7.1.6 Quality audits on environment and energy are regularly undertaken by the institution

7.1.6.1. The institutional environment and energy initiatives are confirmed through the following

1.Green audit

2. Energy audit

3.Environment audit

4.Clean and green campus recognitions/awards

5. Beyond the campus environmental promotional activities

1. Green Audit / Environmental Audit

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: 30th December 2021

WORK COMPLETION CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

This is to certify that, we M/s. **PPS Energy Solutions Pvt. Ltd.** has successfully completed **Energy and Green Audit at Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati conducted in December 2021** and submitted report.

For PPS Energy Solutions Pvt. Ltd, Pune

Dr. Ravi. G. Deshmukh
Director

CUE-BIZ
growing together

Cue-Biz Marketing & Consulting India Private Limited

Work Completion Certificate

TO WHOMSOEVER IT MAY CONCERN

Date: 2/12/21

This is to certify that we Cue Biz Marketing and Consulting India Pvt. Ltd. has successfully completed environmental system audit at Mateshree Vimlabai Deshmukh college, Amravati in November 21. A report on the Audit is also submitted for the same.

For Cue Biz Marketing and Consulting India Pvt. Ltd.

Date: 2/12/2021
Place: Pune

Supriya Deshpande
Director Operations

Regd. Office : 1005 Destiny Co-op Housing Society, Near Kate Petrol Pump, Swaraj Garden Road, Pimple saudagar, Pune 411027
8956676952 / 9049002403

1. Green Audit / Environmental Audit

GREEN AUDIT ASSESSMENT REPORT

MATOSHREE VIMALABAI DESHMUKH MAHAVIDYALAYA

Panchvati Chouk, Amravati

444601

JULY 2021

Conducted By

PPS Energy Solutions Pvt. Ltd.

Engineering Consultants

Plot No-18, Girish Housing Society

Warje, Pune – 411058, Maharashtra, India.

Dr. Ravi G.Deshmukh
Energy Auditor Class - A
MEDA/ECNCR-05/2018-19/EA-05

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GREEN AUDIT REPORT

1. About Green Audit

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of various establishments. It aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the eco-friendly ambience.

Green audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self enquiry is a natural and necessary outgrowth of a quality educational institution. Thus it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric carbon-di-oxide from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through Carbon Footprint reduction measures.

In recent time, the Green Audit of an institution has been becoming a paramount important for self assessment of the institution which reflects the role of the institution in mitigating the present environmental problems. Many institutions undertake lot of good measures to resolve these problems but are not documented due to lack of green documentation awareness. All this non-scholastic efforts of the administrations play an important role in ensuring the green quotient of the campus is intact.

Therefore, the purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

2. Objectives

Main Objectives of Green Audit :

1. Geographica Location
2. Floral and Faunal diversity
3. Meteorological parameter
4. Energy Consumptions
5. Waste disposal system
6. Ambient Environmental Condition
7. To avoid the interruptions in environment that are more difficult to handle and their correction requires high cost.
8. Awarness & Training on Sustainability for Students

3. Benefits

- It would help to prepare plan to protect the environment.
- Recognize the cost saving methods through waste minimization and management.
- Point out the prevailing and forthcoming impacts on environment.
- Ensures conformity with the applicable laws.
- Empower the organizations to frame a better environmental performance.
- It portrays a good image of an institute which helps building better relationships with the group of interested parties.
- Promotes the alertness for environmental guidelines and duties.

4. Green Audit Constitution

Constitution For Green Audit :-

The Green Audit is carried out as per the environmental policy of the Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati and Green audit checklist. The aim of the audit is to check the existing practices and provide advice for the development of environmental policy and practice in the areas of:

- Waste Management
  - i. Solid waste management
  - ii. E-waste management
- Water conservation and management
- Tree plantations
- Bio-diversity and threatened endangered species preservations
- Energy use and conservations
- Eco-friendly campus
- Green environment and clean campus

5. Executive Summary

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institute which will lead for sustainable development. Shri Shivaji Arts and Commerce College, Amravati, is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. Being a premier institution of higher learning, the college has initiated 'The Green Campus' program two years back that actively promote the various projects for the environment protection and sustainability.

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Environmental Policy adopted by the institution. The methodology include: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. It works on the several facets of 'Green Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, Alternative Energy and Mapping of Biodiversity. With this in mind, the specific objectives of the audit are to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the Departments are in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on student health and learning in the college and the environment. The criteria, methods and recommendations used in the audit were based on the identified risks.

Dr. Ravi G. Deshmukh
Energy Auditor Class - A
MEDA/ECNCR-05/2018-19/EA-05

6. Observations & Recommondations

OBSERVED POINTS

1. College has prepared Green Environmental policy and has taken efforts for sustainable development on the college campus.

2. College has formed the team of faculty and student which works to maintain biodiversity on the campus and also participates in preventing pollution in society through various drives during different festivals, etc.

3. College has a system of Hazardous waste disposal through authorized agency.

4. College has conducted Environment. Awareness trainings and workshop for faculty and students.

RECOMMENDATIONS

1. College should go for ISO 14001:2015 certification

2. More number of Energy and flow meters to be installed for monitoring of energy and water consumption building wise/department wise.

3. PUC certificate for all the vehicles entering the campus to be made mandatory and to be checked by security.

4. College should maintain the legal register for the applicable environment related regulations and comply with this as per the requirement.

5. Bio-waste: Composting system to be adopted.

6. College has to install solar panels.

Remark : Since the building number and Campus is small , Installation of separate sewage treatment plant for these building is not economically feasible .

7. Overall Recommendations

1) Lab waste water quantity is not measured and drained to municipal drainage system.

2) Solid waste segregation is not done in lab as well as store room before final disposal.

3) Planning of chemical consumption and purchase to be ensured.

4) Calibration of instrument in lab to be done.

5) Composting of bio degradable waste to be scientifically done.

6) Septic tank sewage water analysis is to be done.

7) Plan for green belt development to be prepared.

8) Drinking water analysis shall be done as per IS 10500.

9) Rain water Harvesting (RWH) is to be done technically.

10) Reduction of wood policy.

11) Department wise electrical load consumption is to be done.

12) Energy used by each appliance is to be estimated.

13) List of equipment/instrument and their consumption of (energy/water) is to be estimated.

14) Awareness for energy and water conservation among students and staff by displaying boards.

15) Automatic leak detections in water flowing pipeline

16) Water usage reduction techniques to be used.

17) No previous for disposal of sanitary napkins. As per the Biomedical waste disposal Act.

19) Tree plantation shall be done to maintain biodiversity as well as artificial nesting shall be installed.

20) D. G. stack monitoring/Exhaust gas analysis shall be done.

21) Awareness among students and staff about green environment shall be done use tools like display boards.

