Lines, Akola (M.S.)



7.1.3

Quality audits on environment and energy regularly taken by undertaken by the Institution. The Institutional environment and energy initiatives are confirmed through the following

3. Clean and Green campus initiatives:

List of programs / initiatives taken for clean and green campus		
Year 2017-18		
Sr. No.	Name of activity	Date & Duration
1.	Exhibition cum competition of Edible fruits	20/11/2017
2.	International Ozone Day (Intercollegiate Rangoli Competition and Guidance lectures)	16/09/2017
3.	Wild Life Conservation Week	1-7 October 2017
4.	Biodiversity Calender-2018	
5.	On International Sparrow Day 'Water basin, Water pots and nests for birds' were established in garden. Also Gambusia fishes are released in water basin to control mosquito larvae.	20/03/2018
6.	Guest lecture on Aquaculture: Social and Economic values by Dr. P.S. Dhabe, HOD, Zoology, S. K. College Akola	7/10/2017
7.	Guest lecture on International Ozone Day by Dr. H. P. Sapkal	16/09/2017
8.	World wild life day	03/03/ 2018

Documental proofs/ Reports:

**Edible fruits Exhibition cum competition
20/01/2018**

Department of Botany organized Exhibition cum competition of edible fruits collection by Holy Basil club on 20/01/2018. The Exhibition was inaugurated by Principal, Dr. V. D. Nanoty was the president for the function Dr. U. K. Bhalekar, Dr. S. M. Nagrale, Dr. S.W. Bhawre, Dr. Poonam Agrwal ,Heads of various Dept grace the function. Mrs.V.N.Badgujar, HOD. Botany Dept. gave introductory speech and explains the work of Holy Basil club for the Environmental conservation. The competition was judge by Dr. P. S. Kokate Head. Dept of Botany, Shri Shivaji Science College, Akola judge the competition. On this occasion 44 types of fruits were Exhibited & Collected by students including varieties of fruits such as Kiwi, Strawberry, Cherry, Apricot, Wood apple and so many. The participants exhibited & explain the medicinal & Health benefits of the fruit. The program was conducted by Shri. P.M. Khadse & Dr. A.A. Sangole. The program was concluded by vote of thanks proposed by shri S. V. Madavi.

All the members of the Holy Basil Club and all the teaching & Non-teaching staff of Botany Dept. took efforts for this competition. Prof. V. N. Badgujar announces the newly body members formation of the "Holy Basil Club were present. Winners are

1st Prize- Prerana Ubale, Sneha Wahurwage & Nikita Modak

2nd Prize- Aishwarya R. Sable & Nikita J. Upadhay

3rd Prize- Rupali S. Solanke & Pallavi M. Sonone

Consolation Prize- Gaurav R. Akot & Harshal Bais



Edible fruits Exhibition cum competition. 20/01/2018

World Ozone Day Celebration (16 September 2017)

Rangoli Competition cum exhibition organized by the department under the guidance of Dr. Sawarkar Madam, on the occasion World Ozone Day. The competition was inaugurated by Dr Poonam Agrawal Madam, HOD Chemistry Department under the Presidential presence of Dr S.W. Bhaware, HOD Mathematics Department. Degree college students actively participated in the activity. The theme of Rangoli competition was Ozone Depletion, its effects and prevention. For the competition Prof Sujata Tadam Madam and Dr. Anjali Sangole Madam worked as a Jury member. Winner students were felicitated by awards and certificates.



Digital Gallery Inauguration Programme



Rangoli Competition on Occasion of World Ozone Day

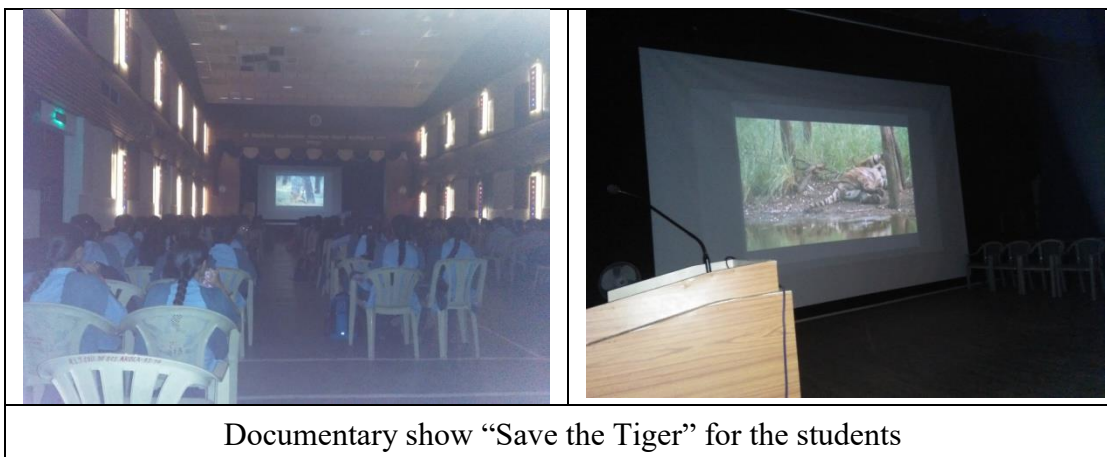


Certificate Distribution to the Students

Wild Life Conservation Week Program (1-7 October 2017)

Every year Department of Zoology under ZEBRA cell observe **Wild Life Conservation Week** on **1-7 October Week**. During the week many motivating and students informative programs were conducted by the department. To provide information related nature conservation, wild life conservation and their role in environment, guest lectures and documentary movies presented for the students.

On 1st October inauguration of wild life conservation week was conducted. On this occasion Asst Prof. and Head Dr.S.M.Nagrале guided the students about the wild life conservation in his speech. Documentary movie show on **“Save the Tiger”** was arranged for the students B.Sc.I students in the College Auditorium. All students enjoyed the Documentary. After the show Dr. S.M.Nagrале interacted to the students and guided them about the wild life and their need of conservation for our better future. For the success of Program all the faculties of the department had take their hard efforts.



BIODIVERSITY CALENDAR
26 January 2018

To know the value of Biodiversity and Inculcate environment consciousness , Biodiversity Calender - 2018 was prepared and published B.Sc.II Students under the supervision of Dr Archana Sawarkar and Dr. Anjali Sangole. Several activities conducted under the heading of Biodiversity through Biodiversity Calendar.



Biodiversity Calendar Inaugurated by Dr. Heda Sir and Principal Dr. Nanoty Sir

WORD SPARROW DAY (20 March 2018)

Department of Zoology celebrates **WORLD SPARROW DAY** on 20th March at Zoology department. Students conducted program under the guidance of Dr. S. M. Nagrale. For drinking water to Sparrow, water pots were installed at Botanical Garden in college campus. Students and other staff were presents for the events. Water pots were filled with water by the students and staff. Other faculties of the college were also shows their presence for the events. Dr. Archana Sawarkar, Dr. Rashmi Joshi Sawalkar, Dr. Poonam Agrawal , Dr Kavita Heda, Dr. Anjali Sangole, Dr Sudhir Kohchale, Prof Shailendra Madavi and Prof Vaishali Badgujar Madam were present for the program of Sparrow Day.



Installing Bird feeder water bowl for the birds in the Botanical Garden, students and staffs

GUEST LECTURE

Guest lecture of Prof Dr. P.S. Dhabe, Asst. Prof & Head , Department of Zoology, Shankarlal Khandelwal College Akola was organized students by Zoology Department on the topic “**Aquaculture : Social and Economic values**” on dated 7/10/2017 for B.Sc.III as per the syllabus. Prof Dr. P.S.Dhabe madam guided the students about Aquaculture, Fish biodiversity, its economic values and social status. She also guided about fish culture, fish selection types of fish ponds, breeding, nursing, rearing and stocking.

Dr. S.M.Nagrle introduced about the Guest and remarked Vote of Thanks. Dr. A.S. Sawarkar and Dr. Rashmi Joshi Sawalkar madam and all B.Sc III students were present for the lecture.



**Guest lecture of Prof Dr. P.S. Dhabe.
7/10/2017**

International Ozone Day (16/09/2017)

International ozone day was observed by department and organizing Guidance lectures series.

Dr. Hemant P. Sapkal, Shri Shivaji College, Akola guided on topic “**Caring for all life under the Sun**”. In his lecture he guided about importance of sun and Ozone layer protecting the life on Earth. He also guided of Ozone layer and its depletion due to air pollution and its harmful effect on Earth life. Lecture was organised by departments under the guidance of Principal, HOD and coordinated by Dr. A.S.Sawarkar



Dr. Sapkal sir guided to the students

WORLD WILD LIFE DAY
3rd March 2018

Department of Zoology celebrates **WORLD WILD LIFE DAY** on 3rd March at Zoology department lab. Students conducted program under the chairmanship of Dr. S.M.Nagrle and in the presence of Dr. Archana Sawarkar and Dr. Rashmi Joshi Sawalkar. Many students kept their view regarding to the Wild life , their conservation and Importance. Dr. Sawarkar highlighted her views on Wild life and their Biodiversity and Dr. S.M. Nagrle in his Presidential speech explain about role of Nature for wildlife and duties of Human for conservation and maintenance of Biodiversity at natural level. Program was conducted by B.Sc.III student Miss Sapana Shirsat and supported by other students and staffs of the department.



**Programs / initiatives taken for clean and green campus
2018-19**

Criterion VII: INSTITUTIONAL VALUES AND BEST PRACTICES

List of programs / initiatives taken for clean and green campus		
Year: 2018-19		
Sr. No.	Name of activity	Date & Duration
1.	National Workshop cum seminar on 'Art of Perfume and Soap making'	08/09/2018
2.	Workshop on: Manufacturing of Fragrance Stick	09/09/2018
3.	College cleaning campaign (Swaccha Bharat Abhiyan)	24/09/2018 to 02/10/2018
4.	Wild life exhibition pencil art	12/03/2019
5.	Nature reading through mobile photography	25/08/2018
6.	Wall Magazine BESST (Biological and Environmental Studies with Social Temperament)	11/08/2018
7.	World Ozone day celebration	16/09/2018
8.	Documentary movie show on "Save the Tiger"	01/10/2018
9.	Biodiversity Calendar -2019	26/01/2019
10.	Akola city bird election	19/01/2019
11.	Released of Student Project "Birds of Akola"	12/03/2019
12.	Word Sparrow Day	20/03/2019
13.	Excellent College Award for Cleanliness (Clean India, Healthy India Mission)	2018-2019

Documental proofs/ Reports:

**National level workshop cum seminar
On
'Art of Perfume and Soap Making'
08/09/2018**

National Workshop cum seminar on 'Art of Perfume and Soap making' organized by Crystal Club of Chemistry Department on 8th September 2018. Hon'ble Dr. Ranjeet Patil, Minister of Home Affairs was the Inaugurator of the workshop. IAS, District Collector, Akola Hon'ble Shri. Astikkumar Pande was the Guest of Honour for this workshop. Hon'ble Dr. R.B.Heda, the President of The B.G.E.Society, Akola was the President for the Programme. The Inauguration of workshop took place in the gracious presence of Honorary Sec. of the B.G.E. Society Adv. Motisinghji Mohta and All the Executive member of the B.G.E. Society. Er. Ashween Nannware, Scientist, CSIR central Institute of Medicinal and Aromatic Plant Lucknow and Mr. And Mrs. Mukul Agrawal Industrialist of Manufacturing Perfume and fragrance Product, Nagpur was the Resource person of the workshop. More than 500 students from all over the region got benefited by this workshop. All the staff members and members of crystal club organized the event successfully.



One Day workshop on 'manufacturing of Fragrance Stick'

07/08/2018

CRYSTAL Club Department of Chemistry organizes one day workshop on manufacturing of fragrance stick to make the students self-employed and to develop a practical skill among the students. Mr. Abhijit Chalse Alumni of our department give the demonstration how to make the fragrance stick and which chemicals were used to make various types of fragrance. Apart from this the second part of workshop includes the environmental friendly fragrance preparation by using the temple waste known as Nirmalya. This is the best part of the workshop. Student themselves prepared the stick by using the Nirmalya and sold this sticks to the teaching and non-teaching staff members of the college and money collected from this activity was donated for Kerala Flood.



One Day workshop on 'manufacturing of Fragrance Stick'. 07/08/2018

Cleanliness of college premises (2.8.2018 to 5.8.2018)

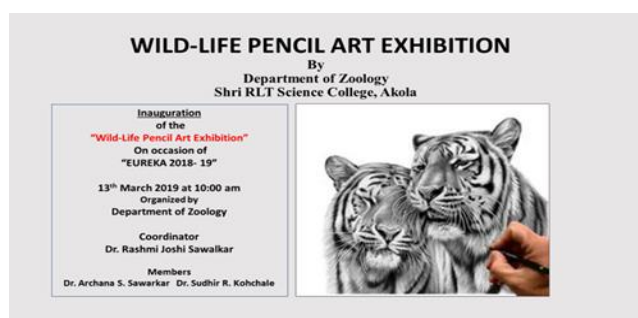
As part of the Swachh Bharat Abhiyaan Pandharwada campaign, the students of the R. L.T. college of Science, Akola, during four days from 2.8.2018 to 5.8.2018, cleaned the college campus, class rooms, laboratory, library, bathroom, college hall, in front of the college. The road and other areas were cleaned. This cleanliness drive was carried out under the guidance of Hon'ble Dr. V. D. Nanoty, principal of the college, Program Officer Prof. Dr. Samadhan Munde and Women Program Officer Prof. Dr. Rashmi Joshi (Savalkar), Area co-ordinator Dr. S. R. Kohchale and NSS volunteers.



Cleanliness of college premises (2.8.2018 to 5.8.2018)

WILD-LIFE PENCIL ART EXHIBITION Department of Zoology

Department of zoology has organized the wild life pencil art exhibition on 12th of March 2019. The coordinator of the exhibition was Dr. Rashmi Joshi Sawalkar while members of organizing committee were Dr. Archana Sawarkar and Dr. Sudhir kohchale. The inauguration of the exhibition was done by the hands of respected Dr. R.B. Heda, President of the B.G.E. Society, Akola in the gracious presence of executive members of B.G.E. society and respected Dr Katore, Head P. G. Dept. of Mathmatics, SGBAU, Amravati. The sketches of wild life were drawn by the BSc students. It was an effort made by organizing committee to create awareness about biodiversity conservation and developing skill other than studies among the students.



Students from different schools came to attend the EUREKA Workshop are watching the art gallery sketches drawn by BSc students



All The respected Dr. R B Heda sir, Dr. Katore, Dr. Amravtikar, Mr Paranjape, Dr. Hazare sir and Res. Principal Dr. Nanoty along with the organizing committee members.

**MOBILE PHOTOGRAPHY: EXHIBITION CUM COMPETITION (25 Aug 2018)
(Nature and Social Photography)**

ZEBRA cell of Zoology Department organized **Mobile Photography Competition & Exhibition** on **Nature and Social Photography** on 25th August 2018 at Zoology Lab. Total 74 students were Exhibited their Mobile photographs collection related to the theme. Three photographs were selected awarded by 1st, 2nd and 3rd prizes.

Mobile Photography Seminar was also organized for the students and participants. Photographer Mr. Sagar Ghadekar and Mr. Kushal Senad delivered explanatory and informative seminar for the students. All faculties were attended the program and all students were take efforts for the success of programme.



**Mobile Photography Competition & Exhibition on Nature and Social Photography on 25th
August 2018 at Zoology Lab**

WALL MAGAZINE- BESST

(11 Aug 2018)

Wall Magazine **BESST** (Biological and Environmental Studies with Social Temperament) is started to provide a launch pad for the student's creative urges to blossom naturally. This humble initiative is to set the budding minds free allowing them to roam free in the realm of experience to create a living world in words. Our student authors have put across some amazing pieces of writing in this Wall Magazine. The first issue of Wall Magazine **BESST** was release on 11th August 2018 with the hands of Principal Dr. V. D. Nanoty in presence of IQAC Coordinator Dr. R.L. Rahatgaonkar and Dr. S.M. Nagrale, Head Department of Zoology. Dr. Archana S. Sawarkar worked as Chief Editor and Dr. Sudhir R. Kohchale, Dr. Rashmi Joshi (Sawalkar), Mr. Shailendra V. Madavi worked as Area Editors for Animal Science, Environmental science and Plant Science respectively.



WALL MAGAZINE- BESST (11 Aug 2018)

WORLD OZONE DAY CELEBRATION
(16th September 2018)

On the occasion World Ozone Day sampling of Holy Basil Plant collected by the students from their house and premises and plantation done in the campus of college. To create awareness about Ozone Depletion and to motivated students for creating Oxygen Park in campus such awareness activity carried out for the students. Total 10 saplings planted in the campus.

WILD LIFE CONSERVATION WEEK PROGRAM (1-7 October 2018)

Every year Department of Zoology under ZEBRA cell observe **Wild Life Conservation Week** on **1-7 October**. During the week many motivating and students informative programs were conducted by the department. To provide information related nature conservation, wild life conservation and their role in environment, guest lectures and documentary movies presented for the students.

Documentary movie show on “Save the Tiger” (1st Oct 2018)

On **1st October** inauguration of wild life conservation week was conducted. On this occasion Asst Prof. and Head Dr.S.M.Nagrale guided the students about the wild life conservation. Documentary movie show on “**Save the Tiger**” was arranged for the students B.Sc. students in the College Digital Room. All students enjoyed the Documentary. After the show Dr. S.M.Nagrale , Dr. A.S.Sawarkar and Dr. Rashmi Joshi interacted to the students and guided them about the wild life and their need of conservation for our better future. For the success of Program all the faculties of the department had taken their hard efforts.



BIODIVERSITY CALENDAR
(26th January 2019)

To know value of biodiversity and inculcate environmental consciousness among students Biodiversity Calendar -2019 was published on 24th December 2018 with the hands of eminent personalities Hon. Mr. Randhir Savarkar (Member of MLA) and Mr. Viplove Bajoria (Member of MLC). It is an Innovative attempt made by B. Sc. II (Biology) students under supervision of Dr. Archana S. Sawarkar (Dept. of Zoology) and Dr. Anjali A. Sangole (Dept. of Botany). Along with flora and fauna, Academic holidays as well as special days concerning environmental issues and importance of biodiversity are mentioned in it. Biodiversity Calendar -2019 is a master piece of efforts taken by students to complete their participatory learning project.

SHRI R.L.T. COLLEGE OF SCIENCE, AKOLA

BIODIVERSITY CALENDER-2019






branchiobdellida



Hirudinaria

Phylum – Annelida

Metamerically segmented and coelomate animals. They exhibit organ-system level of body organisation and bilateral symmetry.



Aphrodite



Chaetopterus

MAY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

JUNE

S	M	T	W	T	F	S
30	5 - World's Environment Day					1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

Contributors: B.Sc. II (Biology) Students
Supervisors: Dr. Archana S. Sawarkar; Dr. Anjali A. Sangole

BIODIVERSITY CALENDAR

AKOLA CITY BIRD ELECTION (19th Jan 2019)

Akola city bird election conducted on 19 January 2019 at College Auditorium organized by Akola District Election Officer and Nisarga Katta under the collaboration of Zoology Department of Shri R.L.T. College of Science, Akola. Overall 776 students and staff vote for the selected Bird candidate. Total Five Bird candidate was there for the contest and after counting **Common Egret** was elected as Akola BIRD for next five years.



AKOLA CITY BIRD ELECTION (19th Jan 2019)

Released of Student Project “Birds of Akola” (12th March 2019)

The project entitled “Birds of Akola” is a piece of work carried out by B.Sc. II (Sem. IV) students under supervision of Dr. Archana S. Sawarkar. It is an innovative participatory learning project which included 329 species of birds from 69 families found in Akola region. Information about habit and habitat, general characters, feeding behavior and ecological importance of each bird is given. Proceeding of the project was release with the hands of Dr. R. B. Heda, President, The B.G.E. Society, Akola on 12th March 2019.



WORD SPARROW DAY (20th March 2019)

Department of Zoology celebrates **WORLD SPARROW DAY** on 20th March at Zoology department. Students conducted program under the guidance of Dr. S. M. Nagrale. For drinking water to Sparrow, water pots were installed at Botanical Garden in college campus. Students and staff were presents for the events. Water pots were filled with water by the students and staff. Dr. Archana Sawarkar, Dr. Rashmi Joshi Sawalkar madam, Lab Attendance Shri S.P.Patil and other non- teaching staff also present for the program.