8. Annexure – I

Annexure - I

1 Ashy Prinia	53 Red Wattled Lapwing
2 Asian Koel	54 Red-rumped Swallow
3 Asian Pied Starling	55 Red-Throated Flycatcher
4 Barn Owl	56 Red Avadavat (Red Munia)
5 Baya Weaver bird	57 Rock Blue Pigeon
6 Black Drongo	58 Rose ringed Parakeet
7 Black Kite	59 Rosy Starling
8 Black Redstart	60 Rufous Treepie
9 Black Shouldered kite	61 Scaly-breasted Munia
10 Blyth's Reed Warbler	62 Shikra
11 Brahminy Starling	63 Small Minivet
12 Brown Rock Chat	64 Spotted owlet
13 Cattle Egret	65 Verditer Flycatcher
14 Chestnut Starling	66 White Throated Fantail
15 Common Hoopoe	67 White Browed Wagtail
16 Common Iora	68 White-throated Kingfisher
17 Common Kestrel	69 Wire-tailed Swallow
18 Common Myna	70 Yellow eyed babbler
19 Common Rosefinch	71 Yellow Wagtail
20 Common Tailor bird	72 Yellow-footed Green Pigeon
21 Coppersmith Barbet	73 Indian Scops Owl
22 Dusky Crag Martin	74 Common Chiffchaf
23 Golden Oriole	75 Common Kingfisher
24 Greater Coucal (crow pheasant)	76 Red naped Ibis (in flight)
25 Green Bee-eaters	77 Common Hawk Cuckoo
26 Greenish Warbler	78 Grey Bellied Cuckoo
27 Grey Wagtail	79 Indian Peafowl
28 House Crow	80 Grey Francolin
29 House Sparrow	81 Paddy Field Pipit
30 House Swift	82 Rufous tailed Lark
31 Indian Grey Hornbill	83 Indian Cormorant (in flight)
32 Indian Pond Heron	84 Spotted Dove
33 Indian Robin	85 Yellow Crowned Woodpecker
34 Indian Roller	86 Common Woodshrike
35 Indian Silverbill	87 Brown Shrike
36 Indian Spotted Eagle	88 Bay-Backed Shrike
37 Jungle Babbler	89 Ashy Drongo
38 Laughing Dove	90 Black Naped Monarch
39 Lesser Goldenback	91 Rufuous Treepie
40 Little Egret	92 Cinnerious Tit
41 Long tailed Shrike	93 Black-lored Tit
42 Orange-Headed Thrush	94 Ashy-Crowned Sparrow Lark
43 Oriental Magpie Robin	95 White Browed Bulbul
44 Oriental white eye	96 Red Breasted Flycatcher
45 Pied cuckoo	97 Zitting Cisticola
46 Pied Kingfisher	98 Booted Warbler
47 Plain Prinia	99 Syke's Warbler
48 Plum headed parakeets	100 Sulphur Bellied Warbler
49 Purple Heron	101 Lesser Whitethroat
50 Purple rumped sunbird	102 Ultramarine Flycatcher
51 Purple Sunbird	103 Tickell's Blue Flycatcher
52 Red vented Bulbul	104 Grey-Headed Canary Flycatcher

LIST OF BIRDS SPOTTED AROUND CAMPUS

Annexure - II

ENERGY SAVING UTILITY DATA

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	0.89	3000	2.55	0.21	4.28
2	Fans	Replacement of existing fans with energy efficient Super fans	1.65	6683	5.68	0.46	3.55
Total			2.54	9683	8.23	0.67	3.78

Note: Estimated savings may base on operating conditions

About PPSES

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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)

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

**********END OF THE REPORT**********

Environmental Audit

ENVIRONMENT AUDIT REPORT

Matoshree Vimalabai Deshmukh Mahavidyalaya,Amravati

Address: Shivaji Nagar,Amravati, Maharashtra 444603

Audit conducted by: Cue-Biz Marketing and Consulting India Pvt.Ltd.

Audit Date: 24/11/21

1005 Destiny Co-op housing Society, Swaraj garden Road, Near kate Petrol Pump, Pimple Saudagar, Pune 411021

About Cue-Biz:

Cue-Biz is an Exemplar Global recognized training provider. **Exemplar Global** is a part of ASQ, and you may know them by their former name, RABQSA.

Cue-Biz Courses accredited by Exemplar Global:

Various Lead Auditor Courses for Business Management System such as **ISO 9001, ISO 14001, ISO 45001, IATF 16949:2016, ISO 50001, ISO 22000, ISO 27001, ISO 13485, ISO/IEC 17025, ISO 21001** etc...

Cue Biz is a **management system consulting firm** which supports institution and organizations for implementing and improving various management systems through training, auditing and consulting Services.

Cue Biz Conducts **Environmental Testing's** for organizations and provide them with MOEF approved reports.

Cue Biz provides **soft skill trainings** for **Prevention of Sexual harassment (POSH), Communication and presentation skills, Stress Management, Time Management** etc.

Recommendations

Recommendations:

- Plant more trees in order to keep the air quality clean.
- Emergency preparedness plan for all types of disasters to be made evident at different visible locations to generate an awareness among students and staff members.
- Mock Drills should be carried out frequently in the college premises to keep everyone aware about different situations that may arise accidentally.
- Environment Day, earth Day, Ozone day to be celebrated in institute to create awareness.
- Legal register to be maintained.
- Paper consumption reduction programmes to be taken through usage of digital platforms.
- Feasibility for installing sewage treatment plant (STP) to be verified.
- ISO 14001:2015 (Environmental Management System) to be implemented.
- ISO 21001:2018 (Educational Organisation Management System) to be implemented.

Auditor Signature:

Abhijeet Morwekar

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About Environment Management Audit

Environmental auditing promotes financial savings through reduction of resource use. It gives an opportunity for the development of ownership, personal and social responsibility for the students and teachers. Thus it is imperative that the college evaluate its own contributions toward a sustainable future.

As environmental sustainability is becoming an increasingly important issue for the country, the role of higher educational institutions in relation to environmental sustainability is more important.

The periodic review of your campus environmental performance allows you to identify and remedy potential compliance concerns and other longer-term concerns (issues requiring some form of clean up and/or remediation)

An environmental audit and corrective action plan will help you maintain environmental compliance throughout your supply chain and protect your institutes reputation. Ensure that the companies institutes you work with are operating legally under local laws and ISO 14001 best practices, and reinforce your image as an environmentally-conscious institute.

The ISO 14001 family of standards includes:

- Legal requirements and risk assessment
- Environmental management system
- Solid and hazardous wastes
- Waste water
- Air emissions
- Nuisance
- Energy use, water use, CO2 emissions

About Matoshree Vimlabai Deshmukh Mahavidyalaya:

Matoshree Vimalabai Deshmukh Mahavidyalaya, is one of the oldest colleges in Amravati region. It is run by Shri Shivaji Education Soceity, Amravati's the biggest education society in Maharashtra and affiliated to Sant Gadge Baba Amravati University.