WORD SPARROW DAY (20th March 2019)

**Excellent College Award for Cleanliness (Clean India, Healthy India Mission)
2018-19**



**Programs / initiatives taken for Clean and Green campus
2019-20**

Criterion VII: INSTITUTIONAL VALUES AND BEST PRACTICES

List of programs / initiatives taken for clean and green campus		
Year: 2019-20		
Sr. No.	Name of activity	Date & Duration
1	Vruksha Raksha Bandhan programme	15/08/2019
2	workshop on 'Eco- friendly Ganesha Idol Preparation'	28/08/2019
3	Mobile Photography Competition & Exhibition on Nature Photography	31/08/2019
4	Intercollegiate poster competition cum Exhibition on Depletion of Ozone layer	16/09/2019
5	Wild Life Conservation Week on 1-7 October Week. (Documentary on Save the Tiger)	01/10/2019 to 07/10/2019
6	Plastic Bags Ban from Campus	02/10/2019
7	Intercollegiate poster Exhibition cum Competition on the topic 'Green Chemistry and properties of elements'	19/10/2019
8	Say no to Crackers	01/07/2021
9	Publication of 'Biodiversity Calendar -2020'	02/01/2020
10	Skill development program on 'Fresh Water Aqua Culture'	02/01/2020 to 04/01/2020
11	E- Certificate Course in Sericulture	11/05/2020 to 14/05/2020
12	certificate course in 'Renewable energy- The demand of future'	25/05/2020 to 30/05/2020
13	State Level Workshop on Environment and Biodiversity Conservation	05/06/2020
14	Wall Magazine BESST (Biological and Environmental Studies with Social Temperament)	01/07/2019 to 15/03/2020
15	Plastic ban movement	02/10/2019
16	Inter collegiate plant anatomy competition	13/09/2019
17	Global Tiger Day	29/07/2019
18	World Ozone Day Celebration	16/09/2019
19	Distribution of 50 saplings	22/07/2019

Documental proofs/ Reports (2019-20)

**Tree Raksha Bandhan.
(15/08/2019)**

On 15/08/2019 Independence Day: NSS unit of Shri. R.L.T.. Science College, Akola special tree protection program was celebrated by a unique Raksha Bandhan program was held on August 15 Aug 2019, on the occasion of Independence Day and Raksha Bandhan. Saplings were distributed to ten girl volunteers under the guidance of Women Program Officers Dr. Rashmi Joshi Savalkar and Dr. Samadhan Munde, and by tying rakhis to the saplings, the girls took an oath to protect and nurture them like their brothers.

"Today, on the occasion of Rakshabandhan, we take an oath that we will plant plants and take care of them. We will plant and nurture plants in any suitable place around us. Along with this, we will also protect the animal too. The program was chaired by the College Principal Hon. Dr. V. D. Nanoty and NSS Regional Coordinator Dr. S.R. Kohchale. The program was successfully conducted in the presence of faculty and non-teaching staff of the college.



Tree Raksha Bandhan. 15/08/2019

One day workshop on “Eco-friendly Ganesha Idol Preparation

28/08/2019

Department of Microbiology Shri RLT College of Science, Akola in collaboration with Nisargakatta successfully conducted One day workshop on “Eco-friendly Ganesha Idol Preparation. Around 110 participants different schools and colleges were present in event. Chief Guest of Function was Shri Rajesh Khawale sir Deputy Collector Akola , Other dignitaries present in programme were Adv. Motisinghji Mohta sir, Hon. Secretary BGE Society , Shri Prakash Mukund sir Education Officer Akola, Shri Sharadji Chaware sir Joint Secretary BGE Society, Shri Anilji Tapadiya Sir, Executive member BGE Society, Dr. V.D. Nanoty sir Principle Shri RLT College Akola and Mr. Amol Sawant. In the same event student took oath for working as volunteer in forthcoming election in addition to that Rs. 5000/- donated for Maharashtra flood victims by MICRANS group .Dr. Harish Malpani worked as Organising Secretary all teaching and non-teaching staff took efforts for making event successful.



One day workshop on “Eco-friendly Ganesha Idol Preparation

28/08/2019

**MOBILE PHOTOGRAPHY: EXHIBITION CUM COMPETITION
(Nature Photography)
(31 Aug 2019)**

ZEBRA cell of Zoology Department organized Mobile Photography Competition & Exhibition on Nature Photography on 31st August 2019 at Zoology Lab. Total 90 students were Exhibited their Mobile photographs collection related to the theme. Three photographs were selected awarded by 1st, 2nd and 3rd prizes. Photography Seminar was also organized for the students and participants. Photographer Mr. Neeraj Bhange and Mr. Kushal Senad delivered seminar on Mobile Photography and Camera Photography and motivate students for positive and innovative use of Photography. All faculties were attended the program and all students were take efforts for the success of program.



The image block contains a central poster for the event and two photographs. The poster on the left features a vertical strip of nature photos (bird, butterfly, flower, ladybug, tree) and a logo for the college's 50th Golden Jubilee Year. The main text on the poster reads: 'THE R.G.E. SOCIETY'S SHRI R.L.T. COLLEGE OF SCIENCE, AKOLA NAAC Re-Accredited by "A" Grade (CGPA-3.12) On the Occasion of Golden Jubilee Year Celebration World Photography Day Cordially invites you to, MOBILE PHOTOGRAPHY COMPETITION & EXHIBITION-2019 NATURE PHOTOGRAPHY Inauguration at the Hands of Dr. V. D. Nanoty Principal, Shri R.L.T. College of Science, Akola Chief Guest Neeraj Bhange Joint Secretary, Akola Photographer Association Kushal Senad Experimental Photographer, Akola Organized by Department of Zoology & Internal Quality Assurance Cell (IQAC) F.W.F.C. LAB | AUGUST 31, 2019 | SATURDAY | 12:30 PM Organizing Secretary Dr. Sushil M. Magrale Organizing Committee Dr. A. S. Sawarkar Dr. S. R. Kalschale Dr. R. L. Bahatgaonkar Dr. R. Jushi-Sawalkar ZEBRA cell & Mobile Photography Core Committee'. The top-right photograph shows three men standing around a table displaying mobile photographs. The bottom-right photograph shows students gathered around a table, looking at the displayed photographs.

MOBILE PHOTOGRAPHY: EXHIBITION CUM COMPETITION (Nature Photograph)(31 Aug 2019)

Inter Collegiate Poster Exhibition cum Competition on Depletion of Ozone Layer and Its Consequences

On Monday, Dated: 16/09/2019 , Department of Botany, Environmental cell and IQAC organised “*Inter Collegiate Poster Exhibition cum Competition On Depletion Of Ozone Layer And Its Consequences*” on the occasion of Ozone day and Golden year celebration of the college. The morning session was start with registration total 60 students participants were registered for the competition and total 36 posters were display for the competition two students from each college were participated. The inauguration of the Poster competition event was inaugurated at the hands of Honourable Principal Dr. V.D. Nanoty Sir. On the occasion of Inaugural function Honourable Principal Chaired the programmed, introductory speech delivered by Prof. V.N. Badgajar (Head, Dept. of Botany), Judge for the Poster competition was Prof. Dr. V.S. Patil madam from Shri Shivaji college Akola. Prof. Vidyasagar sir exhibited innovative equipment and guided to the students about the equipments which is very important to identify the quantity and level of pollutants in the environment. In the last session of event Honourable Principal Sir delivered his remarkable presidential speech and guided students regarding importance of Ozone layer , awareness of Ozone layer and its should be inculcate by young generation. The programmed was conducted by Coordinator of the Poster competition Dr. Pramod Khadse and Mr. S.V. Madavi proposed vote of thanks and valuable help got from the Dr. Anjali Sangole madam for the success of event. During the event winners in the poster competition was rewarded by cash prize and certificates, 3 prizes and 2 consolation prizes were rewarded to the students participants. First three winners are Ku. Pallavi Mahadeo Sonone, Ku Rupali Sanjay Solanke, Ku. Gayatri Vijay Dhombale & Ku. Asawari S. Waghare respectively. Consolation Prizes winners are Ku. Aakankasha Dongardive , Shri. Gaurav R. Dhabale, Shri. Shrikant G. Verulkar & Shri. Navin K. Girhe respectively.

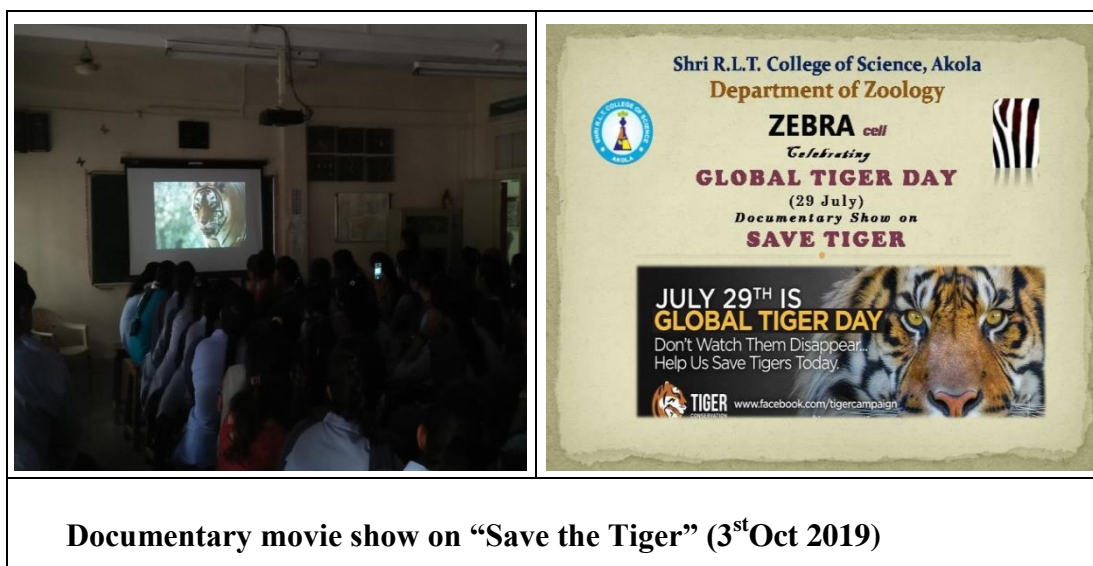


**WILDLIFE CONSERVATION WEEK PROGRAM
(1-7 October 2019)**

Every year Department of Zoology under ZEBRA cell observe Wild Life Conservation Week on 1-7 October Week. During the week many motivating and students informative programs were conducted by the department. To provide information related nature conservation, wild life conservation and their role in environment, guest lectures and documentary movies presented for the students.

Documentary movie show on “Save the Tiger” (3rd Oct 2019)

On 1st October inauguration of wild life conservation week was conducted. On this occasion Asst Prof. and Head Dr.S.M.Nagrале guided the students about the wild life conservation. Documentary movie show on “Save the Tiger” was arranged for the students B.Sc. students in the College Digital Room. All students enjoyed the Documentary. After the show Dr. S.M.Nagrале , Dr. A.S.Sawarkar and Dr. Rashmi Joshi interacted to the students and guided them about the wild life and their need of conservation for our better future. For the success of Program all the faculties of the department had take their hard efforts.



Ban on Plastic Bags and Cleanliness Rally 2 October Gandhi Jayanti

On October 2, 2019, on the 150th birth anniversary of Mahatma Gandhi, NSS unit of Shri R.L.T. college of Science, Akola organized a program in association with Lions Club, Akola and Akola Municipal Corporation. The chief guest of the program was Hon'ble Mr. Sanjayji Kapadnis, Commissioner M.N.P. Akola. District President and members of Lions Club Akola were present also present for the same. NSS Program Officer Dr. Rashmi Joshi Savalkar organized a special Swachhata program. The concept of "Single plastic ban" was realized and put into action in the Mahavidyalaya and the plastic bags were completely banned. Plastic bags were banned and cloth bags were unveiled. The teaching and non-teaching staff of the college as well as the students were given an oath to "completely ban plastic bags and use cloth bags from today". Akola M.N.P. Commissioner Hon. Shri Sanjayji Kapadnis challenged us to keep our surroundings clean. A cleanliness rally was organized at the end of the program. Public awareness was created with the help of street theater and by raising slogans of plastic ban, slogans on posters.



Street play and rally on cleanliness 2 Oct 2019



Ban on Plastic Bags

Intercollegiate poster Exhibition cum Competition on the topic 'Green Chemistry and properties of Elements

The Periodic Table of Chemical Elements is one of the most significant achievements in science, capturing the essence not only for chemistry, but also for physics, medicine, earth sciences and biology. The United Nation has designated 2019 as the international year of the Periodic table. The year will coincide with the 150th anniversary of the table created by Mendeleev. The Crystal Club, IQAC & Department of Chemistry, Shri R.L.T. College of Science, Akola organized an "Inter Collegiate Poster Exhibition cum Competition on "Green Chemistry OR Periodic Properties of the Element", on 19th October 2019 for M. Sc. I Sem I & M. Sc. II Sem III students in the Chemistry Laboratory no 3 at 12:00 pm. The morning session began with registrations for the event. The Twenty six students were participated in this competition from the different colleges across the city. Coordinator of this event Dr. Kavita M. Heda gave the introductory speech in the Programme. The Competition was judged by the very experienced senior faculty member Dr. Mamta T. Sangole, Assistant Prof., Department of Chemistry, Shri Shivaji Arts, Commerce & Science College, Akola, Prof. Vaishali N. Badgujar Head, Department of Botany, Shri R. L. T. College of Science, & Prof. V. P. Sakhare, assistant Porf, Dr. H. S. Sinha College, Patur. Total twenty students of M. Sc. II year actively taken part in "Oral Presentation of Periodic Properties of the Element", M. Sc II year students gave the important information on Elements of Periodic Table. The Principal Dr. V. D. Nanoty sir motivated and boosted the moral of the students and presented the cash prizes and certificates. The results of Inter Collegiate Poster Exhibition cum Competition on "Green Chemistry OR Periodic Properties of the Element", 1st Ku. Komal S. Pote, 2nd Ku. Sonali S. Wakode, 3rd Ku. Pratiksha H. Mhatre, 1st Consolation prize: Poonam V. Guhe, & Mayuri S. Nawalkar, 2nd Consolation prize: Shruti A. Panchbhai, The results of "Oral Presentation of Periodic Properties of the Element", First position: Ku Supriya Sahu, Second position: Ku. Shubhangi G. Dhole.



Intercollegiate poster Exhibition cum Competition. 19/10/2019

SAY NO TO CRACKERS

(18/10/2019)

Our ex-student Miss Tejaswini Rapartikar, working as member in NGO Blue Mormon Club, Akola visited to Department for the awareness campaign “Say No to Crackers” for Environment issues. She talk to the UG students and distributed posters for spreading the message about the air pollution, health hazards effects due the Crackers.







SAY NO TO CRACKERS : (18/10/2019)

BIODIVERSITY CALENDAR: (2nd January 2020)

To know value of biodiversity and inculcate environmental consciousness among students Biodiversity Calendar -2020 was published on 2nd January 2020 with the hands of eminent personalities Mr. S.R. Bharti (Assistant Commissioner of Fisheries, Akola) and Adv. M.G. Mohta (Hon. Secretary, The B.G.E. Society, Akola). It is an Innovative attempt made by B.Sc. II (Biology) students under supervision of Dr. Archana S. Sawarkar (Dept. of Zoology) and Dr. Anjali A. Sangole (Dept. of Botany). Along with flora and fauna, Academic holidays as well as special days concerning environmental issues and importance of biodiversity are mentioned in it. Biodiversity Calendar -2020 is a master piece of efforts taken by students to complete their participatory learning project.


SHRI R.L.T. COLLEGE OF SCIENCE, AKOLA



NOVEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	12 - Birds Day				



DECEMBER

S	M	T	W	T	F	S
2 - National Pollution Control Day		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Contributors: B.Sc. II (Biology) Students
Supervisors: Dr. Archana S. Sawarkar; Dr. Anjali A. Sangole

BIODIVERSITY CALENDAR



सत्यमेव जयते



Three day's Skill Development Programme on Fresh Water Aqua Culture
Department of Fisheries, Govt. of Maharashtra,
Assistant commissioner of Fisheries, Akola in partnership with
National Fisheries Development Board, Hyderabad,
In Collaboration with
Shri R.L.T. College of Science, Akola

Three days skill development programme on Fresh Water Aqua Culture was organized by Department of Fisheries, Government of Maharashtra, Assistant commissioner of Fisheries, Akola in Partnership with National Fisheries Development (NFDB), Hyderabad in collaboration with Shri. R. L. T. College of Science, Akola. In the technical sessions **Ashitosh Jadhao** assistant fisheries development officer, **Shri. K. S. Badihaveli**, Fisheries Development Officer, **Ashitosh Jadhao** assistant fisheries development officer, **Dr. Archana Sawarkar**, Assistant Professor Department of Zoology, **Amita Jain**, Asstt. Fisheries development officer, **Shri. Sunil Gupta**, **Dr. Sudhir Kohchale**, Assistant Professor Department of Zoology, **Shri. Suresh Bharti**, Assistant Commissioner of Fisheries delivered the fruitful lectures. On day second with all participants visited Katepurna Breeding Centre at Mahan, where technical guidance was provided by Shri. Vinod Rathod, Fisheries Development officer.

<div style="text-align: center;"> </div> <p style="text-align: center;">Three days Skill Development Programme on Fresh Water Aqua Culture Organized by Department of Fisheries, Govt. of Maharashtra, Assistant commissioner of Fisheries, Akola in partnership with National Fisheries Development Board, Hyderabad In Collaboration with Shri R.L.T. College of Science, Akola</p> <p style="text-align: center;">Venue: Shri R. L. T. College of Science, Civil Lines, Akola, Dist. Akola' Date : 2nd January 2020 to 4th of January 2020</p> <p>Dear Sir/Madam, _____</p> <p>You are cordially invited to attend the "Three days Skill Development Programme on Fresh Water Aqua Culture" organized by Department of Fisheries, Govt. of Maharashtra, Assistant commissioner of Fisheries, Akola in partnership with National Fisheries Development Board, Hyderabad in collaboration with Shri R.L.T. College of Science, Akola</p> <p style="text-align: center;">Programme Schedule Date : 02/01/2020</p> <p>Registration: 10.30 am to 11.00 am Inaugural Function: 11.00 am</p> <p>Chief Guest : Shri. S. R. Bharti (Asstt. Commissioner of Fisheries) Chairman : Dr. R. B. Heda (President, The B. G. E. Society, Akola) Gracious Presence : Adv. M. G. Mohta (Hon. Secretary, The B. G. E. Society, Akola) : Dr. Vijay D. Nanoty (Principal, Shri R.L.T. College of Science, Akola) : Dr. R. L. Rahatgaonkar (IQAC, Coordinator)</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"> <p>Date : 02/01/2020</p> <p>Technical session 1 : 12.15pm to 1.00 pm Smt. Amita Jain (Asst. Fisheries Dev. Officer) Topic : Fish in Human Diet</p> <p>Technical session 2 : 1.00 pm to 1.45 pm Shri. Ashitosh Jadhao (Asst. Fisheries Dev. Officer) Topic : Tilapia Farming Methods</p> <p>Lunch Break: 1.45 pm to 2.30 pm</p> <p>Technical session 3 : 02.30 pm to 3.15 pm Shri. 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Skill development program on 'Fresh Water Aqua Culture'

E-Certificate course in sericulture: Four Days Virtual Workshop 11th May to 14th May 2020

E- Certificate Course in Sericulture on Occasion of “Golden Jubilee Year” of College (4 Days Virtual Workshop) was organized by Department of Zoology, Shri RLT College of Science, Akola and IQAC. The course Coordinator, Dr. Rashmi Joshi Sawalkar, Assistant Professor, Department of Zoology conducted the four days virtual workshop Scheduled from 11th May to 14th May 2020 and daily from 11 am to 2 pm. On last day that is on 15th May 2020 the final Online Quiz was conducted. The 50% passed participants received their E- Certificates after filling the feedback form. About 700 participants through all the states of India and some students and researchers from abroad like Mauritius, Nigeria, Pakistan also joined the course. In the concluding Quiz about 350 participants passed the exam and received the e-certificate. All the study material was given to participants in PDF format. Below are the links given for the 4 days schedule and the link for concluding quiz on last day.

Day 1 : <https://forms.gle/tzLx9hPqTbs2zM4D9> Day 2 : <https://forms.gle/7xs58sYfLQ5MhhHEA>

Day 3 : <https://forms.gle/tJWiDkHfxNNPDZ6o9> Day 4 : <https://forms.gle/THapcBrjt13SxHPC8>

Day5: https://docs.google.com/forms/d/1MWHesywJdVW1Sjk_XxfZ3vTFkQdBZeVK6qpiYE4xyN8/edit?usp=sharing

E-Certificate Course in Sericulture Organized by Department of Zoology and IQAC Shri R. L. T. College of Science, Akola From 11 th to 15 th May 2020 SCHEDULE			
Day	Contents of the course	Type of Resource	Time
Day 1 11/05/2020 Thursday	1. Introduction to sericulture: • Cultivation of food plants. • Bioecology of mulberry silkworms • Reeling of silkworms.	Video Tutorial-1 PDF-1	11 am To 02 pm
Day 2 12/05/2020 Friday	2. Harvesting of silk cocoon: • Harvesting and processing of cocoons. • Stifling and reeling of cocoons • Reeling's selling to Textile mills • Reeling appliances	Video Tutorial-2 PDF-2	11 am To 02 pm
Day 3 13/05/2020 Saturday	3. Non-Mulberry sericulture: • Tassar sericulture • Muga sericulture • Eri sericulture	Video Tutorial-3 PDF-3	11 am To 02 pm
Day 4 14/05/2020 Sunday	4. Diseases in Silkworms: • Types of Diseases. • Preventive measures for disease free cocoon production.	Video Tutorial-4 PDF-4	11 am To 02 pm

Please Note:
 > Only Students of B.Sc and M.Sc. can participate or register for the course.
 > Participants have to follow this daily schedule.
 > Every day the link will be given to you to access these resources.
 > It is a digital resource, you may access it multiple times till your satisfaction and understanding.
 > Date of online examination will be communicated on active what's App group.
 > Certificate of Participation will be given to the candidates attending daily tutorials and who qualifies the online exam with min. 50% marks.

In-case of any difficulty, please feel free to call on Mob.no.9923074666
Mail ID: rashmisawalkar75@gmail.com

Coordinator Dr. Rashmi P. Joshi (Sawalkar) Assistant Professor Department of Zoology Shri R. L. T. College of Science, Akola	Dr. S. M. Nagrate Head Department of Zoology
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The B.G.E. Society's
Shri R. L. T. College of Science, Akola
 Re-accredited with 'A' Grade by NAAC with CGPA 3.12
 Affiliated to S. G. B. Amravati University, Amravati (M.S.), India
Department of Zoology & I.Q.A.C.



CERTIFICATE

This is to certify that Mr./Ms./Dr./Prof.

has actively participated in e-Certificate course in
"Sericulture" from 11th May to 14th May 2020 & attended *"Online Quiz"*


Dr. R. L. Rahatgaonkar
 IQAC Coordinator

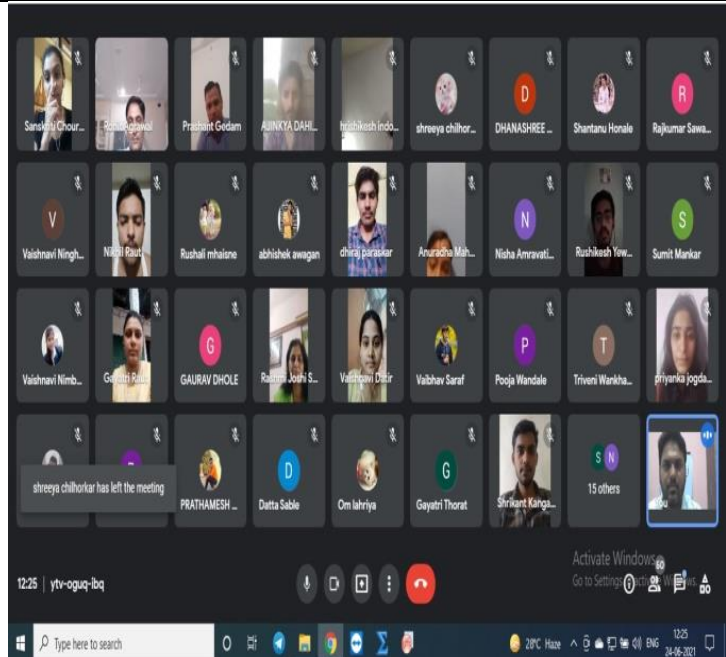

Dr. Rashmi P. Joshi
 Course Coordinator


Dr. Vijay D. Nanoty
 Principal

E-Certificate course in sericulture. 11th May to 14th May 2020

Online Certificate Course in Renewable Sources of Energy 24th June to 29th June 2021

Activity Report "Online Certificate Course in Renewable Sources of Energy" From 24th June to 29th June 2021. Department of Physics, under Internal Quality Assurance Cell, Shri R. L. T. College of Science, Akola was conducted "Online Certificate Course in Renewable Sources of Energy" from 24th June to 29th June 2021. Nearly 204 students in the college were participated for this course. The six day course included online YouTube lectures recorded by faculties (Dr. P. T. Agrawal, Dr. A. A. Sangole, Dr. A. G. Sarap, Dr. R. P. Joshi, Shri S. Toshniwal) and quizzes on various topics of renewable energy like Biomass, Solar energy, geothermal energy etc. The course was conducted using Google Forms and what's app Groups as a platform. At end of the course, final exam quiz was conducted and the online certificate was distributed to the participants who were successfully completion of the course. The main objectives of taking this course were to develop interest in the field of renewable energy and to create awareness among people that renewable energy sources is the demand and need of future. Dr. R. M. Agrawal and Shri P. P. Gedam, Asst. Professor, Dept. of Physics, were worked as a Convener and Co-convener respectively. Shri S. R. Jaiswal, Asst. Professor, Dept. of Physics was worked as an Organising Secretary and successfully conducted the course under the valuable guidance of Dr. P. T. Agrawal Madam, Head and Associate Professor, Dept. Chemistry and Dr. V. D. Nanoty, Principal, Shri R. L. T. College of Science, Akola.



The Berar General Education Society's
SHRI R.L.T. COLLEGE OF SCIENCE, AKOLA
Re-accr'dited 'A' Grade by NAAC, Bangalore with CGPA 3.12

Department of Physics
In Collaboration with IQAC
Organises

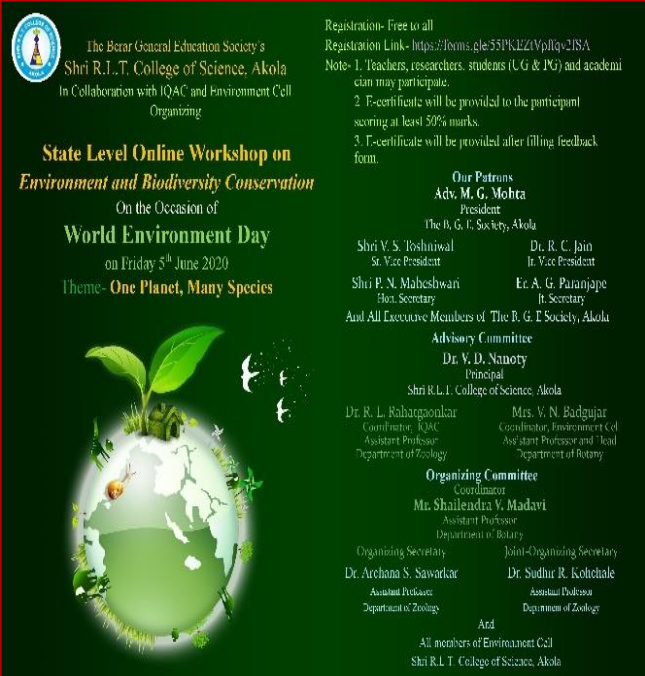
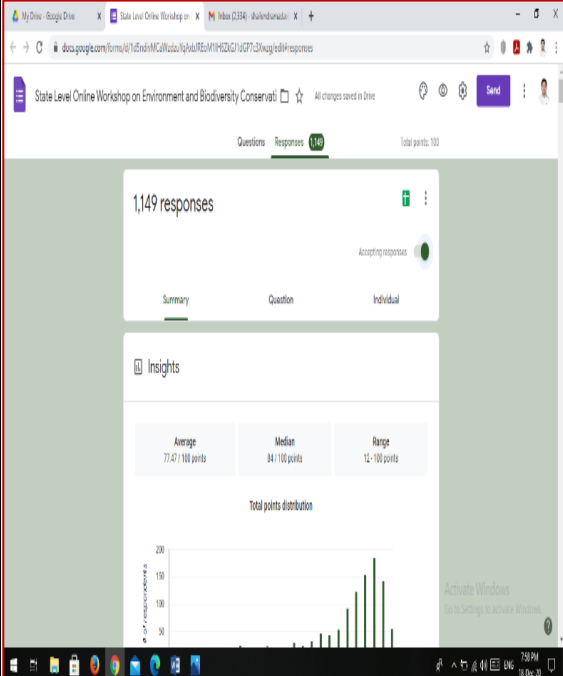
"Online Certificate Course in Renewable Sources of Energy"
From 24th to 29th June 2021.

<p style="text-align: center;"><u>Our Patrons</u> The B.G.E. Society's Akola</p> <p>Adv. M. G. Mohta Shri V. S. Toshniwal President Sr. Vice President</p> <p>Dr. R. C. Jain Shri P. N. Maheshwari Jr. Vice President Hon. Secretary</p> <p>Er. A. G. Paranjape Jt. Secretary</p> <p style="text-align: center;">& All Other Executive Members</p>	<p style="text-align: center;"><u>Organising Committee Member and Speaker</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border-right: 1px dashed black; padding-right: 5px;"> <p>Dr. V. D. Nanoty Principal</p> <p>Dr. R. L. Rahatgaonkar IQAC Coordinator</p> <p>Dr. R. M. Agrawal Convener</p> <p>Shri P. P. Gedam Co-convener</p> <p>Shri. S. R. Jaiswal Organizing Secretary</p> </td> <td style="width: 50%; padding-left: 5px;"> <p>Dr. Poonam Agrawal Department of Chemistry</p> <p>Dr. Anjali Sangole Department of Botany</p> <p>Dr. Rashmi Joshi Sawalkar Department of Zoology</p> <p>Dr. Ashish Sarap Department of Chemistry</p> <p>Shri Sandeep Toshniwal Department of Microbiology</p> </td> </tr> </table>	<p>Dr. V. D. Nanoty Principal</p> <p>Dr. R. L. Rahatgaonkar IQAC Coordinator</p> <p>Dr. R. M. Agrawal Convener</p> <p>Shri P. P. Gedam Co-convener</p> <p>Shri. S. R. Jaiswal Organizing Secretary</p>	<p>Dr. Poonam Agrawal Department of Chemistry</p> <p>Dr. Anjali Sangole Department of Botany</p> <p>Dr. Rashmi Joshi Sawalkar Department of Zoology</p> <p>Dr. Ashish Sarap Department of Chemistry</p> <p>Shri Sandeep Toshniwal Department of Microbiology</p>
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Online Certificate Course in Renewable Sources of Energy
24th June to 29th June 2021

State Level Online Workshop on Environment and Biodiversity Conservation

On the occasion of Environment Day on **5th June 2020**, Shri R. L. T. College of Science, Akola organized One Day State Level Workshop on Environment and Biodiversity and Conservation on theme- One Planet Many Species, in collaboration with IQAC and Environment Cell. Total **1149** participants participated from various Universities of Maharashtra State. Online quiz was organized followed by the workshop. The participants scored 50% and above marks were rewarded by Certificates. The workshop was inaugurated by hands of Dr. V. D. Nanoty, Principal, Shri R. L. T. College of Science Akola in Presence of Dr. R. L. Rahatgaonkar, Coordinator IQAC and Ms. V. N. Badgular, Coordinator Environment Cell. Mr. Shailendra Madavi has worked as Coordinator of this workshop. While Dr. Archana S. Sawarkar worked as Organizing Secretary and Dr. Sudhir R. Kohchale Worked as Joint- Organizing Secretary. All the members of Environment cell and various teaching staff, non-teaching staffs and students helped and worked hard for the success of workshop.

 <p style="font-size: small;">Registration- Free to all Registration Link- https://forms.gle/53PKRZVpJlqy2J8A Note- 1. Teachers, researchers, students (UG & PG) and academician may participate. 2. F-certificate will be provided to the participant scoring at least 50% marks. 3. T-certificate will be provided after filling feedback form.</p> <p style="text-align: center;">Our Patrons Adv. M. G. Mohta President The B. G. T. Society, Akola</p> <p style="font-size: x-small;">Shri V. S. Toshniwal Sr. Vice President Dr. R. C. Jain Jr. Vice President Shri P. N. Maheshwari Hon. Secretary Et. A. G. Patanjape Jr. Secretary And All Executive Members of The B. G. T. Society, Akola</p> <p style="text-align: center;">Advisory Committee Dr. V. D. Nanoty Principal Shri R.L.T. College of Science, Akola</p> <p style="font-size: x-small;">Dr. R. L. Rahatgaonkar Mrs. V. N. Badgular Coordinator, IQAC Coordinator, Environment Cell Assistant Professor Assistant Professor and Head Department of Zoology Department of Botany</p> <p style="text-align: center;">Organizing Committee Coordinator Mr. Shailendra V. Madavi Assistant Professor Department of Botany</p> <p style="font-size: x-small;">Organizing Secretary Joint-Organizing Secretary Dr. Archana S. Sawarkar Dr. Sudhir R. Kohchale Assistant Professor Assistant Professor Department of Zoology Department of Zoology</p> <p style="text-align: center; font-size: x-small;">And All members of Environment Cell Shri R.L. T. College of Science, Akola</p>	 <p style="text-align: center;">1,149 responses</p> <p style="text-align: right;">Total points: 100</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <thead> <tr> <th>Average</th> <th>Median</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>77.47 / 100 points</td> <td>84 / 100 points</td> <td>12 / 100 points</td> </tr> </tbody> </table> <p style="text-align: center; font-size: x-small;">Total points distribution</p>	Average	Median	Range	77.47 / 100 points	84 / 100 points	12 / 100 points
Average	Median	Range					
77.47 / 100 points	84 / 100 points	12 / 100 points					
<p>State Level Online Workshop on Environment and Biodiversity Conservation. 05/06/2020</p>							

**WALL MAGAZINE- BESST
(10th August 2019)**

Wall Magazine BESST (Biological and Environmental Studies with Social Temperament) was release on 10th August 2019 with the hands of Principal Dr. V.D. Nanoty in presence of IQAC Coordinator Dr. R.L. Rahatgaonkar and Dr. S.M. Nagrale, Head Department of Zoology. Dr. Archana S. Sawarkar worked as Chief Editor and Dr. Sudhir R. Kohchale, Dr. Rashmi Joshi (Sawalkar), Mr. Shailendra V. Madavi worked as Area Editors for Animal Science, Environmental science and Plant Science respectively. Our student authors have put across some amazing pieces of writing in this Wall Magazine.



Inter collegiate Plant Anatomy Diagram competition

Department of Botany

On Friday,13th September 2019 For B.Sc. II Sem III

The morning session began with registrations for the event. The Holy Basil Club of Botany Department of Shri R.L.T. College of Science Akola organized an “*Inter collegiate Plant Anatomy Diagram competition*,” on 14th Sept.2019 in the Botany Laboratory at 12:30 pm. The Sixty Three students was participated in this competition from the different colleges across the city. Head department of Botany Mrs Vaishali Badgujar give the Introductory speech in the Competition. The event was judged by the very experienced senior faculty member Dr. Pratiksha S. Kokate, Head department of Botany Shri Shivaji Science College Akola college. The Principal Dr. V. D. Nanoty sir motivated and boosted the moral of the students and presented the cash prizes and certificates. Overall it was a very good experience and a good exposure for all the students who participated. First three winners are Ku. Aishwarya Sonone, Ku. Darshana Tapare & Ku. Aishwarya Punse respectively. Consolation prizes are given to Sankalp Gajghate & Ashwini Bolwankar.



Inter collegiate Plant Anatomy Diagram competition. 13/09/2019

GLOBAL TIGER DAY (29 July 2019)

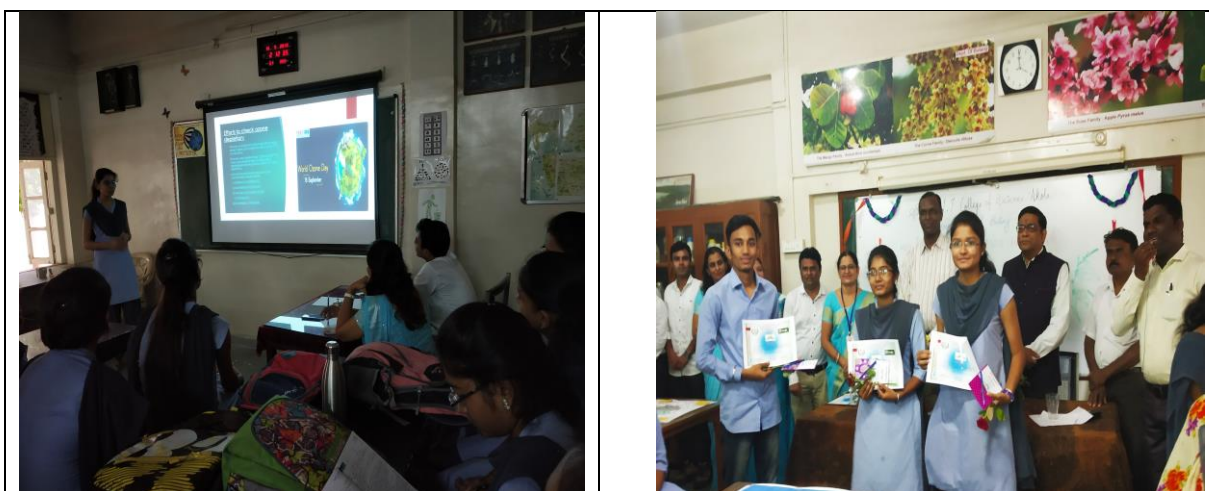
Shri R.L.T. College of Science, Akola Department of Zoology celebrated Global Tigers day on 29 July 2019, in the presence of Head of the Department Dr. S. M. Nagrale, Dr. Archana Sawarkar and Dr. Sudhir Kohchale. Introductory speech was delivered by Dr. Sudhir Kohchale. He explained the importance of Tiger in food chain and its importance in Biodiversity. Dr. Archana Sawarkar in her speech guided the student and talk on saving tiger is saving diversity again she motivated the student to aware people about Tiger conservation. Dr. S. M. Nagrale in his speech said tiger conservation is need and demand of time we should put joint hands with forest services to conserve Tiger and maintain the ecologic balance. In discussion students put their views on Tiger and Tiger conservation. On this occasion short film on Tiger was shown to the student. This programme was conducted by Hrutuja Gopnarayan, Kalyani Kanojiya proposed vote of thanks. Principal Dr. V. D. Nanoty congratulated Department of Zoology for successful organization of this event Akhilesh, Prasad, Sakshi, Amisha and Divyani put their efforts to success this event.



GLOBAL TIGER DAY (29 July 2019)

World Ozone Day
Seminar competition on 'Save Ozone, Save Earth'
16 Sep. 2019

On occasion of World Ozone Day (16/09/2019), a seminar competition was organized for students on topic 'Save Ozone, Save Earth.' Rutuja Gopnarayan, Raj Pohare and Sakshi Kondawar stood first, second and third respectively. Dr Archana Sawarkar worked as a coordinator of the event. Mr. S. C. Zyate and Dr. Rashmi Joshi performed the job of examiner.



seminar competition on 'Save Ozone, Save Earth'
16 Sep. 2019

Distribution of 50 saplings 22/07/2019

50 saplings were distributed among students and they were ensured to take care of them in future. The samplings were distributed by Dr. V. D. Nanoty Pricipal, Shri. R.L.T. college of science, Akola. Mrs. A. S. Deshmukh madam took initiative to conduct this programme on the occasion of Golden Jubilee year celebration.



**Programs / initiatives taken for Clean and Green campus
2020-21**

Criterion VII: INSTITUTIONAL VALUES AND BEST PRACTICES

List of programs / initiatives taken for clean and green campus		
2020-21		
Sr. No.	Name of activity	Date & Duration
1	Eco-friendly Holi	27/03/2021
2	Wild life Documentary show	04/10/2020
3	Mobile photography Competition: Wild life and Nature	05/10/2020
4	Quiz Competition on Wild life Conservation	05/10/2020
5	Wall Magazine- BESST	02/10/2020 to 07/10/2020
6	E-certificate course in Apiculture	27/6/2021 to 2/7/2021
7	Cleaning and Sanitation in campus	12/08/2020
8	World Ozone Day	16/09/2020
9	Publication of Biodiversity Calendar 20-21	24/12/2020
10	District Level Webinar on Conservation of Water	15/03/2021
11	National E-Workshop on Organic Farming for Sustainable Agriculture	24/03/2021
12	Installation of Bird Feeders (World Sparrow Day)	20/03/2021
13	"Restoring ecosystem" seminar competition (World Environment Day)	05/06/2021
14	Online Certificate Course in Renewable Sources of Energy	24/06/2021 to 29/06/2021
15	Plantation drive in college premises in collaboration with Nisarg Katta	24/07/2020
16	One district one green champion award	2020-21

Documental proofs/ Reports (2020-21)

State level E-Workshop on Eco-friendly Holi On theme

प्रकृति के रंग प्रकृति के संग

Department of Botany, Environment Cell & IQAC

in Collaboration with Gramayan Pratishthan (NGO), Nagpur

27th March 2021 at 4.00pm

Inauguration: Inauguration of this workshop was held on ZOOM platform. Inaugurator and Chief organizer of this workshop was by Dr. V.D. Nanoty sir, Principle of Shri RLT College of Science, Akola. On this workshop, the congratulatory messages of Advocate Motisingh Mohta, the Hon'ble President of the Berar General Education Society, Akola, Mr. Shri. P. N. Maheshwari Hon. Secretary The B.G.E. Society, Akola and All Executive Committee Members of the B. G. E. Society, Akola were broadcast Convener of workshop Dr. A.A.Sangole, IQAC coordinator Dr. R.L. Rahatgaonkar

Chief Guest, Mr. Anilji Sambre President Gramayan Pratishthan (NGO), Nagpur

Speaker, Mrs. Pragati Madhai, The brilliant shades of Holi colours were made from nature. Most of these trees also had medicinal properties and Holi colors prepared from them were actually beneficial to the skin.

The organizing secretary, Mrs. V.N. Badgujar, Members Dr P.M. Khadase and Mr. S.V. Madavi

Total 388 participant are participated in this Workshop. Afterworkshop E-certificate will given to the participants.

Youtube link: https://www.youtube.com/watch?v=XOqLPtYO_D4&authuser=0

Conclusion: Holi colors prepared from nature, them were actually beneficial to the skin. Natural colours give positive effect on human body.