It is completely operational under the precious guidance of Principal **Dr. Smita R. Deshmukh.**

The college is established in the year 1956 with the recommendation of Radhakrishnan Commission as a **Rural Institute.** The main objective of Rural Institute is to break down economic and geographical barriers which prevent the rural population from taking full advantage of higher education and to help in bridging the gulf which unfortunately exists in our country between culture and work, between humanities and technology and between the practical and the ideal. However, in 1971 the nomenclature of the college is changed as College of Rural Services which is further changed in 1998 as **Matoshree Vimalabai Deshmukh Mahavidyalaya.**

The college is running **B.SC (Science), B.Sc. (Home Science), B.A.** courses affiliated to SGB Amravati University.

The college is the study Center of **Yashawantrao Chavan Maharashtra Open University, Nashik.** Under it **B.Lib.Science., M.Lib.** In library Information Science Courses are run successfully by the college.

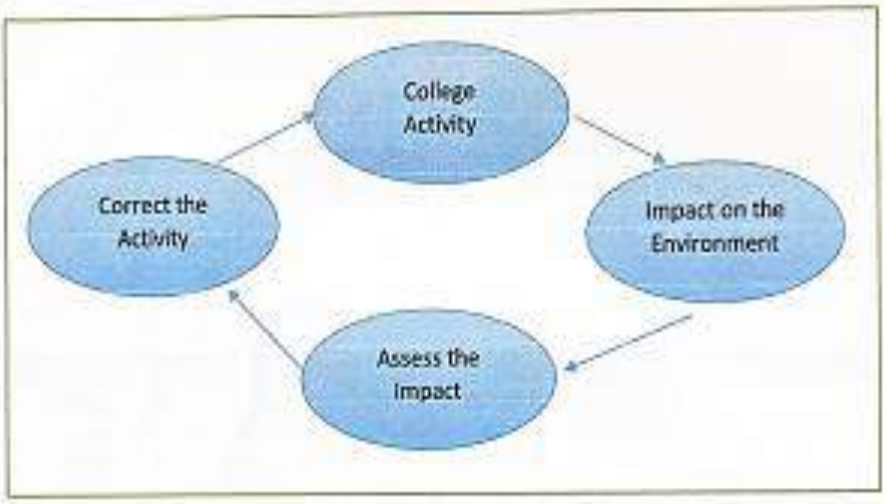
The students are also having facility of getting education at junior college level including **XIth, XIIth** in **Science, Arts and Commerce** faculties and **H.S.C.V.C.** courses in three trades viz **Marketing & Salesmanship, Cookery and Medical Laboratory Technology.**

Benefits of the Audit:

- Facilitating comparison and interchange of information between operation or plants.
- Increasing employee awareness of environmental policies and responsibilities.
- Identifying cost-savings including those resulting from waste minimization.
- Evaluating training programmes and providing data to assist in training personnel.
- Providing an information base for use in emergency response arrangements.
- Assuring an adequate, up-to-date environmental database for internal management awareness and decision making in relation to plant modifications, new plans, etc.
- Helping to assist relations with authorities by convincing them that complete and effective audits are being undertaken, by informing them of the type of procedure adopted.

Objectives of the Audit:

Environmental auditing is a process whereby an organization's environmental performance is tested against its environmental policies and objectives.



- Environmental education through systematic environmental management approach
- Improving environmental standards
- Benchmarking for environmental protection initiatives
- Sustainable use of natural resource in the campus.
- Financial savings through a reduction in resource use
- Development of ownership, personal and social responsibility for the College campus and its environment
- Enhancement of College profile
- Developing an environmental ethic and value systems in young minds.

Auditor: Mr. Abhijeet Moraskar

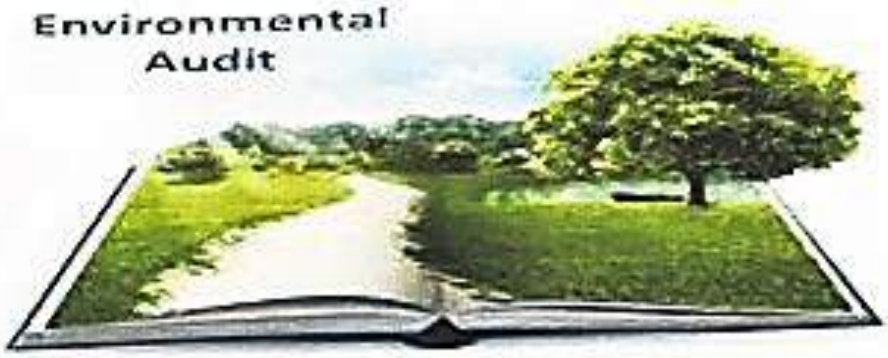
Lead Auditor ISO 14001:2015 Environment Management System.

Cue Biz Marketing and Consulting India Pvt.Ltd.

Auditee: Dr. Smita R. Deshmukh

Principal

Matoshree Vimlabai Deshmukh Mahavidyalaya.



EMS Findings of the Audit:

Sr. No.	Audit Findings
1	Green Area in college premises is effectively maintained
2	Tree Plantation is effectively followed as currently 300 nos. of trees are maintained in premises
3	College effectively monitors Water Consumption in premises and data shows its 7000 Ltrs.
4	Emergency Preparedness Plan is not evident, only fire extinguishers are placed at defined locations.
5	Waste Management system is effectively defined and followed in college premises
6	Recycling activities are followed in College Premises e.g:-Paper consumption monitoring is effectively followed and relevant controls are defined for reduction of same
7	Mock Drills are not conducted in college premises.
8	Disaster Management system program was conducted in college premises by N.S.S.Apatti Vyavasthapan va Prathomopchar Karyashala.
9	Institute effectively monitors Community concerns as there has been no complaints by any neighboring institutions
10	Institute focusses on reduction Electricity Consumption through LED Bulbs usage and along with it focus is towards natural lights usage
11	Institute focusses on monitoring of all following details :- - Hazardous Waste Generation – No waste Generated - Ventilation Surveys Conducted- Yes - DG Noise – Yes - Illumination Survey – Yes - E waste Generation – Yes in few Qty. - Drinking Water testing – Yes on frequent basis
12	STP is not available in institute and water waste is drained in drainage system

Classrooms having proper ventilation and illumination.

Recommendations

Recommendations:

- Plant more trees in order to keep the air quality clean.
- Emergency preparedness plan for all types of disasters to be made evident at different visible locations to generate an awareness among students and staff members.
- Mock Drills should be carried out frequently in the college premises to keep everyone aware about different situations that may arise accidentally.
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Energy Audit

DETAILED ENERGY AUDIT REPORT

MATOSHREE VIMALABAI DESHMUKH MAHAVIDYALAYA

Panchvati Chouk, Amravati

444601

Dec-2021

Conducted By

PPS Energy Solutions Pvt. Ltd.

Engineering Consultants

Plot No-18, Girish Housing Society

Warje, Pune – 411058, Maharashtra, India

Dr. Ravi G. Deshmukh

Energy Auditor Class - A

MEDA/ECNCR-05/2018-19/EA-05

PREFACE

Energy Audit is a key parameter of systematic approach for decision-making in the area of energy management. It attempts to determine how and where energy is used and to identify methods for energy savings. There is now a universal recognition of the fact that new technologies and much greater use of some that already exists provide the most hopeful prospects for the future. The opportunities lie in the use of existing renewable energy technologies, greater efforts at energy efficiency and the dissemination of these technologies and options.

As per the Energy Conservation Act, 2001, Energy Audit is defined as "the verification, monitoring and analysis of use of energy including submission of technical report containing recommendations for improving energy efficiency with cost benefit analysis and an action plan to reduce energy consumption".

Present energy audit is a mare mile marker towards destination of achieving safe, healthy and energy efficient unit. We would like to emphasize that an energy audit is a continuous process. We have compiled a list of possible actions to conserve and efficiently utilize our scarce resources and identified their savings potential. The next step would be to prioritize their implementation. Implementation of recommended measures can help consumes to achieve significant reduction in their energy consumption levels.

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 Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati 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 Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati for entrusting PPS Energy Solutions Pvt. Ltd.

For PPS Energy Solutions Pvt. Ltd.

Dr.Ravi G. Deshmukh
Energy Auditor Class - A
MEDA/ECNCR-05/2018-19/EA-05

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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
Mrs. Prajakta Joshi	Field study, data tabulation and analysis, report preparation	Graduate Electrical Engineer with3 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. 1,03,509/-** per Annum
2. Average monthly units consumed are **2640 kWh** equivalent to **Rs. 9200/-**
3. Average electricity charges works out to be **Rs. 6.94/-**

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	0.89	3000	2.55	0.21	4.28
2	Fans	Replacement of existing fans with energy efficient Super fans	1.65	6683	5.68	0.46	3.55
Total			2.54	9683	8.23	0.67	3.78

Note: Estimated savings may base on operating conditions

During the Energy Audit, Total Estimated Investment of Rs 2.54 Lac/- yields Total Estimated Savings of Rs. 67000/- which 65 % of the Total Energy Cost of Rs. 1,03,589 /- with an overall payback period of 3.78 Year.

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.
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	-3	0	0	-3
1	0	1	1	-2
2	0	1	1	-1
3	0	1	2	-1
4	0	1	3	0
5	0	1	3	1
6	0	1	4	1
7	0	1	5	2
8	0	1	5	3
9	0	1	6	4
10	0	1	7	4
11	0	1	7	5
12	0	1	8	6
13	0	1	9	6
14	0	1	9	7
15	0	1	10	8

Net Savings (Rs.Lakh Vs Year)

Dr. Ravi G. Deshmukh
Energy Auditor LEA1 - A
MEDA/ELNOE-05/2018-19/EA-05

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 Dual meter according to 73/LT-X 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

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

Table 1 Name of Area

Sr. No.	Name of the Area
1	Tube Lights
2	Fan

4.1. Electricity Bill Analysis

1. Consumer Details of Meter No. 06503416399

Consumer Details

Table 2 Consumer Details

Parameter	Details
Consumer No.	**366470078825**
Consumer Name	Principal College Of Rural Services
Address	Rural Institutered Amravati
Pin Code	444603
Sanction load (KW)	5
Tariff	73/LT-X B I 0-20KW Pub Ser oth

Consumption Details

Table 3 Billing Data

Month	kWH	Avg KWH	Fixed Charges (Rs)	Wheeling Charges (Rs)	Energy Charges (Rs)	Tax (Rs)	Total Current Bill (Rs)	Total Unit Rate (INR)
Jan-21	913	1802	362	1324	4437	83	6206	6.80
Feb-21	1200	1802	362	1740	5832	228	8162	6.80
Mar-21	947	1802	362	1373	4602	180	6518	6.88
Apr-21	1132	1802	363	1636	5487	216	7701	6.80
May-21	2104	1802	373	2904	9847	401	13524	6.43
Jun-21	1093	1802	373	1508	5115	208	7205	6.59
Jul-21	4068	1802	373	5614	19038	775	25800	6.34
Aug-21	2120	1802	373	2926	9922	404	13624	6.43
Sep-21	4789	1802	1865	6609	22413	912	-28354	-5.92
Oct-21	1183	1802	373	1633	5536	225	7917	6.69
Nov-21	1306	1802	373	1802	6112	249	8536	6.54
Dec-21	767	1802	373	1058	3590	146	5167	6.74
Avg	**1802**		**506**	**2618**	**8863**	**358**	**6891**	**5.59**
Max	**4789**		**1865**	**6609**	**22413**	**912**	**25800**	**6.88**
Min	**767**		**362**	**1058**	**3590**	**146**	**-28354**	**-5.92**
Sum	**21622**		**5563**	**28802**	**97494**	**3943**	**75800**	

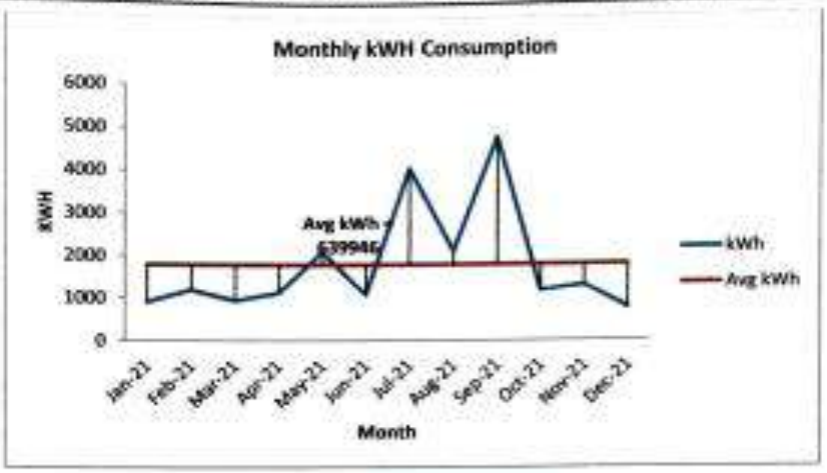

Figure 1 Monthly kWh Consumption

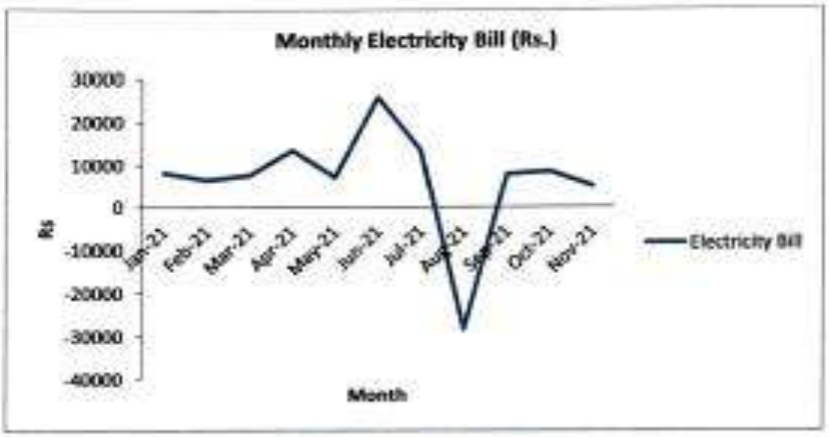

Figure 2 Monthly Electricity Bill

2. Consumer Details of Meter No. 05309072537

Table 4 Consumer Details

Parameter	Details
Consumer No.	**366470788873**
Consumer Name	Principal Matoshree Vimalabai Deshmukh Mahavidyalaya
Address	Shivaji Nagar Panchvati Chowk
Pin Code	444601
Sanction load (KW)	5.55
Tariff	73/LT-XB I 0-20 KW Pub Ser oth