Wild life Documentary show (Online)
4th October 2020

On 4th of October 2020 while celebration the International Wild Life Week the day was scheduled for the documentary on Tiger, Tiger Poaching Tiger Census, and Conservation of Tigers in India. All the Students from Life Sciences were shown the documentary at 11:00 am. The two short films of 30 minutes were shown and links were uploaded in all the Google Classrooms of life sciences. The students got knowledge and through these films they aware about the Tigers, there territory and how the Greedy Human Being's destroys the animal and then the ecosystem.

Links - <https://youtu.be/sZAvWUF8uBI>
<https://youtu.be/RenL4zrF2U>

Mobile photography Competition: Wild life and Nature

On the occasion of celebration of Wildlife conservation week, on **5th October 2020** , Department of Zoology, ZEBRA cell organized **Mobile Photography Competition on theme ‘ Wildlife and Nature’**. More than 37 students participate in the photography competition. Students submitted their mobile clicked photograph online on website. Judges, Mr. Shailendra Madavi and Mr. Kushal Senad selected the

Conducted from Date	Name of the Event	Position of Winners	Name of Winner Students
5/10/2020	Mobile Photography Competition on “Wild Life & Nature”	I	Disha Pandey B.Sc. II (B6)
		II	Vaishali Chavale B.Sc.II (B5)
		III	Pratiksha Pawar BSc I B5
		Consolation 1	Rutuza Badhe BSc I B5
		Consolation 2	Sonal Gawande BSc I

photographs which were purely based on theme and awarded by ranks 1st, 2nd, 3rd and two consolation prizes.

Quiz Competition on Wild life Conservation

On the occasion of celebration of Wildlife conservation week, on **5th October 2020**, Department of Zoology, ZEBRA cell organised **Quiz Competition on theme ‘Wildlife Conservation’**. More than 77 students participate in competition. Students solved the online quiz provided by Google form. Judges, Students were awarded by ranks 1st, 2nd, 3rd and two consolation prizes

Conducted from Date	Name of the Event	Position of Winners	Name of Winner Students
6/10/2020	Quiz Competition on “Wild Life Conservation”	I	Ku. Saima Parveen (BSc I/ B5)
		II	Rushabh Rajendra Ingole (BSc III /B5)
		III	Ku. Sakshi DilipKhandekar (BSc II/ B5)
		Consolation 1	Ku. Aishwarya Sunil Sonone (BSc III /B5)
		Consolation 2	Samreenfirdous shaikh sadique (Bsc I/ B5)

WALL MAGAZINE- BESST
(2-7 Oct 2020)

ZEBRA Club, Department of Zoology celebrated **Wildlife Week- 2020** by organizing online **Article Writing Competition** on topic **Wonderful World of Butterflies**. Students of life sciences participated in the competition. In their huge response, participants narrated about Butterfly diversity, Life cycle of butterflies, Plant butterfly relationship, Ecological importance of butterflies, Need of butterfly conservation and many more topics related to butterfly. Thus, we tried to make a small contribution in creating awareness about this small wonderful insect.

Mr. Shailendra V. Madavi and Dr. A.S. Sawarkar worked as jury members of the competition. The event was organised by Dr. Archana Sawarkar and Dr. Sudhir Kohchale. Some selected articles were displayed on

Conducted from Date	Name of the Event	Position of Winners	Name of Winner Students
2 nd to 7 th Oct.2020	Article Writing Competition on the topic “ Wonderful World of Butterflies ”.	I	Ku. Twinkle R. Gawai (BSC II /B5)
		II	Ku. Nikita J. Tembhekar (BSC II /B6)
		III	Ku. Sakshi S. Khade (BSc III /B5)
		Consolation 1	Mr. Pratik S. Wankhade (BSc II/ B5)
		Consolation 2	Ku. Samiksha S. Lingayat (BSc II/ B5)

student’s Wall magazine **BESST** (biological & Environmental Studies with Social Temperament).

E-CERTIFICATE COURSE IN APICULTURE

(27/6/2021 to 2/7/2021)

Department of Zoology of Shri R.L.T. College of Science, Akola with IQAC organized Virtually 6 Days E-Certificate Course in Apiculture. The course was inaugurated on 27/6/21 at 12 noon. Dr. S.M. Nagrale convener of the course, Dr. Rashmi Joshi organizing secretary, Dr. A.S. Sawarkar, Dr. Sudhir Kohchale Members of organizing committee from Department of Zoology while Respected Principal Dr. V. D. Nanoty Presided the Inaugural Function in presence of IQAC Coordinator Dr. R. L. Rahatgaonkar. All the resource persons Dr. Amrita Shirbhate, Asst Prof & Head Dept of Zoology, Mahatma Phule Science College, Patur, Dr Seema Keswani, Asst Prof & Head Dept of Zoology, MSP Arts & Science College, Manora, Dr Abhimanyu Maheshwari, Asst Prof, Dept of Botany, Bajaj College, Wardha and Miss Prajakta Bathe, Asst Prof, Dept of Zoology, B.S. Patel College, Pimplegaon Kale, Jalgaon Jamod were invited in the inaugural function. The everyday course schedule was a recorded lecture of resource person, Video tutorials, MCQ Test and the Study material link to download. Daily about average 157 participants attended the course, out of which 152 appeared for Final Quiz and about 128 passed and received their certificates.

Shri R.L.T. College of Science, Akola
 Resaccredited 'A' Grade by NAAC, Bangalore with CGPA 3.32
 Department of Zoology with IQAC
 Organizes
E-Certificate Course in Apiculture
 From
27th June to 2nd July 2021

Our Patrons
 The B.G.E. Society, Akola

Organizing Committee Members and Speakers

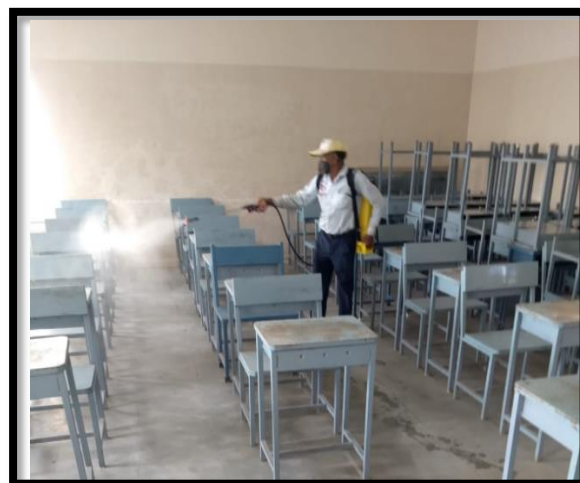
<p>Our Patrons The B.G.E. Society's Akola</p> <p>Mr. M. G. Moha President</p> <p>Shri U. S. Teelchand In Vice President</p> <p>Dr. S. C. Ina In Vice President</p> <p>Shri P. N. Maheshwar Hon. Secretary</p> <p>Dr. A. G. Phaduge In Secretary</p> <p>& All Other Executive Members</p>	<p>Dr. V. D. Nanoty Principal</p> <p>Dr. R. Rahatgaonkar IQAC Coordinator</p> <p>Dr. S.M. Nagrale Convener</p> <p>Dr. Rashmi F. Joshi Organizing Secretary</p> <p>Dr. A.S. Sawarkar Dr. S. H. Kohchale Members</p>	<p>Dr. Amrita Shirbhate Asst. Prof. Zoology, Mahatma Phule Arts & Science College, Patur</p> <p>Dr. Seema Keswani Asst. Prof. Zoology, MSP Arts, Science and Commerce College, Manora</p> <p>Dr. Abhimanyu Maheshwari Asst. Prof. (Botany), Bajaj College of Science, Wardha</p> <p>Dr. Prajakta Bathe Asst. Prof. Zoology, B.S. Patel College, Pimplegaon Kale, Jalgaon Jamod.</p>
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Inauguration Program Links
 Google meet link (27/06/2021 at 12 noon)
 (For First 100 Students)
<https://meet.google.com/hsp-myfb-xey>
 Or open Meet and enter this code: hsp-myfb-xey

E-Certificate Course in Apiculture

Cleaning and Sanitation

During the Corona pandemic, the entire campus and all the classrooms were cleaned time to time by NSS volunteers, non-teaching staff and swachhata doot in collaboration with the sanitation envoys. The Sanitization Drive was also done at Public Health Centre (PHC) and Gram Panchayat Office at Adopted village Apoti Khurd (Aapatapa).

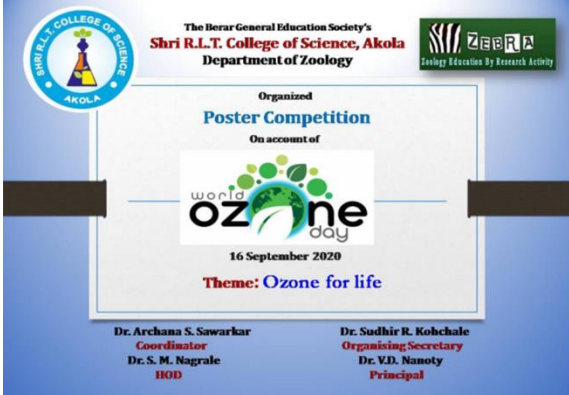
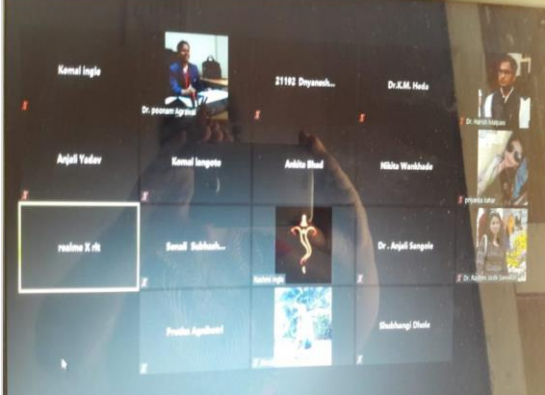


Cleaning and Sanitation

World Ozone Day 16th September 2020

ZEBRA Club, Department of Zoology observed World Ozone Day on 16th September 2020 by organizing Online Poster making competition on theme 'Ozone for Life'. Participants narrated about importance of Ozone layer protection by their own innovative drawings and thus tried to make a small contribution in creating awareness through handmade posters. Department of Chemistry Organized Online Debate competition on the topic 'Is lockdown due to COVID-19 is healing Ozone Layer Hole?'
Web-link:

1. <https://www.rltsc.edu.in/2020/09/22/online-poster-making-competition-on-ozone-for-life/>
2. <https://www.rltsc.edu.in/2020/09/19/world-ozone-day/>

 <p>The Berar General Education Society's Shri R.L.T. College of Science, Akola Department of Zoology</p> <p>Organized Poster Competition On account of</p> <p>world ozone day 16 September 2020 Theme: Ozone for life</p> <p>Dr. Archana S. Sawarkar Coordinator Dr. S. M. Nagrale HOD</p> <p>Dr. Sudhir R. Kohchale Organising Secretary Dr. V.D. Nanoty Principal</p>	 <p>A screenshot of an online debate competition. The screen shows a grid of participants' video feeds. Some participants have their video off, and their names are visible. One participant is speaking, and their video feed is highlighted. The background is dark, and the text 'Online Debate competition on the topic 'Is Lockdown Due to COVID-19 is Healing Ozone Layer Hole?'' is overlaid on the bottom of the image.</p>
<p>Online Poster making competition on theme 'Ozone for Life'</p>	<p>Online Debate competition on the topic 'Is Lockdown Due to COVID-19 is Healing Ozone Layer Hole?'</p>

Publication of Biodiversity Calendar -2021

To know value of biodiversity and inculcate environmental consciousness among students, Biodiversity Calendar -2021 was published on 24th December 2020 with the hands of eminent personalities. It is an Innovative attempt made by B. Sc. II (Biology) students under supervision of Dr. Archana S. Sawarkar (Dept. of Zoology) and Dr. Anjali A. Sangole (Dept. of Botany). Along with flora and fauna, Academic holidays as well as special days concerning environmental issues and importance of biodiversity are mentioned in it.



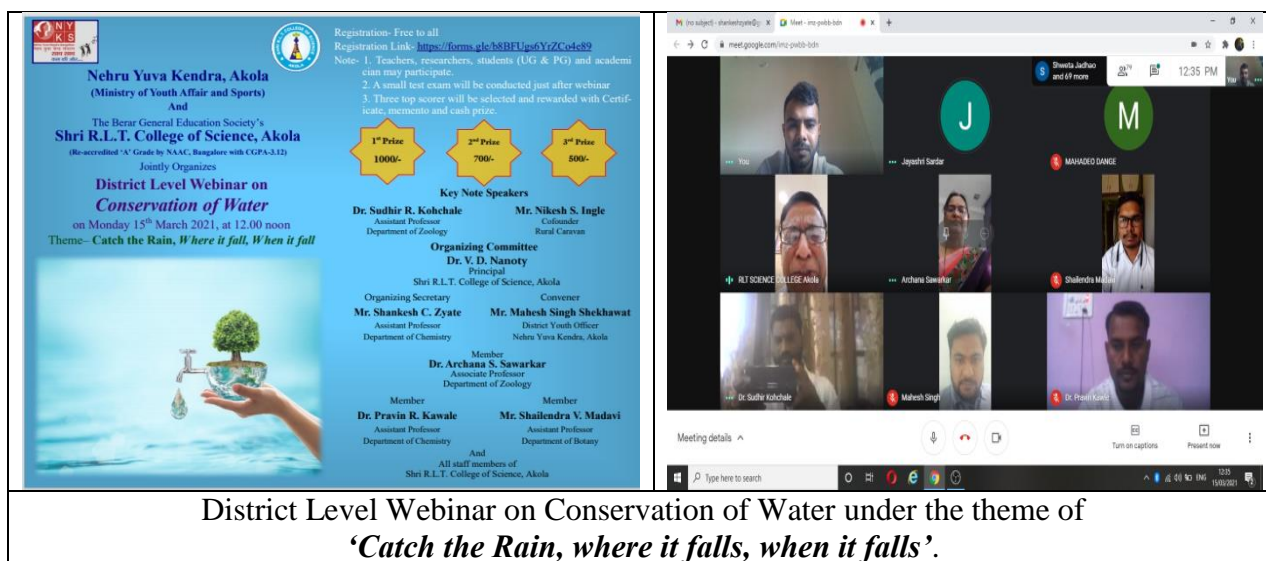
Publication of Biodiversity Calendar -2021

Conservation of Water Theme – Catch the Rain, where it falls, when it falls

Date – 15/03/2021

Number of Participants – 406

Shri. Radhakisan Laxminarayan Toshniwal College of Science, Akola and Nehru Yuva Kendra (Ministry of Youth Affair and Sports), Akola has jointly organized the webinar on the topic ‘Conservation of water’ under the theme of ‘Catch the Rain, where it falls, falls’. Webinar was successfully conducted on 15/03/2021 from 12.00 to 2.00 pm. Programme was inaugurated by the hands of the President of today’s event Dr. V.D. Nanoty, Principal Shri. R.L.T. College of science, Akola. Convenors of the webinar wa Singh Shekhawat, District Youth Officer, Nehru Yuva Kendra, Akola. First key note speaker was Mr. Nikesh S Ingle (IIT Mumbai) delivered the talk on the topic ‘Techno water conservation and watershed planning ‘ and second key n Kohchale (Assistant Professor, Zoology) delivered lecture on the topic ‘Save water save Earth ‘. Conduction of the event has beautifully done by Mr. Shailendra V. Madavi (Assistant Professor) and Dr. Pravin R. Kawle (Assistant Organizing Secretary Mr. Shankesh C. Zyate (Assistant Professor). After the inauguration online Quiz Competition was carried out for the participants. Winners got Cash prize, certificate and memento. Ms. Sanskruti V Gan got first prize. Ms. Arti G Kadu (Shri. R.L.T. College of science, Akola) got second prize, where as Ms. Anuradha A Mahajan (Shri. R.L.T. College of science, Akola) got third prize. Number of Participants for the webinar was 406. For successful organization of the event organising members Dr. Archana Sawalkar (Associate Professor), Dr. Sudhir Kohchale, Dr. Pravin Kawle, Mr. Shailendra Madavi and Mr. Shankesh Zyate has took efforts.



District Level Webinar on Conservation of Water under the theme of ‘Catch the Rain, where it falls, when it falls’.

World Sparrow Day

World Sparrow Day was celebrated on 20th March 2021 virtually by collecting the different views and ideas of conservation through the young minds on the theme, “Sparrow Conservation: Today's Need”. Students were appealed to keep water pots for small birds like sparrow. Physical Education department Installed Bird Feeder in college campus.

Web-link: <https://www.rltsc.edu.in/2021/05/21/world-sparrow-day/>



“Sparrow Conservation: Today's Need”.

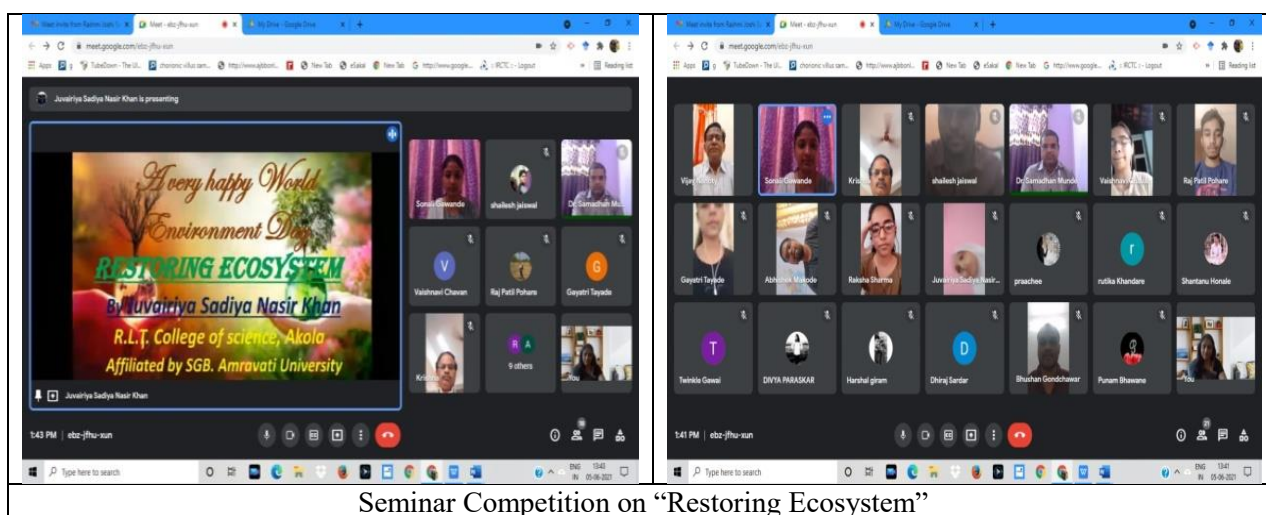
Installation of Bird Feeder in college campus

World Environment Day 2021

On 05/06/2021, the Occasion of World Environment Day 2021 the NSS unit of Shri R.L.T. College of Science, Akola organized the Seminar Competition on “Restoring Ecosystem” to make pupils aware about nature conservation. About 26 participants participated and delivered their views through presentations. From the excellent presentations and ideas of students the best 4 were selected by the NSS P. O. Dr. Rashmi Joshi and Miss Sonali Gawande. At last one consolation prize was declared.

The cash prizes were Rs.700/-, Rs.500/-, Rs.300/- and one consolation of Rs.200/-. The entire team of NSS is very much thankful to our respected principal Dr. V. D. Nanoty for their introductory speech and guidance and also thankful to the IQAC co-ordinator Dr. Rahatgaonkar for giving their valuable time for the event. Dr. Samadhan Munde, organizing secretary of the program and Mr. Shailesh Jaiswal, worked hard for making the programme successful. Miss Sonali Gawande very nicely done the conduction and helped in evaluation process of participants.

Weblink: <https://www.rltsc.edu.in/2021/06/06/nss-unit-organised-world-environment-day-2021/>


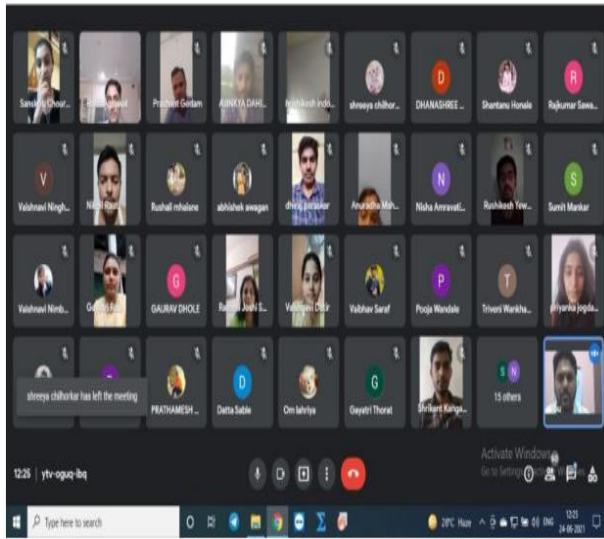


Seminar Competition on “Restoring Ecosystem”

Online Certificate Course in Renewable Sources of Energy

Department of Physics, under Internal Quality Assurance Cell, Shri R. L. T. College of Science, Akola was conducted "Online Certificate Course in Renewable Sources of Energy" from 24th June to 29th June 2021. Nearly 204 students in the college were participated for this course.