Table 4 Billing Data

Month	kWH	Avg KWH	Fixed Charges (Rs)	Wheeling Charges (Rs)	Energy Charges (Rs)	Tax (Rs)	Total Current Bill (Rs)	Total Unit Rate (INR)
Jan-21	778	838	362	1116	3738	70	-33430	-42.97
Feb-21	356	838	362	516	1730	68	2676	7.52
Mar-21	170	838	362	247	826	32	1467	8.63
Apr-21	367	838	363	531	1781	70	1640	4.47
May-21	1709	838	373	2358	7998	325	11055	6.47
Jun-21	267	838	373	368	1250	51	2042	7.65
Jul-21	1935	838	373	2670	9056	368	12468	6.44
Aug-21	994	838	373	1372	4652	189	6586	6.63
Sep-21	917	838	373	1265	4292	175	6105	6.66
Oct-21	993	838	373	1370	4647	189	6580	6.63
Nov-21	762	838	373	1052	3566	145	5136	6.74
Dec-21	802	838	373	1107	3753	153	5386	6.72
Avg	**838**		**369**	**1164**	**3941**	**153**	**2309**	**6.78**
Max	**1935**		**373**	**2670**	**9056**	**368**	**12468**	**8.63**
Min	**170**		**362**	**247**	**826**	**32**	**-33430**	**-42.97**
Sum	**10050**		**4433**	**13973**	**47289**	**1836**	**27709**	

Figure 3 Monthly kWh Consumption

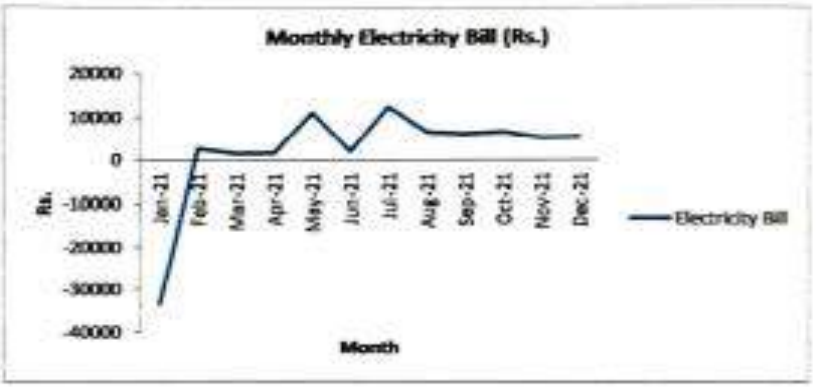

Figure 4 Monthly Electricity Bill

Comments:

1. Average monthly units consumed is 2640 kWh equivalent to Rs. 9200/-
2. Average electricity charges works out to be Rs. 6.94/-

4.2. Connected Load Quantity of Buildings

Table 4 Connected Load of Facility

Room No.	Room/lab /office	LED	Tube	Fan	Computer	Laptop	Printer	Projector	Xerox M/C	Oven	Freez	Total
Wattage		20	40	75	150	150	150	150	700	2000	750	4185
1	Physics Lab		10	6								16
2	Comp. Lab		4	2	11		1					18
3	Economics		2	1								3
4	Electronics		3	3		1						7
5	ENGLISH		4	3		7	1	1	1			17
6	CDE	1	2	2		1						6
7	Labarary	1	17	10	1	1						30
8	Staff room	1	1	1								3
9	Biology		11	7	1					1		20
10	Textile and clothing	1	4	3								8
11	Human development	1	3	2								6
12	Resource manegmant		5	2								7
13	Extemion	1	3	2								6
14	Store room		1									1
15	Food and nutrition And home economics		8	4						3	2	17
16	Store room											0
17	Girls toilet											0
18	H.Sc. V.C.		2	2	2							6
19	H. Sc. V.C		2	2								4
20	Chemistry lab		10	6	1		1				1	19
21	Ledies toilet		1									1
22	Gents toilet		1									1
23	NCC office and Hindi department		1	1								2
24	Principal office	3	2	2					1			8
25	College office	2	5	5	8		5					25
26	Botany Lab	6		3								9

Room No.	Room/lab /office	LED	Tube	Fan	Computer	Laptop	Printer	Projector	Xerox M/C	Oven	Freez	Total
27	Physical education Sports dept.	1	1	2								4
28	Hedical room											0
29	Boys Toilet											0
30	Dep. FDT		3	2								5
31	Staff room		2	2								4
32	of FDT											0
33	MLT lab		3	1								4
34	Lab cookery		5	3							1	9
35	Garden side coridour		2									2
36	Office backside coridor		1									1
37	Home science coridour	1	1									2
38	coridour		3									3
39	Music room		1	1								2
40	Class room											0
41	Class room											0
42	A/v hall		1	5				1				7
43	Class room											0
44	Class room		2	3								5
45	Ledies staff room		1	2								3
46	Class room		2	3								5
47		1		3								4
48	Class room		2	3								5
49	hall		9	9								18
50	co coparative store		1									1
51	Boys common room		2									2
52	Class room	1		3								4
53	Class room											0
54	Class room											0
55	Girls commoń room			1								1

Room No.	Room/lab /office	LED	Tube	Fan	Computer	Laptop	Printer	Projector	Xerox M/C	Oven	Freez	Total
56	Class room		2	3								5
57	NSS dep.		1	1								2
58	Upper coridour		2	1								3
	HOSTEL											
59	Hostel office		1	1								2
60	Room		1	1								2
61	Room		1	1								2
62	Room		1	1								2
63	Room		1	1								2
64	Room		1	1								2
65	Room		1	1								2
66	Room		1	1								2
67	Room		1	1								2
68	Room		1	1								2
69	Room		1	1								2
70	Room		1	1								2
71	Room		1	1								2
72	Room		1	1								2
73	Room		1	1								2
74	Room		1	1								2
75	Room		1	1								2
76	Worden room		1	1								2
77	porch		1	2								3
78	Gard room	1		1								2
79	Hostel ground toilet		1									1
80	First flour		1									1
Total		22	170	138	24	10	8	2	2	4	4	384
Tota KW		440	6800	10350	3600	1500	1200	300	1400	8000	3000	36590

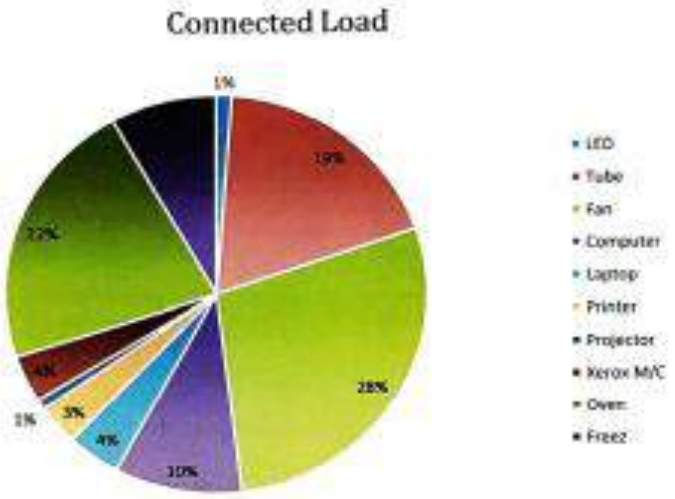

Figure 5 Distribution of Connected Load

5. ENERGY CONSERVATION MEASURES

ECM 1: Replacement of Tube Lights with More Efficient Lights

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)		
1	Replacement of conventional lights with suitable LEDs	0.89	3000	2.55	0.21	4.28

Observations:

Facility has installed Tube Lights of 40 watt in their premises

Recommendations:

During energy audit, it is observed that facility has installed Tube Lights of 40 watt at some of the places in the facility. Also energy team at facility has already replaced some of the CFLs with LEDs. The operating hours for these lightings are around 5 hours. LED Lights of 20 watt with equivalent LED fixture thereby achieving significant reduction in energy consumption. The LEDs could be replaced in such a manner that it has 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 lamps	KW	4.00
Power consumption of suitable LED light	KW	2.00
Average power saving after replacement with LED light	KW	2.00
Replacement of conventional lights TL of 40W with suitable LEDs	Nos	100
Average working hour per day	Hrs	5
No. of working days in a year	Days	300
Cost Benefit Calculation		
Annual Energy Saving potential	kWh	3000
Electricity tariff	Rs/unit	6.94
Annual Cost Saving	Rs. Lakh	0.21
Total investment cost	Rs. Lakh	0.89
Annual Saving	Rs. Lakh	0.21
Simple Payback Period	Years	4.28

Type of Exisitns Fitting	Wattage	Qty	Proposed LED W	Price - Rs/Unit	Dismanteling Cost	Total Cost	Existing KW	Proposed KW	Saved kW	Investment Rs Lakh
Tube Light	40	100	20	878	13	89100	4	2	2	0.89
TOTAL	**40**	**10**	**20**	**878**	**13**	**89100**	**4**	**2**	**2**	**0.89**

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 Super fans	1.65	6683.34	5.68	0.46	3.55

Observations:

During energy audit, it is observed that facility has old 75 watts 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 75 watts so we recommend to replace energy consuming fan with energy efficient super fan

6. 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 ø, tanø
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 167Thermal 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 ☐80% RH
Storage temperature and humidity	-20°C ☐60°C, 10% RH ☐80% RH
Power	9V battery
Unit Size	52.5 x 52.5 x 166 mm
Auto power off	After 5 minutes

Dr. Ravi G. Deshmukh
Energy Auditor Class - A
MEDA/ECNCR-05/2018-19/EA-05

Shri Shivaji Education Society, Amravati's
Matoshree Vimalabai Deshmukh Mahavidyalaya
Shivaji Nagar, AMRAVATI - 444 603 (M.S.)
Re-Accredited with 'B' Grade By NAAC
Index No. J-02-01-044 • Pay Unit No.-036 • Udise No. 27071505414
☎ 0721-2660355 (Off.), 2664929 (Fax)
e-mail : clg_amt_mvd@ssesa.org • website : www.mvdcollege.org

Outward No. MVDM/..... Date : .....

GREEN CAMPUS **POLICY**

OBJECTIVE:

- ***Green campus aims to-***

1) Sweep away wasteful inefficiencies and using conventional sources of energy for daily power needs of the campus

2) Encourage sustainable life style

3) Impose disposal methods

4) Support eco-friendly recycling measures and awareness in all forms.

5) Encouraging green campus initiatives to make the college sustainable and environment friendly.

- *INITIATIVES / SUGGESTIONS PROPOSED:*

1) Solar Power Installation of solar water heater in hostel block

2) Installation of solar panels for electricity needs

3) Encourage to use natural light than electric bulbs wherever possible

- *Rain Water Harvesting and waste water Recycling:*

A) Installation of network of PVC pipes and gutters to direct rain water from the roof to one or more filter chambers which can be created with PVC barrels/tanks and connect it to open well / bore well to recharge shallow aquifers.

B) Water from nutrition Laboratory can be used to water potted plants in the building.

- *RRR – Reduce , Reuse , Recycle:*

A) Focus on reducing waste by going paperless. Use Google form to conduct quizzes, webinars, sharing e-books, feedback assessment, etc.

B) Communication and circulars through college website and class Whats App groups managed by the faculty members.

C) Ban Single use plastic cups, straws, plates, etc throughout the campus.

D) Promote reuse of working components in e-waste.

E) To encourage students to reuse waste materials to create manufactured article. For example- Making of paper bags

F) Installation of compost bins to recycle wet biodegradable garbage to produce compost.

G) Water bottles use for watering plants to encourage students to use reusable water bottles.

- *E-Waste recycling:*

A) When upgrading labs with higher configuration systems, the old systems are reused in libraries and staffroom to serve basic needs like browsing and text editing.

B) Use assembled PCs in the campus; hence working components of old computers is well-kept-up to be reused when necessary.

C) Conduct E-waste collection drive and awareness programs to educate students about the hazardous effects of its improper disposal.

D) Installing E-Waste Recycling Bins and collected e-waste after some modification , handed over to needy organization/persons.

- *Segregation of solid waste:*

A) Keep dry waste garbage bin in the campus as this can reduce littering in campus.

B) After the collection of solid waste, dump in to compost pit and use for the plants in college.

C) Wet waste and dry waste are separate in the college, as per the guidelines given by Corporation of the City of Amravati.

D) Use instruction written garbage bins throughout the campus. This will avoid confusions and garbage disposal in wrong bins.

E) Sanitary wastes to be disposed using electrical incinerator which is installed in the women's washroom.

F) Conduct cleanup drive to bring awareness in students.

G) Conduct plantation drives in collaborations.

H) Celebration of Raksha bandhan to trees in college campus.

I)The students create a poster "Know about Plant" to be stuck on plants describing its benefits, some interesting facts, etc. along with its local and biological name.