Web-link: http://rltsc.edu.in/online-courses/#Online_Certificate_Course

 <p>The Bharat General Education Society's SHRI R. L. T. COLLEGE OF SCIENCE, AKOLA Re-accredited 'A' Grade by NAAC, Bangalore with CGPA 3.12</p> <p>Department of Physics In Collaboration with IQAC Organise</p> <p>"Online Certificate Course in Renewable Sources of Energy" From 24th to 29th June 2021.</p>		
<p>Our Patrons The B.G.E. Society's Akola</p> <p>Adv. M. G. Mohite Shri K. S. Trivediwal President Sr. Vice President</p> <p>Dr. H. C. Jain Shri P. N. Maheshwari Jr. Vice President Hon. Secretary</p> <p>Dr. A. C. Paranjape Jr. Secretary</p> <p>& All Other Executive Members</p>	<p>Organizing Committee Member and Speaker</p> <p>Dr. K. D. Nansoty Principal</p> <p>Dr. H. L. Bahatgambhar IQAC Coordinator</p> <p>Dr. E. H. Agrawal Convener</p> <p>Shri P. P. Godam Co-convener</p> <p>Shri S. B. Jalowal Organizing Secretary</p>	<p>Dr. Poojasa Agrawal Department of Chemistry</p> <p>Dr. Anjali Saigade Department of Botany</p> <p>Dr. Pradip Janki Sawalkar Department of Zoology</p> <p>Dr. Ashish Sarup Department of Chemistry</p> <p>Shri Sandeep Tondalkar Department of Microbiology</p>

Online Certificate Course in Renewable Sources of Energy

Planting local, resilient trees in Collaboration with the NGO Nisarga katta, that ensure water table is not eroded:

Department of Microbiology in Collaboration with Nisarg-Katta planted summer flowering plants in College premises on 24th July 2020. Event was carried out under guidance of Dr. V.D. Nanoty, Principal Shri RLT College of Science, Akola. Event was planned and executed by Dr. Harish S. Malpani with Mr Amol Sawant Founder president NisargKatta. Dr. Umesh Bhalekaar, Dr. R.L. Rahatgoankar, Dr. S.R. Kohchale were present in Event. Trees planted were Palash, Saptaparni and Bahawa.



Plantation drive in college premises in collaboration with Nisarg Katta. 24/07/2020

Certificate of the award received



लोकमत समाचार

आरएलटी विज्ञान महाविद्यालय को वन डिस्ट्रिक्ट वन ग्रीन चैम्पियन पुरस्कार

जिलाधीश नीमा अरोरा के हाथों प्रमाणपत्र का वितरण

अकोला । 12 अगस्त । एनएल

महात्मा गांधी नेशनल काउंसिल ऑफ़ रुरल एजुकेशन शिक्षा मंत्रालय भारत सरकार की ओर से आरएलटी विज्ञान महाविद्यालय को वन डिस्ट्रिक्ट वन ग्रीन चैम्पियन पुरस्कार 2020-21 घोषित किया गया. इस पुरस्कार के रूप में महाविद्यालय को जिलाधिकारी नीमा अरोरा के हाथों प्रमाणपत्र देकर सम्मानित किया गया. इस मौके पर उपजिलाधिकारी सज्जद खान उपस्थित थे. महाविद्यालय की ओर से उपक्रम की संयोजिका प्रा.डॉ.रश्मि जोशी साफलकर ने पुरस्कार स्वीकारा.

गुरुवार, 12 अगस्त को हुए पुरस्कार वितरण समारोह में एमजीएससीआरटी के डॉ.महेश चौपड़े, संघ्या, जयश्री आदि उपस्थित थीं. वी सीजीई संस्था के अध्यक्ष मोतीसिंह मोहनत,



महाविद्यालय के प्राचार्य डॉ.विजय नानोटी, उपक्रम संयोजिका प्रा.डॉ.रश्मि जोशी साफलकर, अकोला जिले के विभिन्न महाविद्यालय के प्राचार्य, संस्था के पदाधिकारी, प्राध्यापक, शिक्षक एवं शिक्षकेतर कर्मचारी उपस्थित थे.

2020-21 के दौरान महाविद्यालय स्वच्छता कृति प्रारूप तैयार तथा इस

प्रारूप के तहत कुल पाच प्रमुख विषयों पर कृतिशिल कार्यक्रम का आयोजन किया. कोविड का प्रकोप नहीं फैले, इसकी सावधानी बरतते हुए स्वास्थ्य, बगीचा, पौधारीपण, पौधों का संवर्धन, कचरा प्रबंधन, पानी का नियोजन एवं



**Programs / initiatives taken for Clean and Green campus
2021-22**

Criterion VII: INSTITUTIONAL VALUES AND BEST PRACTICES

List of programs / initiatives taken for clean and green campus		
Year: 2021-22		
Sr. No.	Name of activity	Date & Duration
1	Mobile Photography Competition	27/08/2021
2	Plantation Drive (Azadika Amrit Mahotsav)	15/08/2021
3	Poster presentation on "WILD LIFE"	7/10/2021
4	Essay writing competition on "My Favorite Wild Life"	02/10/2021 to 05/10/2021
5	Rangoli Competition on Theme ' Impact of Deforestation on Wildlife'	02/10/2021 to 05/10/2021
6	Quiz Competition on Wild life Conservation	06,07/10/2021
7	Guest lecture: Nisarga Katta on Nature, Wildlife and Environment awareness	04/01/2022
8	World wild life day	03/03/2022
9	World Spider Day	14/03/2022
10	Wall Magazine - BESST	14/3/2022
11	World Sparrow Day : Nest Exhibition and Competition	21/03/2022
12	World Forest Day	21/03/2022
13	World Water Day	22/03/2022
14	World Earth Day	22/04/2022
15	working as the steering committee member of "AATBI" (Akola's All Taxa Bio-diversity Inventory	-----
16	Dr. Archana Sawarkar was felicitated with 'AATBI Enroll and Educate Award -2022' for her outstanding research on spider by EFEC at Akola.	14/03/2022
17	Poshan Bag (World Environment Day)	05/06/2022
18	Cleanliness drive in Campus	02/10/2021
19	Publication of Biodiversity Calendar 20-21	
20	Celebration of "Krushi Din" (Agriculture Day).	01/07/ 2022
21	Tree plantation.	04/10/ 2021
22	Program on save Electricity, Paper & Energy.	26-08-2021
23	Workshop on E-Waste Management: Reduce, Repair, Refurbish, Recycle & Reuse	11/08/2021
24	Periodical testing of drinking water	04/09/2021
25	Bicycle Day for Eco Friendly Environment	01/01/2022

Documental proofs/ Reports (2021-22)

MOBILE PHOTOGRAPHY COMPETITION

(27/8/2021)

On the occasion of World Photography Day (19 August), Department of Zoology organized Online Competition on Mobile Photography. Theme of Mobile Photography competition was Biodiversity and Environmental Impact. Students were called for submission of Photographs on link <https://forms.gle/jD1bxMkHrNyXUsCYA> on or before 19th August to 25th August 2021. Over all 37 photographs selected as per the theme. Results were declared on 27 August 2021 by selection of 1st, 2nd, 3rd and consolation prize. List of winner are Mr Rushabh Ingole-1st winner, Sanskruti Bawaskar-2nd winner, Atrava Sawalkar- 3rd winner and Ujwal Patel –consolation. Mr. Kushal Senad and Mr. Shailendra Madavi worked as a Jury for the selection of winning Photographs.

Online event coordinated by Dr. S. M. Nagrale, HOD Zoology and technical support provided by Dr. R.P. Joshi (Sawalkar) and other teaching staff Dr. A.S. Sawalkar, Dr. S.R. Kohchale and Dr. R.L.Rahatgaonkar were provide supports for success of the events.

Mobile Photography Competition
(Celebrating World Photography Day | 19 August)
Friday, August 27, 2021 | 1.00 pm

Call for mobile captured photos
Biodiversity and Environmental Impacts

- * Submit only one photo by each to link: <https://forms.gle/jD1bxMkHrNyXUsCYA>
- * Photos must reflect criteria above and be taken with mobile phone only
- * All Photos must be submitted by August 25 , 2021
- * Jury reserve the right to not accept photos that do not fit theme

Organized by:
DEPARTMENT OF ZOOLOGY
IQAC, SHRI R.L.T. COLLEGE OF SCIENCE, AKOLA
Dr. S. M. Nagrale : 9370322456

Mobile Photography Competition
(Celebrating World Photography Day | 19 August)
Friday, August 27, 2021 | 1.00 pm

Congratulations !!!
Results of Mobile Photography Competition on theme Biodiversity and Environmental Impacts

 1 st winner : Rushabh Ingole	 2 nd winner: Sanskruti Bawaskar
 3 rd winner : Atharva Sawalkar	 Consolation Prize: Ujwal Patel

Organized by
DEPARTMENT OF ZOOLOGY
IQAC, SHRI R.L.T. COLLEGE OF SCIENCE, AKOLA
Dr. S. M. Nagrale : 9370322456

MOBILE PHOTOGRAPHY COMPETITION (27/8/2021)

Plantation Drive (Azadika Amrit Mahotsav) 15/08/2021

On the occasion of 75th Independence Day Department of Botany and Environment Cell of the College Organised “Tree plantation” programme. Speciality of this programme was higher quantity of oxygen produced Plants i.e. air pollution and sound pollution reducer plants were planted in the campus in presence of Resp. Principal Dr. V. D. Nanoty Sir and Resp. Dr. U. K. Bhalekar Sir. Plants like Asparagus, Areca palm, Snake plant, Spider plant, Money plant , Aloe vera, plant, Umbrella plants were planted. All the members of Environmental cell & Botany Department were present in this event.



Poster presentation on the theme “WILD LIFE”.

ZEBRA Cell, Department of Zoology celebrated **World Wildlife Week- 2021** by organizing **Virtual Poster Competition** on the topic: “**Wild life** ”. The activity was conducted for all the BSc students to create awareness about wild life conservation and to aware the students about the wildlife. The competition was conducted Dr. S,M. Nagrale by the technical support of Dr. Rashmi P. Joshi (Sawalkar). It was a small effort to create nature love and wild life conservation in the young hearts of the students. Best posters were selected for the certificates and prizes. The winners list and result was declared on last day of week, i.e. 7/10/2021.

Essay writing Competition on Topic: My Favorite Wild Life 02/10/2021 to 05/10/2021

Virtual Essay Competition organized on the topic: “My Favorite Wild Life”. The activity was conducted for all the BSc students to create awareness about wild life conservation. The competition was conducted online by Dr. A.S. Sawarkar and Dr. S.R.Kohchale. It was a small effort to create writing skill about wild life in the young hearts of the students. Best essay were selected for the certificates and prizes.



World Wild Life Week
2nd to 8th
October
2021-22

SHRI R. L. T. COLLEGE OF SCIENCE, AKOLA
ZEBRA CELL, DEPARTMENT OF ZOOLOGY & IQAC

Theme for the year 2021-22
"Forests and Livelihoods: Sustaining People and Planet"

Rangoli Competition Coordinator: Dr. Rashmi Joshi Sawarkar Assistant Prof.	Poster Competition Co-ordinator: Dr. Sushil M. Nagrale Associate Prof. & Head	Essay Competition Coordinator: Dr. Archana S. Sawarkar Associate Prof. Dr. Sudhir R. Kohchale Assistant Prof.
Quiz Competition Dr. Sushil M. Nagrale Dr. Rashmi Joshi Sawarkar	IQAC co-ordinator Dr. R. I. Rabatgaoskar Assistant Prof. Department of Zoology, Shri R. L. T. College of Science, Akola	

World Wild Life Week Programme" 2nd to 8th October 2021
Zebra Cell Department of Zoology

Organizes different activities like Rangoli, Poster and Essay writing competitions on the occasion of "World Wildlife Week".

Objectives of Celebrating Wild Life Week

1. To make people more aware of the conservation and protection of the wildlife
2. To implement more services to conserve the wildlife
3. To discuss all issues related to the conservation of the Wild life.

Details of Programme Activities

***1. Poster Presentation** - Date: 2nd- 5th October 2021*

Co-ordinator: Dr S.M. Nagrale (Mob.no. 9370322456)

Instructions:

1. Prepared poster on the theme: "Wild-life"
2. After completion of the poster, click its photo, convert it to PDF and upload it on the given google form Link.

***2. Essay Writing** - Date: 2nd- 5th October 2021*

Co-ordinator:
Dr. Archana S. Sawarkar (Mob.no. 9850141186) & Dr. Sudhir R. Kohchale

Instructions:

1. Write an essay on the given topic : "My Favourite wild Animal"
2. Only one entry is allowed.
3. Write an essay in 1000 words.
4. Upload your handwritten essay on given google form Link

3. Rangoli Competition - Date: 2nd to 5th October 2021
Theme: Impact of Deforestation On Wildlife
Co-ordinator: Dr Rashmi Joshi Sawarkar (Mob.no. 9923074666)

Instructions:

1. Rangoli of any Wild Animal
2. After completion of Rangoli , click its photo with you in Geotag app and upload it on the given google form Link.
3. Result will be declared on 8th October 2021.

4. Quiz Competition - Date: 6th October 2021
Co-ordinators: Dr Rashmi Joshi Sawarkar & Dr S.M. Nagrale

The link for the Quiz is given below and the responses will be open for 2 days, at 6th and 7th October 2021 <https://forms.gle/BKwzLaKL R6v6FwrX6>

Attractive Prizes for winners.

Google Form Link for registration and to upload your material:
<https://forms.gle/iaSwonyVkn7mNrWW7>



Essay writing Competition on Topic: My Favorite Wild Life
Date- 02/10/2021 to 05/10/2021

Rangoli Competition on Theme ‘ Impact of Deforestation on Wildlife’ Date- 02/10/2021 to 05/10/2021

Virtual Rangoli Competition was conducted on Theme ‘**Impact of Deforestation on Wildlife**’. The activity was conducted for all the BSc students to create awareness about wild life conservation through rangoli exhibition. The competition was organized by Dr. Rashmi P. Joshi (Sawalkar). It was a skill full and innovative effort to create wild life conservation passion in the students. Best rangoli were selected for the certificates and prizes.



World Wild Life Week Programme" 2nd to 8th October 2021
Zebra Cell Department of Zoology

Organizes different activities like Rangoli, Poster and Essay writing competitions on the occasion of "World Wildlife Week".

Objectives of Celebrating Wild Life Week

1. To make people more aware of the conservation and protection of the wildlife
2. To implement more services to conserve the wildlife
3. To discuss all issues related to the conservation of the Wild life.

Details of Programme Activities

1. Poster Presentation - Date: 2nd, 5th October 2021
Co-ordinator: Dr S.M. Nagrale (Mob.no. 9370322456)
Instructions:
1. Prepared poster on the theme: "Wild-life"
2. After completion of the poster, click its photo, convert it to PDF and upload it on the given google form Link.

2. Essay Writing - Date: 2nd, 5th October 2021
Co-ordinator: Dr. Archana S. Sawarkar (Mob.no. 9850141186) & Dr. Sudhir R. Kohchale
Instructions:
1. Write an essay on the given topic : "My Favourite wild Animal"
2. Only one entry is allowed.
3. Write an essay in 1000 words.
4. Upload your handwritten essay on given google form Link

3. Rangoli Competition - Date: 2nd to 5th October 2021
Theme: Impact of Deforestation On Wildlife
Co-ordinator: Dr Rashmi Joshi Sawalkar (Mob.no. 9923074666)
Instructions:
1. Rangoli of any Wild Animal
2. After completion of Rangoli , click its photo with you in Geotag app and upload it on the given google form Link.
3. Result will be declared on 8th October 2021.

4. Quiz Competition - Date: 6th October 2021
Co-ordinators: Dr Rashmi Joshi Sawalkar & Dr S.M. Nagrale

The link for the Quiz is given below and the responses will be open for 2 days, at 6th and 7th October 2021 <https://forms.gle/BKwzLaKLr6v6FwX6>

Attractive Prizes for winners.

Google Form Link for registration and to upload your material:
<https://forms.gle/jaSwonyVkN7mNrWW7>

Essay writing Competition on Topic: My Favourite Wild Life
Date- 02/10/2021 to 05/10/2021

Quiz Competition on Wild life Conservation

On the occasion of celebration of Wildlife conservation week, on 6th and 7th October 2021, Department organised online **Quiz Competition on theme 'Wildlife Conservation'**. More than 70 students participate in competition. Students solved the online quiz provided by Google form. Students were awarded by certificate and prizes

The image is a composite of two parts. On the left is a flyer for 'World Wild Life Week Programme' 2nd to 8th October 2021, organized by the Zebra Cell Department of Zoology. The flyer features the Zebra logo and the theme 'Forests and Livelihoods: Sustaining People and Planet' for the year 2021-22. It lists various competitions: Rangoli, Poster, Essay, and Quiz, along with their respective coordinators and the IQAC co-ordinator. On the right is a screenshot of a Google Form titled 'Quiz on World Wildlife Week 2021 Department of Zoology'. The form has 81 responses and a total score of 40. The text on the form includes instructions for the quiz, such as 'About 20 questions are given', 'Each question carries 2 points', and 'At first give your valid mail Id which is mandatory'. It also lists coordinators: Dr. Rashmi P. Joshi (Assistant Professor, Department of Zoology) and Dr. Sushil M. Nagrale (Head of the Department of Zoology). The advisor and principal are listed as Dr. V. D. Nanoty, and the IQAC coordinator is Dr. R.L. Rahatgaonkar.

Quiz Competition on Wild life Conservation

GUEST LECTURE: NISARGA KATTA
(04/01/2022)

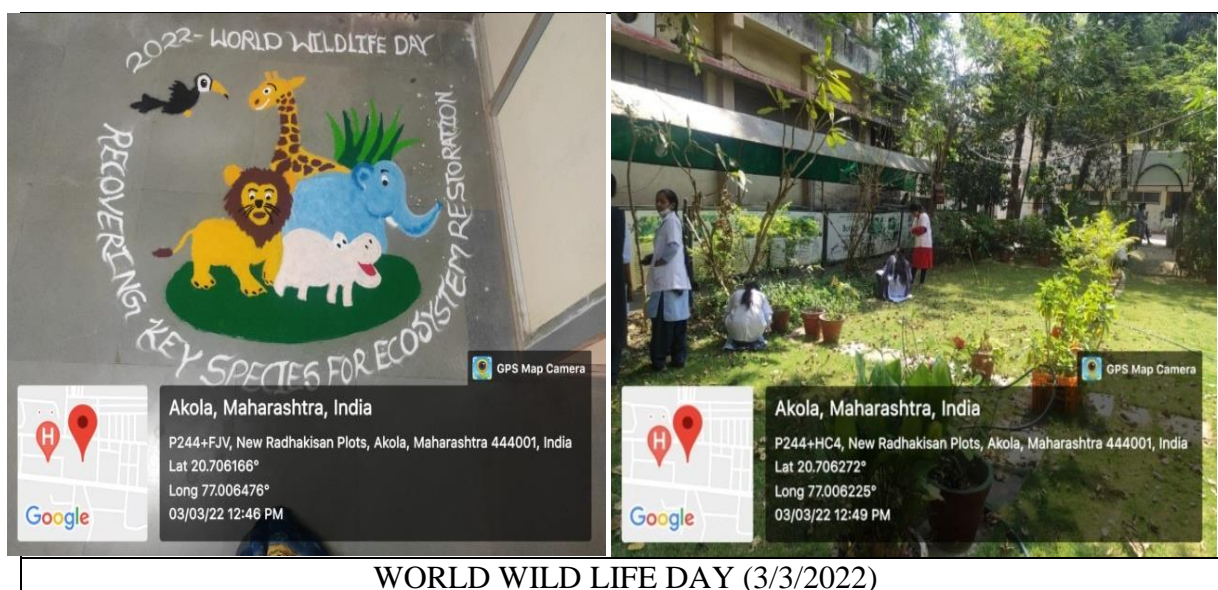
Department visited by NGO Nisarga Katta, Founder Mr Amol Savant sir and member Dr. Milind Shirbhate, Department of Zoology, Shankarlal Khandelwal Mahavidyala, Akola for Nature Calender distribution. On this occasion Department organized Guest Lecture on Nature, Wildlife and Environment awareness programme for PG Students of Zoology. Dr. Milind Shirbhate guided about students role in Nature, Wildlife and Environment Conservation. Mr Amol Savant guided about NGO role in Students development, empowerment and wildlife conservation. Dr. S.M. Nagrale also guided students about wildlife Projects, Nature and Environment protection acts. Program was conducted by Dr. S.R. Kohchale and teaching staff Dr. A.S. Sawarkar, Dr. R.L. Rahatgoankar, Dr. R.P. Joshi Sawalkar, CHB staff and all PG Students were present for the programme



GUEST LECTURE: NISARGA KATTA (04/01/2022)

WORLD WILD LIFE DAY (03/03/2022)

On the occasion of WIL Life Day, PG Department organized program on Wild Life awareness and conservation. Students prepared a beautiful rangoli to decorated department. Student's takes visited College botanical garden and prepared digital records of insects found in Garden. Program is organized by PG students on theme '**Recovering key species for ecosystem restoration**' and chaired by Head Dr. S.M. Nagrale and staff members Dr. A.S.Sawarkar, Dr. R.P.Joshi (Sawalkar), Dr. S.R.Kohchale and Contract Teachers Mr Shubham Rathod CHB Pallavi Shete, Anuja Shete, Pranali Shirsat and PG Students were present for the program.