Organic / medicinal plants gardening:

A) Compost made in campus can be used for organic/ medicinal plants gardening in the campus.

B) Well maintained medicinal plants gardening in the campus.

Use of LED light /Equipments:

A) Replace the conventional fluorescent tube lights with LED tube lights.

B) Replace all LCD screens with LED screens.

C) Replace non power efficient Air Conditioners with good power 5 stars rated Air Conditioners.

D) Replace the freezer, water cooler, fans and desert coolers with good power efficiency.

E) Minimizing electricity consumption by directing staff and students to turn off electrical appliances when not in use.

Restricted entry of automobiles:

A) Entry to only to Students and staff of college in campus.

B) Guest vehicles are allowed only during public activities days.

C) Dedicated bicycle parking slots are made to encourage students to use bicycles.

D) College students advice to use of public vehicles.

Coordinator

IQAC

(Dr. S. D. Thakare)

DR. S. D. THAKARE
Coordinator, I.Q.A.C.
Matoshree Vimalabai Deshmukh Mahavidyalaya
Amravati

Matoshree Vimalabai Deshmukh Amravati

Principal

PRINCIPAL
Matoshree Vimalabai Deshmukh
Mahavidyalaya, Amravati.

Shri Shivaji Education Society, Amravati's
Matoshree Vimalabai Deshmukh Mahavidyalaya
Shivaji Nagar, AMRAVATI - 444 603 (M.S.)
Re-Accredited with 'B' Grade By NAAC
Index No. 3-02-01-044 • Pay Unit No.-036 • Udise No. 27071505414
☎ 0721-2660355 (Off.), 2664929 (Fax)
e-mail : clg_amt_mvd@sancsa.org • website : www.mvdcollege.org

Outward No. MVDM/.....

Date : .....

CIRCULAR

Dt.02/10/2018

As a part of Green Campus Initiative, the college announces **ban on the use of plastics** in the campus. All the faculty members and students are informed to adhere to the following :

- Do not use plastic bags and other items which can not be recycled.
- Do not use one time use plastic things, irrespective of the thickness.
- Use metal water bottles instead of plastic water bottles.
- Make use of cloth bags or paper bags.

Principal
PRINCIPAL
Matoshree Vimalabai Deshmukh
Mahavidyalaya, Amravati.

Shri Shivaji Education Society, Amravati's
Matoshree Vimalabai Deshmukh Mahavidyalaya
Shivaji Nagar, AMRAVATI - 444 603 (M.S.)
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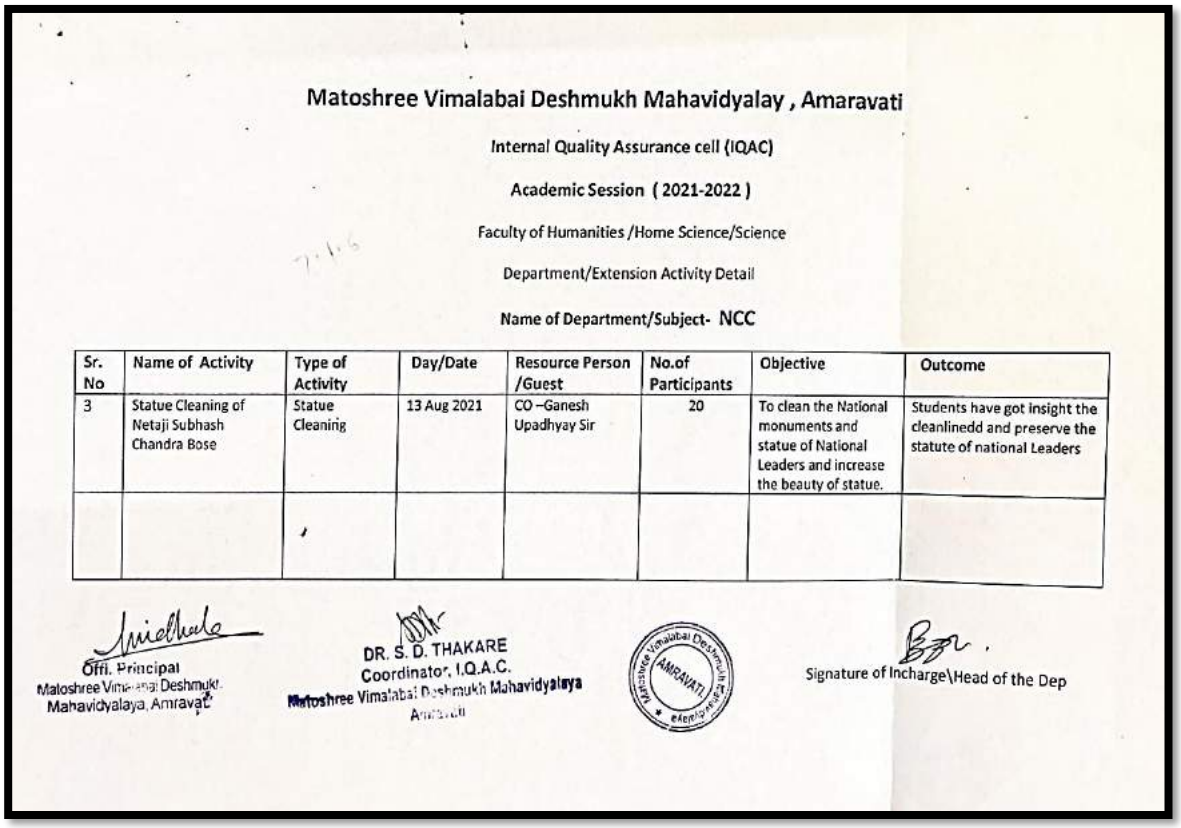
Principal
PRINCIPAL
Matoshree Vimalabai Deshmukh
Mahavidyalaya, Amravati

Statue Cleaning of Netaji Subhash Chandra Bose



Matoshree Vimalabai Deshmukh Mahavidyalay , Amaravati

Internal Quality Assurance cell (IQAC)

Academic Session (2021-2022)

Faculty of Humanities /Home Science/Science

Department/Extension Activity Detail

Name of Department/Subject- NCC

Sr. No	Name of Activity	Type of Activity	Day/Date	Resource Person /Guest	No.of Participants	Objective	Outcome
3	Statue Cleaning of Netaji Subhash Chandra Bose	Statue Cleaning	13 Aug 2021	CO –Ganesh Upadhyay Sir	20	To clean the National monuments and statue of National Leaders and increase the beauty of statue.	Students have got insight the cleanlinedd and preserve the statute of national Leaders

Offi. Principal
Matoshree Vimalabai Deshmukh
Mahavidyalaya, Amravati

DR. S. D. THAKARE
Coordinator, I.Q.A.C.
Matoshree Vimalabai Deshmukh Mahavidyalaya
Amravati

Signature of Incharge\Head of the Dep

Statue Cleaning of Netaji Subhash Chandra Bose

Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati

Notice

For students

Date:- 09/08/2021

It is informed to, all the NCC cadets of our college is organizing **"National Heros Statue Cleaning Activity Under Social Awareness"**. At shri Shivaji biotechnology of agriculture college, Shivaji nagar, Amravati. on **13 Aug 2021, 11:00 Am**

NOTE- Compulsory to all the cadets

CTO

P.B. BHAMBURKAR

Principal

Offl. Principal
Matoshree Vimalabai Deshmukh
Mahavidyalaya, Amravati.