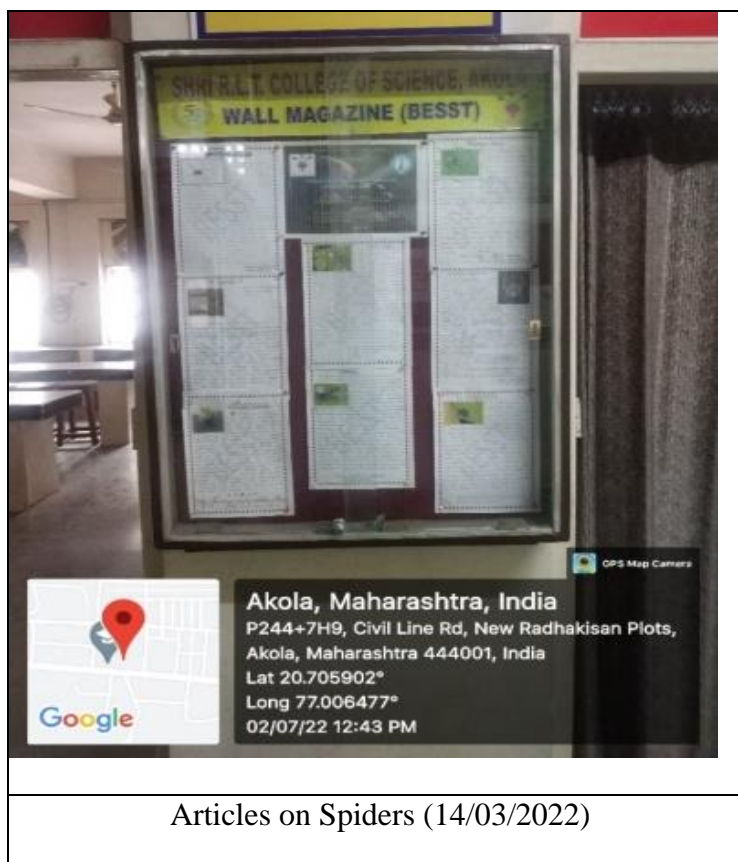


WORLD WILD LIFE DAY (3/3/2022)

WORLD SPIDER DAY

(14/03/2022)

On the occasion of World Spider Day Department organized poster exhibition program. Students prepared a beautiful informative article and poster on Spiders, types of Spider and economic Importance of Spiders. Program was chaired by Head Dr. S.M. Nagrale and Dr. A.S.Sawarkar expressed importance of Spider in Agriculture ecosystem. Dr. R.P.Joshi (Sawalkar), Dr S.R. Kohchale and Contract Teachers Mr Shubham Rathod CHB Pallavi Shete, Anuja Shete, Pranali Shirsat and all UG and PG Students were present for the program.



WALL MAGAZINE-BESST

(14/03/2022)

Wall Magazine **BESST** (Biological and Environmental Studies with Social Temperament) is a student participatory learning project. Our student authors have put across some amazing pieces of writing in this Wall Magazine. Dr. Archana S. Sawarkar worked as Chief Editor and Dr. Sudhir R. Kohchale, Dr. Rashmi Joshi (Sawalkar), Mr. Shailendra V. Madavi worked as Area Editors for Animal Science, Environmental science and Plant Science respectively.

World spider day was celebrated on 14th March 2022. Dr. Archana S. Sawarkar explained uses of spider silk for the human being as well as other animals. To know the importance of spider in the ecosystem, B.Sc.II students have given project about collection of information about the agricultural spiders. Students collected information about spider diversity in various agro- ecosystems of Akola region. They put their findings on paper which were displayed on wall magazine BESST.



WORLD SPARROW DAY: Nest Exhibition and Competition (21/3/2022)

On the occasion of World Sparrow Day Department organized Nest Making Competition and Exhibition under the Guidance of Head Dr. S.M. Nagrale. Students prepared handmade Nest from waste and used material at their home and installed near local areas and college campus. Exhibition was arranged at Zoology lab and inaugurated by respected Principal Dr V.D.Nanoty. In Nest Exhibition program Principal Dr. V.D.Nanoty expressed him excellent remark about best from waste through innovations and creativity. Mr. Shailendra Madavi and Mr. Charanging Maunas were worked as a Jury and selected best Nest from exhibition for awarded as 1st, 2nd and 3rd winner. Total 137 students participated in the Nest making competition.

Under Departmental Extension activity, during NSS camp at Adapted village Apoti (Khurd) on dated 23/3/2021, students prepared Sparrow Nest distributed at Village and installed at various places.



**WORLD SPARROW DAY : Nest Exhibition and Competition
(21/3/2022)**

WORLD FOREST DAY (21/03/2022)

On the occasion of World Forest Day Department organized a program on Forest Conservation. Under the Guidance of Head Dr. S.M. Nagrale program was conducted. Principal Dr. V.D. Nanoty Principal chaired the program and inaugurated the function by inaugural speech on Forest conservation and Sparrow role in nature. Certificates were distributed to students who participate in Nest Making Competition. Dr. A.S.Sawarkar, Dr. R.P.Joshi (Sawalkar), Dr S.R. Kohchale and Contract Teachers Mr Shubham Rathod CHB Pallavi Shete, Pranali Shirsat and all UG and PG Students were present for the program



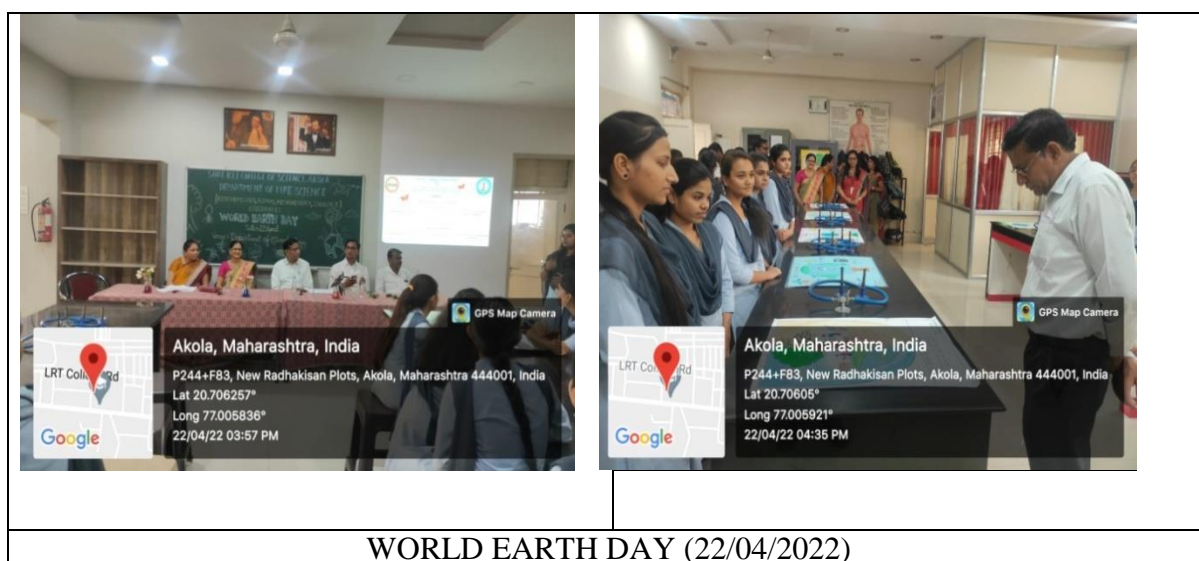
WORLD WATER DAY (22/03/2022)

On the occasion of World Water Day Department organized a program on Water harvesting and management. Under the Guidance of Head Dr. S.M. Nagrale program was conducted. Mrs V.N. Badgular Head, Botany Department was grace the program. Students expressed their view about water management and conservation. Certificates were distributed to students who participated in various activities. Dr. A.S.Sawarkar, Dr. R.P.Joshi (Sawalkar), Dr S.R. Kohchale and Contract Teachers Mr Shubham Rathod, CHB Pallavi Shete, Pranali Shirsat , all UG and PG Students were present for the program.



WORLD EARTH DAY (22/4/2022)

On the occasion of World Earth Day Department of Zoology along with other Life Science Departments including Microbiology, Botany collaboratively organized Earth Day. Poster Competition and Exhibition organized under the Guidance of Head Dr. S.M. Nagrale and other Heads of respective Departments. Exhibition was arranged at Microbiology lab and inaugurated by respected Principal Dr V.D.Nanoty. In inauguration program Principal Dr. V.D.Nanoty expressed his remark about the day. Dr. H.S.Malpani, Mrs V.N.Bagujar, Dr R.L.Rahatgaonkar, Dr. A.S.Sawarkar chaired the program and Dr. R.P. Joshi, Mrs Sonali Gawande take hard efforts for successful organization of the exhibition. Respective faculty members, contract based Teachers, CHB teachers, all PG students present for the program.



AATBI steering committee member

Principal Dr. V. D. Nanoty, Dr. Archana Sawarkar, Dr. H. S. Malpani and Dr. Rashmi Joshi (Sawalkar) got honour of working as the steering committee member of “AATBI” (Akola’s All Taxa Bio-diversity Inventory), a project undertaken by EFEC i.e. Environment & Forest Education Center at Akola

12:13 4G

• जतन पर्यावरणाचे

जैवविविधतेच्या संवर्धनासाठी कार्य करणारी 'एटीबीआय'

कोणतेही काम, कोणताही शोध, कोणताही इतिहास हा ध्येयवेडेपणाने लिहिला जातो अथवा आकाराला येतो. एखादी व्यक्ती जशी ध्येयवेडी असते तशाच संस्थाही असतात. कारण त्या संस्थेत अशाच व्यक्ती असतात की ते स्वतः, परिवारासाठी नव्हे तर पुढच्या पिढीसाठी काम करतात. येथेही अकोला ऑल टॅक्स बायोडायव्हर्सिटी इन्व्हेटरी (एटीबीआय) ही संस्था पर्यावरण, वन शिक्षण केंद्र (इएफईसी) अंतर्गत जैवविविधता अकोल्याची, यासाठी जैवविविधतेची माहिती संकलनाचे काम करित आहे. आपल्यानंतर दुसऱ्या पिढीने हे काम सुरु ठेवावे, अशी अपेक्षाही या संस्थेने व्यक्त केली आहे.

पृथ्वीवर प्रत्येक घटक हा महत्वाचा घटक आहे. त्यामुळेच कितक, झाडे, पक्षी, प्राणी, फुले, जलचर आदी सर्वच महत्वाचे ठरतात. कारण यांची साखळी आहे. अनेक जीव एकमेकांवर अवलंबून असतात. ही साखळी तुटली तर जैवविविधतेला हानी पोहोचेल. आताही हानी पोहोचवण्याचे काम सुरु झाले. उर्वरित. पान ४

अग्निशिखा, कळलावी

मृगाचा किडा

बहुरंगी फुलपाखरु

नाविक.

११ जणांची सुकाणू समिती : यासाठी स्थापन केलेल्या सुकाणू समितीत डॉ. अर्चना सावरकर, देवेन्द्र तेलकर, डॉ. हरीश मालपाणी, हर्षवर्धन देशमुख, डॉ. नितीन ओक, डॉ. रश्मी जोशी सावलकर, डॉ. सहदेव रोटे, उदय वझे, डॉ. विजय नानोटी, डॉ. ययाती तावडे, योगेश देशमुख यांचा समावेश आहे.

AATBI steering committee member

AATBI Enroll and Educate Award -2022

On the occasion of World spider day, 14th March 2022, Dr. Archana Sawarkar was felicitated with ‘AATBI Enroll and Educate Award -2022’ for her outstanding research on spider by EFEC (Environment & Forest Education Centre) at Akola.



Dr. Archana Sawarkar receiving ‘AATBI Enroll and Educate Award -2022’

Poshan Bag (World Environment Day)
05/06/2022

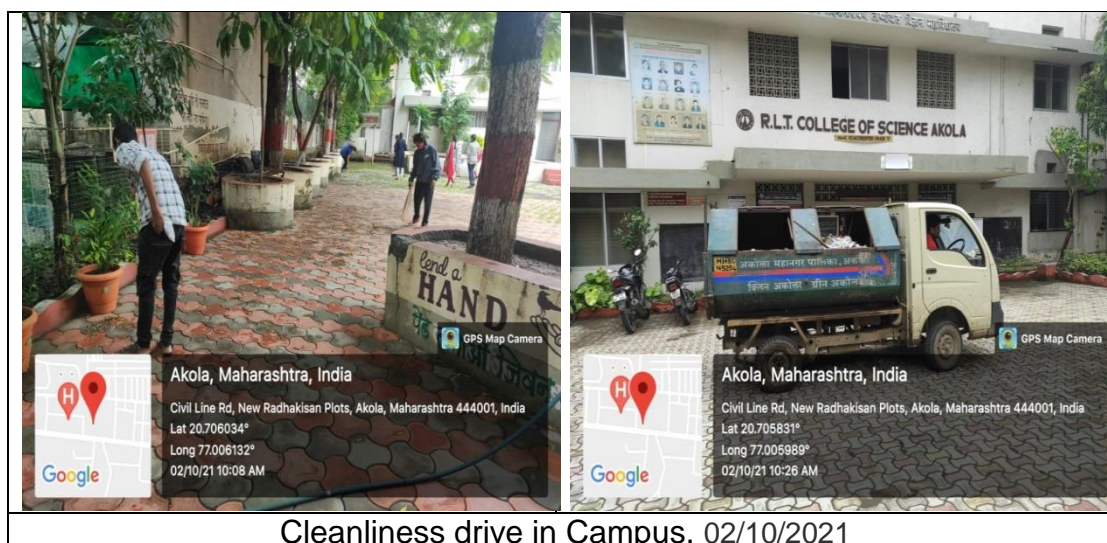
NSS unit of Shri RLT College of Science, Akola under the guidance of Res. Principal Dr. V. D. Nanoty celebrated World Environment Day 5/6/2022 and the theme for the year is **Only One Earth**. The NSS volunteers along with Program officer Dr. Rashmi Joshi Sawalkar cleaned the botanical garden in campus and a new Poshan Bag was developed. In the plants at botanical garden, new fertile soil with organic fertilizers was added to the plants. At that time Respected Principal had given information about, how the vegetables can be cultivated and these vegetables are used in the girls hostel and in the college canteen. They told the volunteers that we can conserve the mother earth by doing such small activities. He informed the students and encouraged about doing such activities and is the part to keep our Mother Earth and Environment Pollution free.



Cleanliness drive in Campus

02/10/2021

Today on 02/10/2021, The Birth Anniversary of Mahatma Gandhiji and Lal Bahadur Shastri were celebrated by the NSS unit of Shri R.L.T. College of Science, Akola. The Abhivadan Program was taken at 9:30 am at the hands of Hon. Principal Dr. V.D. Nanoty by garlanding the photos of Mahatma Gandhiji and Lal Bahadur Shastriji. The NSS Programme Officer Dr. Rashmi Joshi Sawalkar and Dr. Samadhan Munde organized the event. On the auspicious day the Swacchata doot of the college were felicitated by offering them Masks and Flowers. Some Volunteers joined the event by keeping social distancing and following the guidelines for Covid-19 pandemic. Today the volunteers along with swacchata doot cleaned the premises of the college.




Cleanliness drive in Campus, 02/10/2021


Publication of Biodiversity Calendar -2021


To know value of biodiversity and inculcate environmental consciousness among students, Biodiversity Calendar -2021 was published. It is an Innovative attempt made by B. Sc. II (Biology) students under supervision of Dr. Archana S. Sawarkar (Dept. of Zoology) and Dr. Anjali A. Sangole (Dept. of Botany). Along with flora and fauna, Academic holidays as well as special days concerning environmental issues and importance of biodiversity are mentioned in it.

SHRI R.L.T. COLLEGE OF SCIENCE, AKOLA




BIODIVERSITY CALENDAR-2021






Octopus




Chiton

Mollusca is the second-largest phylum of invertebrate animals after the Arthropoda. They are soft-bodied and commonly protected by calcareous shell.



Dentalium



Pila

JANUARY

S	M	T	W	T	F	S
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

FEBRUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	2- World Wetlands Day					

Contributors: B.Sc. II (Biology) Students
Supervisors: Dr. Archana S. Sawarkar; Dr. Anjali A. Sangole

Publication of Biodiversity Calendar -2021

Celebration of “Krushu Din” (Agriculture Day)

1st July 2022

On 1st July 2021 “Krushu Divas” was celebrated in all over Maharashtra by Tree plantation. Owing to this ‘krushi Din’ was celebrated by Dept. of Botany & Environmental cell by Tree plantation activity at the hands of Our Principal Dr. V. D. Nanoty Sir., Dr. Chandravanshi Sir, Dr. Nagrale Sir, Mrs. V.N. Badgajar Madam, Co-ordinator of Environment Cell, Dr. A.A Sangole Madam’ Dr. Munde Sir, All teaching & Non-teaching Staff of Botany department were present.

On this occasion Dr. Nanoty Sir Focused on the importance of Plantation and significance of the day. Dr. Sarap Sir also took efforts for this Plantation Activity. The event was ended by proposing vote of thanks by Prof. S.V Madavi Sir.



Celebration of “Krushu Din” (Agriculture Day). 1st July 2022

Tree plantation (4Th OCT 2021)

On the occasion of “Drug Designing & Drug discovery” workshop held on 4th Oct. 2021, tree plantation was done at the hands of Hon. Vice-Chancellor of SGBAU, Dr. Dilip Malkhede Sir in college campus. In this activity President of B.G.E. Society, Ad. Motisinghji Mohota Sir, Vice president Shri. P. N. Maheshwari Sir, Principal Dr. V.D. Nanoty Sir, Principal Dr S. G Chapke Sir, Principal Dr . Egoavkar Sir grace the occasion. Environment Cell Coordinator Prof. Mrs. V. N. Badgujar, , Dr. A. A. Sawarkar DR P. M. Khadse, Dr A. A. Sangole, Dr. R. P. Joshi ,Mrs. Gawande, Shri S. V. Madavi & All the members of Environment cell were present on this occasion.



Awareness program to save electricity, paper and energy 26th August 2021

Shri R.L.T College of Science, Akola and EFEC (Environment and Forest Education Centre) jointly organized an awareness program to save electricity, paper and energy on 26th August 2021. Posters carrying message for environment conservation were released. Stickers displaying the message of protecting environment, saving electricity, papers and energy were posted on key places in college premises. Honourable District Collector Nima Arora expressed importance on Public awareness programs and expects that the citizens will try hard to save environment from pollution and misuse of resources.

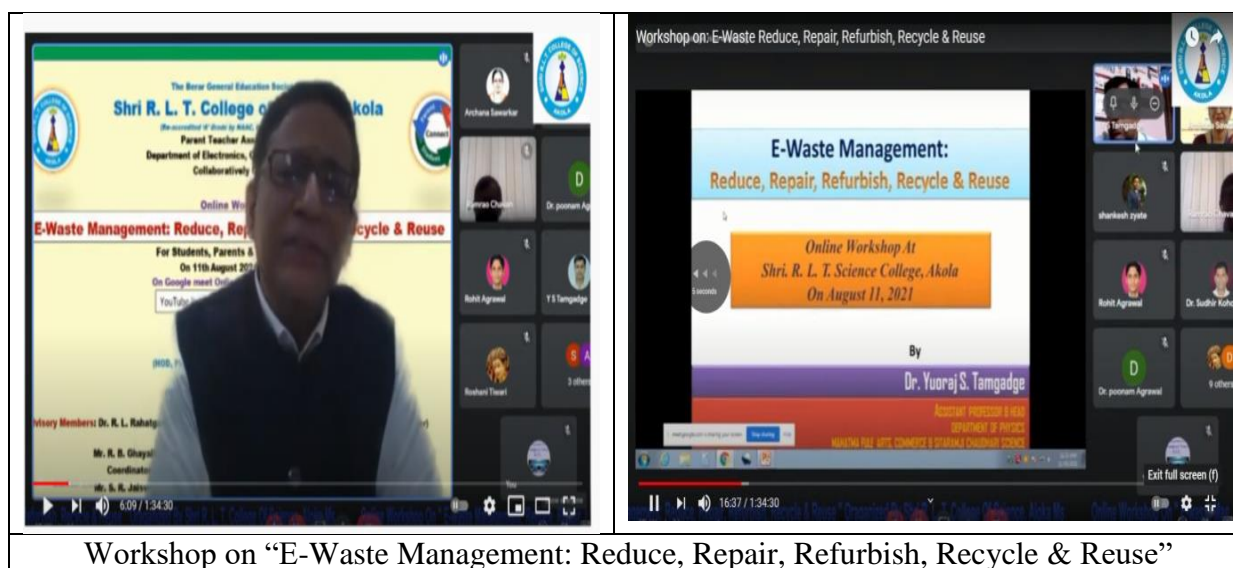


Awareness program to save electricity, paper and energy

Workshop on E-Waste Management: Reduce, Repair, Refurbish, Recycle & Reuse

Department of Computer Science, Electronics and Physics in collaboration with Parent Teacher Association (PTA) organized online Workshop on “E-Waste Management: Reduce, Repair, Refurbish, Recycle & Reuse” on dated 11-08-2021. This workshop was organized for making awareness in students and their parents about E-Waste and its Managements.

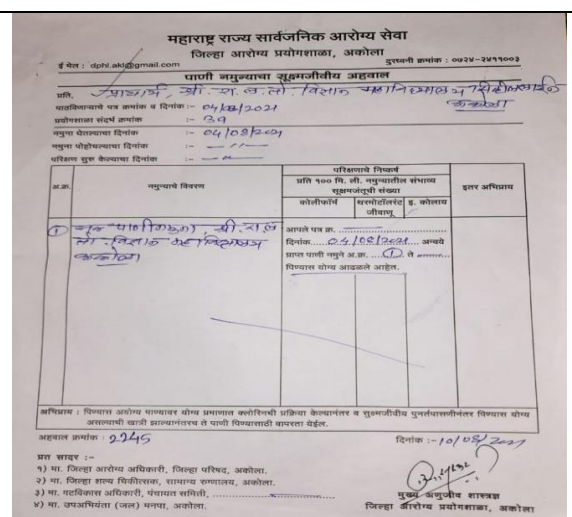
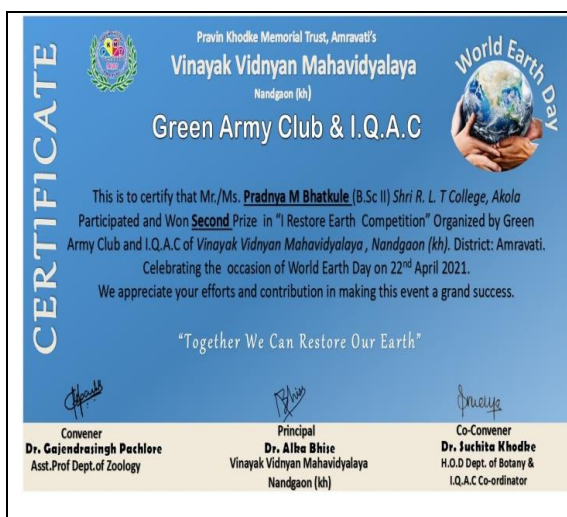
YouTube Link: <https://youtu.be/vQhiVK6EaZ4>



Workshop on “E-Waste Management: Reduce, Repair, Refurbish, Recycle & Reuse”

Eco-friendly projects

College undertook some Eco-friendly projects like- Reuse of waste and old furniture for making notice boards and board stands, vermicomposting, Periodical testing of drinking water by Maharashtra State Public health service, District Health Laboratory, Akola etc. Also students are encourage to participate in Various competitions related to Environmental issues



Participation of students in Various competitions related to Environmental issues

Periodical testing of drinking water

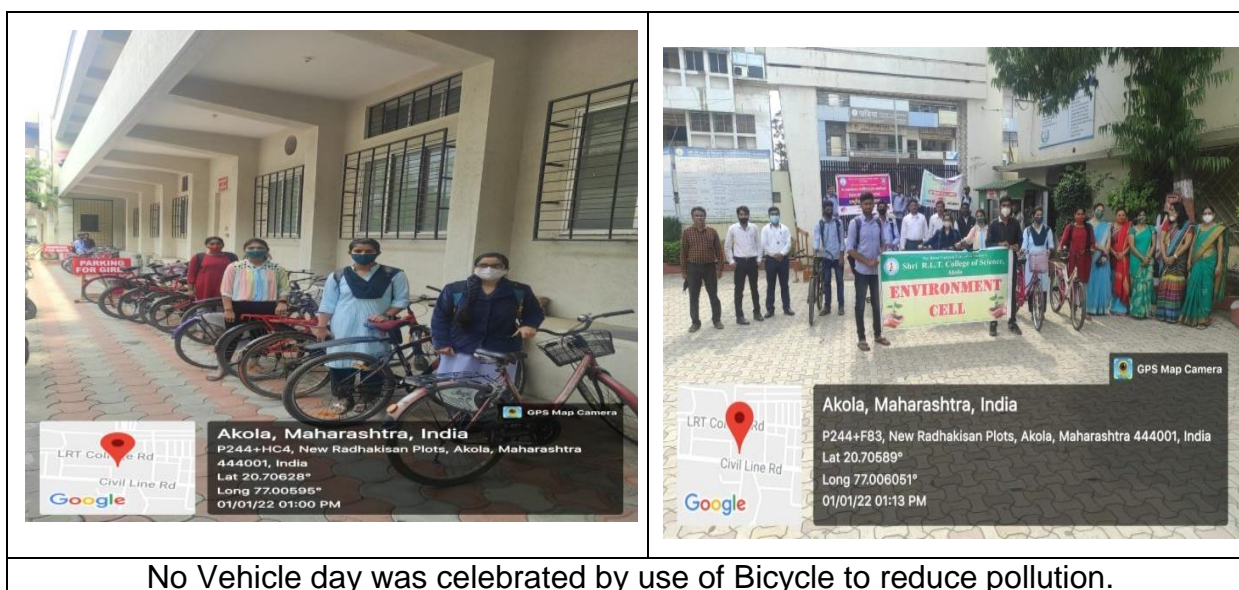


periodically testing of Drinking Water quality

periodically testing of air quality

Bicycle Day for Eco Friendly Environment (01/01/2022)

Environment cell in collaboration with NCC and NSS observed 'Bicycle Day' on 01.01.2022. On this occasion Prof. R. G. Chavan, HOD department of Electronics guided the students. Similarly Co-ordinator of Environment cell Mrs. V. N. Badgajar guided students about conversation, Dr. A. A. Sawarkar, Dr. P. M. Khadse, Dr. A. A. Sangole, Dr. K. M. Heda, Dr. Rohit Agrawal, Dr. Rashmi Joshi (NSS officer), Prof. S.V. Madavi were present. All the students of NSS, NCC & Environment cell were present on this occasion.





The Berar General Education Society's
**Shri Radhakisan Laxminarayan Toshniwal
College of Science, Akola (M.S.)
(Shri R.L.T. College of Science)**



Recognized by Government of Maharashtra
Affiliated to Sant Gadge Baba Amravati University, Amravati
Re-accredited 'A' by NAAC, Bangalore With CGPA-3.12



**4th Cycle of NAAC
ASSESSMENT AND ACCREDITATION**

**CRITERION VII
INSTITUTIONAL VALUES AND BEST PRACTICES**

Key Indicator – 7.1

Institutional Values and Social Responsibilities

7.1.3.4

Clean and Green Campus Recognition/ Awards

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The Berar General Education Society's Akola
SHRI RADHAKISAN LAXMINARAYAN TOSHNIWAL COLLEGE OF SCIENCE

Civil Lines, Akola. 444001 (Maharashtra)

Affiliated to Sant Gadge Baba Amravati University, Amravati

Re-accredited by NAAC with "A" Grade with CGPA 3.12

AISHE CODE: C-43124

E-mail: rltcollegeakola@gmail.com

Website: www.rltsc.edu.in

COLLEGE CODE: 210

Principal: Dr. Vijay D. Nanoty

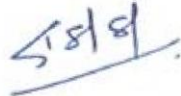
phone: 0724-2415480, 9822724504


Ref. No: RLT/IQAC/C-VII/7.1.3.4

Date:

DECLARATION

This is to declare that, the information, data, true copies of the supporting documents etc. furnished in this file of **7.1.3.4 Clean and Green campus recognition/ awards** is checked and verified by IQAC, Shri R. L. T. College of Science, Akola and found to be correct.


Dr. R. L. Rahatgaonkar
IQAC Co-ordinator
Shri R.L.T. College of Science,
Akola


Principal
Shri R.L.T College of Science
Civil Lines, Akola (M.S.)



4. Clean and Green Campus Recognition/ Awards

Following are the awards received by Shri R.L.T. College of Science, Akola during Session 2017-2022:

Sr. No.	Awardee	Name/Details of Award	Date/Duration
Session 2017-18			
1	Shri. R.L.T. College of Science, Akola	“Best College Award” under Clean India, Healthy India Mission.	2017-18
Session 2018-19			
1	Shri. R.L.T. College of Science, Akola	“Best College Award” under Clean India, Healthy India Mission.	2018-19
Session 2019-20			
1	Shri. R.L.T. College of Science, Akola	“Best College Award” under Clean India, Healthy India Mission.	2019-20
Session 2020-21			
1	Shri. R.L.T. College of Science, Akola	“District Green Champion Award”	2020-21
2.	Shri. R.L.T. College of Science, Akola	National Level Certificate of recognition under ‘Social Entrepreneurship Swachhta & Rural Engagement Cell’ (SES REC)	2020-21
Session 2021-22			
1	Shri. R.L.T. College of Science, Akola	District Level Award of “Swachh Vidyalaya Puraskar” in the sub category of ‘Handwashing with Soap’	2021-22
2	Shri. R.L.T. College of Science, Akola	District Level Award of “Swachh Vidyalaya Puraskar” in the sub category of ‘Operation and maintenance’	2021-22
3	Shri. R.L.T. College of Science, Akola	District Level Award of “Swachh Vidyalaya Puraskar” in the sub category of ‘Water’	2021-22
4	Shri. R.L.T. College of Science, Akola	District Level Award of “Swachh Vidyalaya Puraskar” in the sub category of ‘Toilets’	2021-22
5	Shri. R.L.T. College of Science, Akola	District Level Award of “Swachh Vidyalaya Puraskar” in the sub category of ‘Behavior change and capacity building’	2021-22
6	Dr.Archana Sawarkar, Shri. R.L.T. College of Science, Akola	“AATBI Enroll and Educate Award” by EFEC (Environment & Forest Education Centre) Akola.	2022

Documental proofs/ Certificates:

**Certificates of the awards received by
Shri R.L.T. College of Science, Akola during Session 2017-18**



**Certificates of the awards received by
Shri R.L.T. College of Science, Akola during Session 2018-19**



**Certificates of the awards received by
Shri R.L.T. College of Science, Akola during Session 2019-20**



**Certificates of the awards received by
Shri R.L.T. College of Science, Akola during Session 2020-21**



**Certificates of the awards received by
Shri R.L.T. College of Science, Akola during Session 2021-22**

**Clean and green campus Awards:
Swachh Vidyalaya Puraskar 2021-22 in various subcategories** ↓





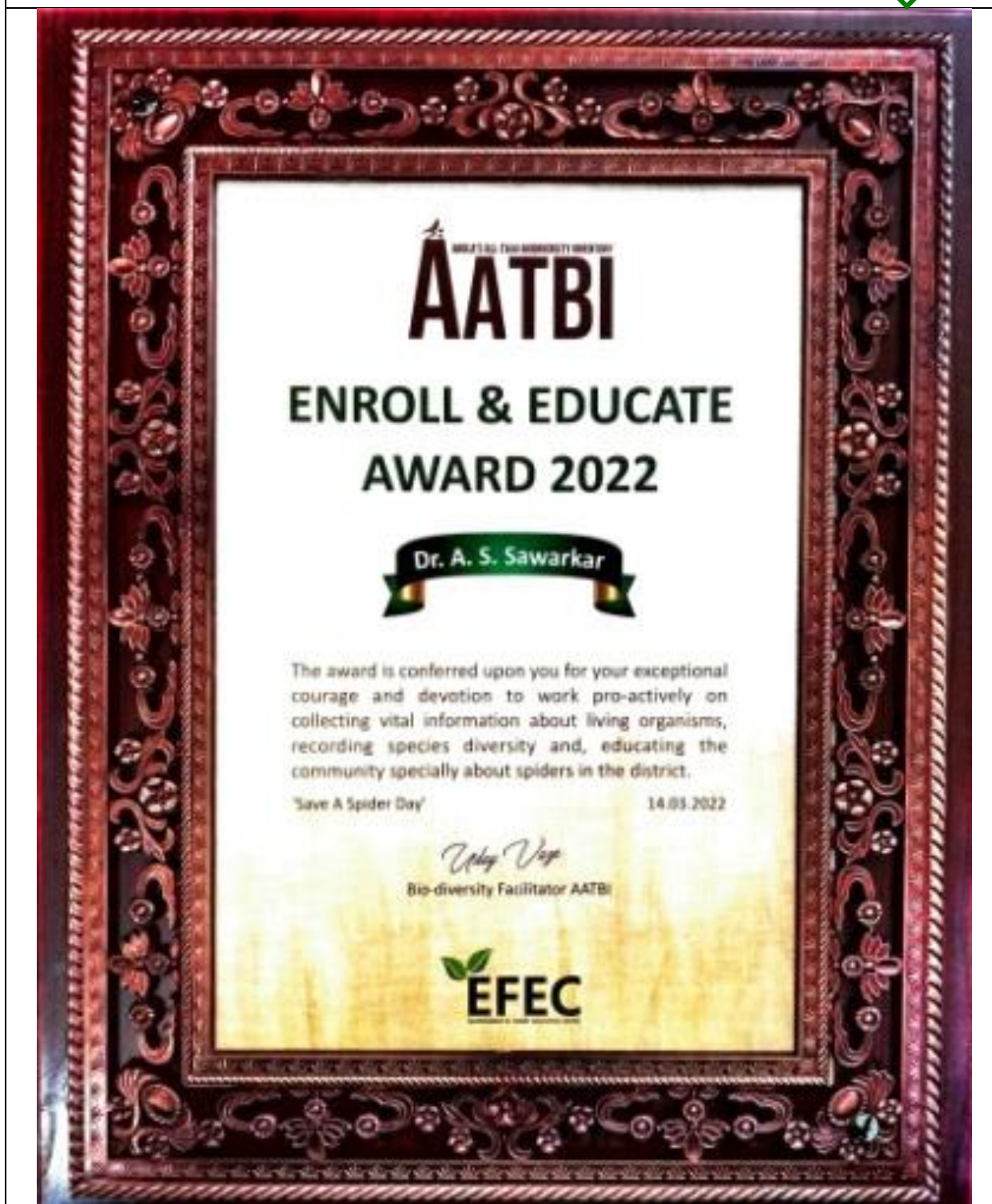








AATBI's (Akola's All Taxa Bio-diversity Inventory) Enroll & Educate Award



Criterion VII: INSTITUTIONAL VALUES AND BEST PRACTICES



Principal Dr. V. D. Nanoty, receiving District level Clean and Green campus Awards, Swachh Vidyalaya Puraskar 2021-22 declared by honourable District collector Akola. ↑



Dr. Archana Sawarkar, Associate Professor in Zoology, receiving AATBI's Enroll and Educate Award -2022 ↑



The Berar General Education Society's
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**4th Cycle of NAAC
ASSESSMENT AND ACCREDITATION**

**CRITERION VII
INSTITUTIONAL VALUES AND BEST PRACTICES**

**Key Indicator – 7.1
Institutional Values and Social Responsibilities**

**7.1.3.5
Beyond the Campus Environmental Promotion
Activities**

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The Berar General Education Society's Akola
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COLLEGE CODE: 210

Principal: Dr. Vijay D. Nanoty

phone: 0724-2415480, 9822724504

Ref. No: RLT/IQAC/C-VII/7.1.3.5

Date:

DECLARATION

This is to declare that, the information, data, true copies of the supporting documents etc. furnished in this file of **7.1.3.5 Beyond the Campus Environmental Promotion Activities** is checked and verified by IQAC, Shri R. L. T. College of Science, Akola and found to be correct.

Dr. R. L. Rahatgaonkar
IQAC Co-ordinator
Shri R.L.T. College of Science,
Akola

Principal
Shri R.L.T College of Science
Civil Lines, Akola (M.S.)



5. Beyond the campus environmental promotion activities

List of programs / initiatives taken for environmental promotion beyond the campus

Year 2017-18		
Sr. No	Name of activity	Date & Duration
1.	Cleanliness & Plastic Eradication Campaign:(street plays and door to door awareness)	14/08/2017
2.	cleanliness awareness drive at adopted village	6 to 10 Aug 2017
3.	Cleanliness rally: students and staff walked by sweeping the roadsides	02/09/2017
4.	Visit to Insects Museum at Entomology Department, Dr. Panjabrao Krishi Vidhyapith, Akola	06/10/2017
5.	Biodiversity Walk and Biodiversity Quiz Competition at Katepurna Wildlife Sanctuary	09/02/2018
6.	Excursion Tour at Salburdi and Forest Department Wild Life Nature Garden & Interpretation Centre, Morshi	06/02/ 2018
7.	Preparation of Soak pits in adopted village Sonala	24/09/2018
8.	Raan bhaji and Sunder Swacha Angan	09/01/2018
9.	Guest lecture of Dr. I. A. Raja on topic 'save environment'	05/01/2018

Documental proofs/ Reports:

Cleanliness & Plastic Eradication Campaign

14 August 2017

On 14 August rally on Swachhata Mission was organized for creating awareness among the people. Swachhata rally by all NSS volunteers and programme officers at adopted village Sonala residential camp, doing swachta and awreness by street plays to the villager's.



Cleanliness & Plastic Eradication Campaign by all NSS volunteers 14 August 2017

Cleanliness awareness drive at adopted village

6 to 10 august 2017

6 to 10 august 2017 students of NSS grouped in to the troops and were sent to the adopted village to counsel people about cleanliness, visiting door to door students interacted with villagers students forced to construct toilets. Hand washing and cleanliness awareness in school, distribution of books and stationaries to students.



cleanliness awareness drive at adopted village

Cleanliness campaign on the eve of Mahatma Gandhi and Lal Bahadur Shastri Jayanti

2nd October on the eve of Mahatma Gandhi and Lal Bahadur Shastri Jayanti cleanliness campaign was organized. Students performed street play in adopted area i.e. civil line. Students and staff walked by sweeping the roadsides.



cleanliness campaign on the eve of Mahatma Gandhi and Lal Bahadur Shastri Jayanti

INSTITUTIONAL VISIT

- * **CLASS:** B. Sc. –III
- * **PLACE:** ENTOMOLOGY MUSEUM, DEPARTMENT OF ENTOMOLOGY, PDKV, AKOLA
- * **DATE:** 6/10/2017

On 6th October Institutional Visit of B.Sc. students was organised at **Insects Museum at Entomology Department, Dr.Panjabrao Krishi Vidhyapith, Akola**. Dr. S.M. Dadmal , Asso. Prof and Incharge of Insect Museum guided the students about insect taxonomy, classification, morphological and economical aspects of the Insect. He also gave handful practical to handle the insects and use of instruments for insects study. Students visited the museum and collected all related information which was needed in their syllabus. Students also visited the culture centre of Useful insect Trychograma, which is a egg parasite insects helpful for pest control. Students visited pest control centre and collected information related to it. All students and staff after the breakfast at campus returned to the college. Institutional Visit was organised by HOD Dr. S. M. Nagrale with other teaching Dr A. S. Sawarkar, Dr R.P. Joshi madam and non teaching staff. Overall 90 students were participated in the visit.



Dr Dadmal Guided to the students



Students Collected information from centre

EDUCATIONAL TOUR: Field Visit at Katepurna Wildlife Sanctuary

- * CLASS: **B. Sc –II**
- * PLACE: **Katepurna Wildlife Sanctuary, Akola**
- * DATE: **9/2/2018**

The “**Biodiversity Walk and Nature Study Tour**” at Katepurna Wildlife Sanctuary on Date **09/02/2018** was organized by Department of Zoology, Shri R. L.T. College of Science, Akola in collaboration with Forest Department, Akola. The field visit was arranged as per the syllabus of Practical of BSc II / Semester IV S.G.B. Amravati University, Amravati.

The “Nature’s Trail” the “Biodiversity Quiz competition” was conducted for the students. The 50 students were divided into two batches of each having 25 students. Each batch was further divided into 5 groups and every group was named after the name of birds. For eg. Peacock group, Pigeon group, Hariyal group and so on. Dr. Rashmi Joshi Sawalkar and Mr. Suraj Ghogre(Forest Guide) worked as the jury members for the quiz to select the winner groups. At the end of the visit the valedictory programme was conducted by Dr. Joshi in which the winner groups of the quiz were falicitated by giving them the certificates. The staff members Dr. Rashmi Joshi Sawalkar, Dr. Sudhir R. Kohchale and Dr. Archana S. Sawarkar organized the visit as well as Quiz competetion.

With the permission of Principal Dr.V.D.Nanoty and HOD Dr. S.M.Nagrle under the guidance of Faculty incharge Dr. A S Sawarkar study tour Field Visit was organised and all staff takes efforts for success of the tour.



The complete team on the “Natures trail” at Katepurna Wildlife Sanctuary.



Winners of the “Biodiversity Quiz” competition.




EDUCATIONAL TOUR:

- * CLASS: **B. Sc –III**
- * PLACE: **SALBURDI AND FOREST DEPARTMENT WILD LIFE NATURE GARDEN , MORSHI**
- * DATE: **6/2/2018**

Zoology Department was organised Excursion and Education Tour for B.Sc. Final Year students at Salburdi and Forest Department Wild Life Nature Garden and Interpretation Centre, Morshi on 6th Feb 2018. Overall 53 students and 6 Teaching and Non Teaching staff were participated for the Tour. Students visited to the holy place Salburdi by doing nature trail and to understand the Nature and Its importance for the spiritual ways. Students visited Holy place Cave of Shiva and other natural important places.

While return journey, students were visited to Wild Life Nature Garden of Forest Department at Morshi. They visited Wild Medicinal Plants Centre and Wild Life Nature Interpretation Centre to collected information of medicinal plants and role of wild life for nature protection and forest conservation.

With the permission of Principal Dr.V.D.Nanoty and under the guidance of HOD Dr. S.M.Nagrle study tour was organised and all staff takes efforts for success of the tour.

		
<p>Sarbardi Holy Place</p>	<p>Medicinal Plants centre, Morshi</p>	<p>Students with Staff</p>

Preparation of Soak pits in adopted village Sonala 24th September 2018

24th September on eve of NSS foundation day rally was organise “Swachhata Hich Seva” Mission. Cleanliness and awareness programme at gram Sonala , Soak pit construction for water conservation and Nail cleaning by all NSS volunteers.



by all NSS volunteers Cleanliness and awareness programme at Sonala

Raan bhaji”and “Sunder SwachaAangan

09/01/2018

Mahilamelawa by women cell and NSS was organized on the theme, “Raan bhaji”and “Sunder SwachaAangan ” . under above theme Rangoli competition was organized. About 55 ladies from adopted village Sonala were participated in competition.



Mahilamelawa by women cell and NSS. 09/01/2018

Guest Lecture

05/01/2018

Guest lecture of Dr. I. A.. Raja, Shri Shivaji Sci. College Akola was organized on the topic Save Environment. All NSS volunteers, village people and NSS co-coordinator were present for the lecture



**Programs / initiatives taken for clean and green campus
2018-19**

Criterion VII: INSTITUTIONAL VALUES AND BEST PRACTICES

List of programs/ initiatives taken for environmental promotion beyond the campus

2018-19		
Sr.No.	Name of activity	Date & Duration
1.	Wildlife Trivia to Nature Interpretation Centre 'Vasundhara', Akola	03/10/2018
2.	Educational tour at Kolhapur & Malvan	21/01/2019 to 23/01/2019
3.	Constuction of Vanrayi Bandhara (Bund)	17/12/2018 to 23/12/2018
4.	Cleanliness drive in Apoti village	17/12/2018 to 23/12/2018
5.	Street play and cleanliness campaign (Jandhi Jayanti)	02/10/2018

Documental proofs/ Reports:

Visit to Nature Interpretation Centre of Akola (3rd Oct 2018)

Under the **Wild Life Conservation Week Program** visit to **Nature Interpretation Centre of Akola** was organized for the B.Sc. students. Under the guidance of Mr Uday Waze , Founder of Shrushti Vaibhav, NGO, Akola and Faculties of Zoology Department a awareness rally was organized from College campus to the Nature Interpretation Center. Under the lead role of Dr. Kohchale , Dr Sawarkar and Dr Joshi students are marched towards the center and under the guidance of Dr. Nagrale students were interact with Mr Uday Waze and visted the Center. All students actively participated in the events.



Visit to Nature Interpretation Centre of Akola (3rd Oct 2018)

EDUCATIONAL TOUR AT KOLHAPUR & MALVAN (21th January 2019)

Zoology Department was organized Excursion and Education Tour for B.Sc. Final Year students at Kolhapur and Malvan during 21th Jan 2019 to 23rd Jan 2019. Overall 44 students and 6 Teaching and Non-Teaching staff were participated for the Tour. Students visited to the Zoo Museum and different places of Kolhapur. Students also visited to Marine Sanctuary, beaches and other educational centre of the Malvan and returned on 23 Jan 2019 to Akola.



**EDUCATIONAL TOUR AT KOLHAPUR & MALVAN
(21th January 2019)**

Constructions of Bund

17/12/2018 to 23/12/2018

From 17/12/2018 to 23/12/2018 one bund was constructed in adopted village Apoti. The bund was constructed by NSS volunteers under the guidance of programme officer of NSS Dr. Rashmi Joshi and Dr. Samadhan Munde, Area coordinator Dr. Sudhir kohchale under the able guidance of our principal respected Dr. V. D. Nanoty.



Cleanliness drive

Rally on cleanliness Mission was organized for creating awareness among the people. cleanliness rally by all NSS volunteers and programme officers Dr. Rashmi Joshi and Dr. Samadhan Munde, Area coordinator Dr. Sudhir kohchale under the able guidance of our principal respected Dr. V. D. Nanoty. at adopted village Apoti residential camp, doing cleanliness and awareness by street plays to the villager's.



Cleanliness drive in adopted village

Street play and cleanliness campaign (Jandhi Jayanti) 02/10/2018

On the occasion of the 150th birth anniversary of Father of the Nation Mahatma Gandhi various programs were organized weekly by NSS unit of the college. From 24th September to 2nd October 2018, various programs were implemented by the NSS team of Shri. R.L.T. college of Science, Akola, as per the circular of Maharashtra Government Higher Technical Education Department, Mantralaya, Mumbai. On September 24, the campus was cleaned on the basis of the theme “Swachhta Hi Seva”. The entire courtyard, rooms, garden, roads and all areas were challenged by giving lessons on cleanliness.

On 02 October 2018, 150th Gandhi Jayanti programs were held in the auditorium of Shri. R.L.T. College in the presence of 100 volunteers and teaching and non-teaching staff of college. The program was chaired by the principal of the college Dr. V. D. Nanoty. Regional Coordinator Dr. S.R. Kohchale and Dr. Chavan, Head of Electronics Department, had a prominent presence. Program officer. Dr. S. Munde and women program officer Dr. Rashmi Joshi ranged the program. The program ended with the National Anthem and students were given an oath for drug addiction. After that a cleanliness rally was taken out, in which the NSS team and all teaching and non-teaching staff were participated. There is information about the rally is on the attached web link.

<https://youtu.be/Zh0EudZHTnY>



**Programs / initiatives taken for clean and green campus
2019-20**

List of programs/ initiatives taken for environmental promotion beyond the campus

2019-20		
Sr.No.	Name of activity	Date & Duration
1.	Plantation Drive and sapling Distribution	05/07/2019
2.	Visit to Insect museum, Dr. P.D.K.V. Akola	07/10/2019
3.	Visit to Katepurna Wildlife Sanctuary	05/10/2019
5.	Soak Pits construction	07/12/2019 to 14/12/2019
7.	Cleanliness rally and street play	02/10/2019
8.	Plantation drive at Sun city Malkapur	26/05/2019
9.	Aajicha Batwa Competition	11/12/2019

Documental proofs/ Reports:

Tree plantation programme (26/05/2019 & 05/07/2019)

Participation of NSS and DMC volunteers with Environment Cell in presence of Honourable Minister Ranjeet Patil Hon. Collector Shri. Papalkar. Our college has completed target of 135 tree plantation successfully! This drive is through out Maharashtra from 1st July to 30th September 2019. Here it was successfully going on in collaboration with Collector office Akola and Forest office. The programme was conducted by the programme officer of NSS Dr. Rashmi Joshi and Dr. Samadhan Munde, Area coordinator Dr. Sudhir kohchale under the able guidance of our principal respected Dr. Nanoty sir.



Preparation for tree plantation drive (preparing pits) 26/05/2019



Participation of NSS and DMC volunteers in presence of Honourable Minister Ranjeet Patil Hon. Collector Shri. Papalkar (05/07/2019)

Visit to Insect Museum, Department of Entomology, Dr PDKV, Akola

(7th Oct 2019)

On the occasion of Wild life week Department of Zoology organized visit to Insect Museum at Entomology Department, Dr PDKV, Akola. Dr Mhaske sir guided our students about Insect and role of Insect in conservation and agriculture production. Students also visited Trichogramma culture center, and also studied about cultivation and rearing of insect. Dr S.M.Nagrале coordinate the events with supportive teaching staff Dr Archana Sawarkar Madam and nonteaching staff Depak Ghonge and Dilip Nagarkar.



Visit to Insect Museum, Department of Entomology, Dr PDKV, Akola

(7th Oct 2019)

**Visit to Katepurna Wildlife Sanctuary, Akola
(5ThOct 2019)**

B.Sc.II and B.SC.III students visited to the Katepurna Wildlife Sanctuary under the guidance Dr S.M.Nagrle and inchargeship of Dr. Rashmi Joshi Sawalkar Madam. Mr Uday Vaze guided the students about the wildlife and nature conservation programs runs at Katepurna Wildlife Sanctuary. Quiz competition conducted at the Sanctuary and all students actively participated in that event.



**Visit to Katepurna Wildlife Sanctuary, Akola
(5ThOct 2019)**

Soak Pits construction 07/12/2019 to 14/12/2019

From 07/12/2019 to 14/12/2019 two Soak pits were constructed in adopted village Apoti. The Soak pits were constructed NSS volunteers under the guidance of programme officer of NSS Dr. Rashmi Joshi and Dr. Samadhan Munde, Area coordinator Dr. Sudhir kohchale under the able guidance of our principal respected Dr. Nanoty sir.



Soak Pits construction 07/12/2019 to 14/12/2019

Aajicha Batwa Competition (Health Awareness & Introduction to plant diversity)

OBJECTIVES

1. To give information about the diversity of plants.
2. To guide students about the medicinal values of plants.
3. To increase Knowledge about the remedy on any health issue by these medicinal plants.
4. Conservation and plantation of these medicinal plants.

METHODOLOGY

On the 5th day of special camp of NSS on date 11/12/2019 at Aapoti khurd, an innovative competition was organized by the Women Cell and Department of Botany and all the lady teaching staff of the college. All the rural women were invited to take part in the competition “Aajicha Batwa” in which the participants given the name of the plant and explained the medicinal properties of that plant. First best 3 participants were selected as 1st, 2nd and 3rd winners and cash prize was given to them.

OUTCOMES

1. This event creates and develops awareness in the students about the Plant Diversity..
2. Students come to know... How to use these beneficial plants as a remedy on any disease.
3. At the end of this program, students should be able to....
 - To find which plant is useful for which disease to cure.
 - Able to identify the medicinal plants.

Come to know the valuable plant diversity which are rare to found.



All the participants and students for the Competition “Aajicha Batwa”

**Programs / initiatives taken for clean and green campus
2020-21**

List of programs/ initiatives taken for environmental promotion beyond the campus

2020-21		
Sr. No.	Name of activity	Date & Duration
1	Plantation Drive at Apoti	14/08/2020
2	Plantation at Shivapur	13/07/2020

Documental proofs/ Reports:

Plantation Drive

14/08/2020

NSS and NCC Team of Shri R.L.T. College of Science, Akola, in collaboration with Forest Office, Akola carried out plantation by keeping social distancing and by taking precautionary measures. The plantation drive was arranged at Shivapur near Sun City, Malkapur as well as at adopted village Apoti khurd. Department of Botany developed Nursery of saplings grown from naturally occurring seedlings. Gifting of plants is made as a practice for welcoming the guests for all programs of college. On the occasion of 75th Independence Day Department of Botany and Environmental Cell of the College Organised Tree plantation programme. Speciality of these programme was Higher quantity of oxygen producing plants were planted. Outdoor plants like Tecomastans,.Nyctanthesarbor-tristis, Sapindusmukorossi, Bauhinia recemosa,Putranjivaroxburghi, Dalbergiasissoo, Anthocephaluscadamba, Moringaolifera, Murrayakoenigi , Neriumindica & Some Indoor or In shade plants like Ocimum sanctum, Ficusbenjamina, Dypsislutescens, Dracenatrifasciata were planted

Web-link: 1. <https://www.rltsc.edu.in/2021/08/06/plantation-program-at-shivapur/>
2. <https://www.rltsc.edu.in/2020/07/14/tree-plantation-by-nss/>



Tree Plantation by NSS

Date- 13/07/2020

Today NSS Team of Shri RLT College of Science, Akola, in collaboration with Forest Office Akola planted about 30 plants by keeping social distancing and and by taking precautionary measures. Dr. Rashmi Joshi along with the volunteers and the Forest Officer Shri Owe Sir, Shri Gite, Shri Gondane took efforts for this plantation drive.

Also very happy to inform you that in July 2019 our NSS team had planted about 142 saplings and today we saw them grown up. The forest members conserved them. The plantation drive was arranged at Shivapur near Sun City, Malkapur . Thanks to the Forest Office team for their help and kind support.



राहतो महाविद्यालयाच्या रासेयो पथकातर्फे वृक्षारोपण



वृक्षारोपण प्रसंगी उपस्थित रासेयो पथकाचे स्वयंसेवक.

प्रतिनिधी । अकोला

स्थानिक श्री राहतो विज्ञान महाविद्यालयाच्या रासेयो पथक व वन विभाग अकोला यांच्या संयुक्त विद्यमाने नुकताच वृक्षारोपण कार्यक्रम राबवण्यात आला. रासेयो कार्यक्रम अधिकारी डॉ. रश्मी जोशी सावलकर यांच्या मार्गदर्शनाखाली रासेयो स्वयंसेवक प्रसाद गुल्दाने, प्रबुजा गोपनारायण, साक्षी कोडावार, उज्ज्वल पटेल या विद्यार्थ्यांनी वन विभागाच्या साह्याने मलकापूर जवळील शिवापुर येथे ३० रोपट्यांचे रोपण केले. यावेळी वन विभाग अधिकारी आबे, गोंदाने, निते व इतरांनी मिळून वृक्षारोपण

केले. कोरोनाची महामारी लक्षात घेऊन सोशल डिस्टन्सिंगचे पालन करून मास्क व सॅनिटायझरचा वापर करीत सुरक्षितता बाळगल्या गेली. यापूर्वी २ जुलै रोजी महाविद्यालयाच्या परिसरात वृक्षारोपण कार्यक्रम घेण्यात आला. यावेळी महाविद्यालयाचे प्राचार्य डॉ. विजय दि. नानोटी, डॉ. रश्मी जोशी सावलकर, डॉ. समाधान मुंडे, प्रा. शैलेश जयस्वाल, प्रा. शैलजा अंधारे, प्रा. अरुण देशमुख उपस्थित होते. स्टर कार्यक्रम रासेयो चमू व डॉ. विजय नानोटी यांच्या मार्गदर्शनाखाली राबवण्यात आला. डॉ. नानोटी यांनी याकरता वन विभागाचे सुध्दा आभार मानले.

दिव्य मराठी विशेष • कृषी सेवा केंद्राव

Tree Plantation by NSS at Shivapur. (13/07/2020)

**Programs / initiatives taken for clean and green campus
2021-22**

List of programs/ initiatives taken for environmental promotion beyond the campus

2021-22		
Sr.No.	Name of activity	Date & Duration
1	Skill development workshop on "Herbal products"	25/03/2022
2	Installation of bird feeders in Apoti village	21/03/2022
3	Rally And cleanliness drive in Apoti village	21/03/2022
4	Construction of soak pits at adopted village Apoti	24/03/2022
5	Cleaning of Morna River (World Environment Day)	05/06/2022
6	Plantation Drive on occasion of Van-Mahotsav 2022	07/07/2022
7	Plantation Drive at Shivapur	06/08/2021

Documental proofs/ Reports:

One day workshop on Making Herbal Products

One day workshop on 25/03/22 “Making Herbal Products” to train the women from adopted village Aapoti khurd. Women cell of Shri RLT college of Science, Akola organized the skill development training program to empower the women. Hand on training was given to some of the ladies from village. The guest speaker was Dr. Poonam Agrawal, Associate professor, Head Dept of Chemistry. The workshop was presided by Dr. A. S. Sawarkar, Department of Zoology, Dr. Sujata Tadam, Chairman of Women cell, Dr. Kavita Heda, Dr. Anjali Thakrey, Prof. Vaishali Badgujar, Smt. Jyoti Gite members of Women cell were present. Dr. Ashish Sarap, Crystal Club member had given demonstration, How to make Herbal products. NSS program officer Dr. Rashmi Joshi Sawalkar, Samadhan Munde, Co officers Mr Shailesh Jaiswal, Miss Sonali Gawande took efforts to make the event successful.



Installation of bird feeders in Apoti village 21/03/2022

During NSS camp Hon'ble Director of NSS and NSS team planted birdfeeders in the adopted village school area and putted grain and water in the nest. The program was held on dated 21/03/2022 in the presence of villages.



Hon'ble Director of NSS and NSS team while building birdfeeders in the adopted village school area and putting grain and water in the nest.

Rally And cleanliness drive in Apoti village 21/03/2022

On dated 21/03/2022 NSS team cleaned the village area and convinced the villagers that cleanliness is the real key to good health. In the morning, Prabhat Feri was conducted to create awareness among the people of the village about health, environment and cleanliness.



While cleaning the village area and convinced the villagers that cleanliness is the real key to good health.



In the morning, Prabhat Feri was conducted to create awareness among the people of the village about health, environment and cleanliness.

Construction of soak pits at adopted village Apoti 24/03/2022

During the 6 days of the camp, 4 soak pits were prepared at different 4 places in adopted village. Volunteers and NSS program officers dig the pits and fill them with ballast and mud.



World Environment Day & Swacchata Saptah

The NSS unit of Shri R.L.T College of Science, Akola organized Cleanliness drive on the World Environment Day & Swacchata Saptah on 5/6/2022. The guidelines by MGNCRE (Mahatma Gandhi National Council for Rural Education) for plastic ban and plastic pollution free River activity was conducted. The volunteers under the guidance of Prog Officer Dr. Rashmi Joshi done the cleanliness by collecting the plastic waste at the bank of Morna River, Akola. Here the volunteers were informed about the harmful effects of plastic pollution in the rivers and other water bodies. As we all are responsible citizens, then it is our duty to keep the environment clean and healthy, and conserve it for future generations. The World Environment Day was celebrated with zeal and the students According to the guidelines by NSS department, SGBAU university Amravati the cleanliness campaign was observed under the able guidance of Respected Principal Dr. V. D. Nanoty.



World Environment Day & Swacchata Saptah. 05/06/2022

Plantation Drive on occasion of Van-Mahotsav 2022

NSS unit & NCC cadets of Shri R.L.T. College of Science, Akola with Akola Forest Office arranged the Plantation Drive on occasion of Van-Mahotsav 2022 at Shivapur MIDC phase 4. The program was started in gracious presence of IAS NEEMA ARORA, Akola district collector, Shri Sanjay Khadse, Deputy Collector Akola, ACF Wadode. For the programme 20 NSS volunteers and 15 NCC cadets were present. Each student planted 4 trees . About 143 plants were planted by RLT team. The activity was organized under the guidance of NSS program officers Dr. Rashmi Joshi Sawalkar and Dr Samadhan Munde. The students worked hard for successful plantation drive. Hon. Collector and Deputy Collector appreciated the efforts taken by RLTian's. The forest department also thanked the team from Shri R.L.T. College of Science, Akola. Respected Principal, Dr V. D. Nanoty congratulated the team for creating environmental consciousness in students and also for successful plantation drive.




Plantation Program at Shivapur August 2021

Today on 06/08/2021 the NSS and NCC team of SHRI RLT COLLEGE OF SCIENCE AKOLA conducted the plantation program at Shivapur, near Suncity in collaboration with District Forest Office, Akola. About 15 NSS volunteers and 12 NCC students participated in the plantation drive under the guidance of respected Principal Dr. V. D. Nanoty and NSS PO Dr. Rashmi Joshi Sawalkar. Since 3 years this activity is performed in collaboration of Dist Forest Office. Total 75 saplings were planted by RLT team. Mr. Arjuna K. R. Deputy Conservator of forest was present for the event today. Mr. Suresh Wadode, Asst. Conservator, Mr. Ingle, Round Officer and Rajesh Bidkar, forest Guard were present and guided the volunteers.



Certificate

Certificate of Tree plantation beyond the campus during 5 years by Forest department, Akola



उपवनसंरक्षक, अकोला वनविभाग, अकोला यांचे कार्यालय
 बसुधरा हॉल, अशोक वाटीका जवळ, मंगळपूर रोड, अकोला
 Email. dyefakola@mahaforest.gov.in / (०७२४) २४३६७१४ / २४३५११८ /
 ०११४३८५०८११ (वनसंपर्क दुरध्वनी शुल्क) १५५३१४ (फक्त लॅंड लाईन वर संपर्कासाठी)


प्रमाणपत्र

प्रमाणित करण्यात येते की, श्री. राधाकिसन लक्ष्मीनारायण तोष्णीवाल, विज्ञान महाविद्यालय, अकोला येथील डॉ. रश्मी जोशी सावलकर प्राजेक्ट आफ्तीसर यांनी मागील काही वर्षांपासून अकोला वनविभागाच्या संयुक्त विद्यमानाने वृक्षलागवड, संरक्षण व संवर्धन करण्याचे कार्य करित आहे. या संदर्भात माहिती खालील प्रमाणे

लागवड केलेल्या झाडांचा तपशील :

अ.क्र.	विवरण	२०१६	२०१७	२०१८	२०१९	२०२०	एकूण
१.	लागवडीचे क्षेत्र (हेक्टरमध्ये)	-	-	-	-	-	-
२.	लागवड केलेल्या झाडांची संख्या	35	40	142	35	75	327
३.	जिवंत झाडांची संख्या	30	36	135	30	69	300
४.	जिवंत झाडांची टक्केवारी	85.71	90.00	95.07	85.71	92.00	91.74

करीता प्रमाणपत्र देण्यात येत आहे.



Arjun K.R. 30/8/21
 (अर्जुना के.आर), भा.व.स
 उपवनसंरक्षक
 अकोला वनविभाग अकोला

Certificate of Tree plantation beyond the campus during 5 years