Matoshree Vimlabai Deshmukh Mahavidyalaya

NCC ACTIVITY- Statue Cleaning Netaji Shubhashchandra Bose On 13/08/2021

Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati

Internal Quality Assurance cell (IQAC)

Department of NCC

Name of the Event/Program: - statue cleaning

Date: 13 aug 2021 Day: Feiday Time: 10.00Am

In collaboration with: .

Name of the Guest: -

Participant: NCR. Cadets No. of Participants: 20

Objective To clean the National Monuments and statue of National leadees and increase the beauty of statue.

Action Taken

Outcome students have got insight the cleanlined and percseive the statue of National leadees.

Sr. No.	Name of the Participant	Signature
1	Ku. Shrutika M. Chandurkar	
2	Purva R. Chaudhari	
3	Ku. Khushi R. Kantale	
4	ku. prajakta A. Deshmukh	P. A. Deshmukh.
5	KU Pratiksha Pradip Gaiwali	Pratiksha P. G.
6	Janvi Raju Bangale	
7	Khushi R. Kamble	
8	Ku. Nandini B. Wankhade	
9	Ku. Anuata J. Athawale	
10	Ku. Aachal Rajesh Naykoji	
11	Anushi A Binkad	
12	Ku. Bhumika Rupesh yadav	Byadav
13	Ku. Kashish Santosh Wathe	
14	Ku. Chanchal Santosh Yamguli	

15	Tejaswini R Wadhve	Tejaswini
16	Ku. Megha shyam chandan	chandan
17	chanchal Haridas shahale	Shahale
18	ku. Nikita Gopalrao Bhange.	Bhange.
19	Ku. Puncam B. Kaclu.	Kaclu
20	ku. Ruchika Arunal Wankhade	Wankhade.
22		
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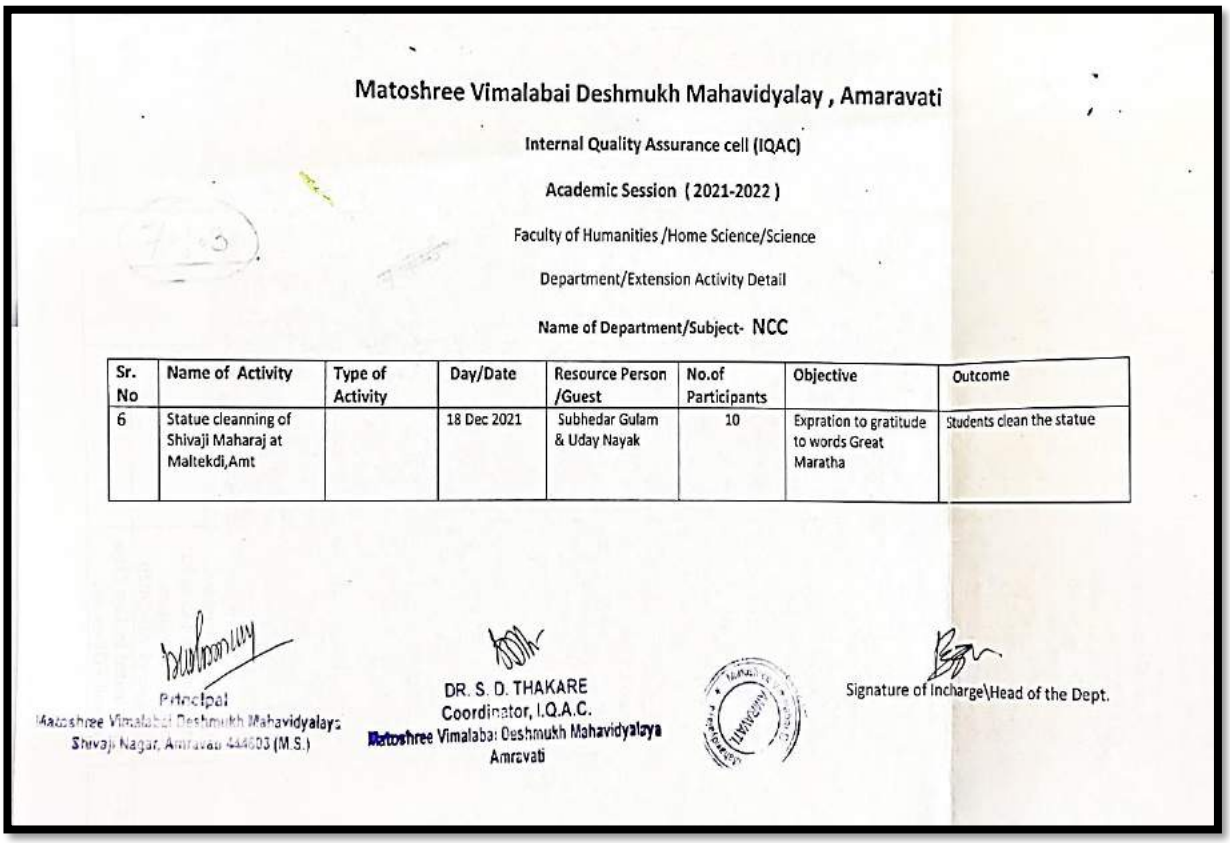
SIGN OF TEACHER

Matoshree Vimalabai Deshmukh Mahavidyalaya AMRAVATI.

DR. S. D. THAKARE
Coordinator, I.Q.A.C.
Matoshree Vimalabai Deshmukh Mahavidyalaya
Amravati

Offi. Principal
Matoshree Vimalabai Deshmukh.
PRINCIPAL
Mahavidyalaya, Amravati.

Statue Cleaning of Shivaji Maharaj at Maltekadi, Amravati



Matoshree Vimalabai Deshmukh Mahavidyalay , Amaravati

Internal Quality Assurance cell (IQAC)

Academic Session (2021-2022)

Faculty of Humanities /Home Science/Science

Department/Extension Activity Detail

Name of Department/Subject- NCC

Sr. No	Name of Activity	Type of Activity	Day/Date	Resource Person /Guest	No.of Participants	Objective	Outcome
6	Statue cleanning of Shivaji Maharaj at Maltekdi,Amt		18 Dec 2021	Subhedar Gulam & Uday Nayak	10	Expration to gratitude to words Great Maratha	Students clean the statue

Principal
Matoshree Vimalabai Deshmukh Mahavidyalaya
Shivaji Nagar, Amravati 444603 (M.S.)

DR. S. D. THAKARE
Coordinator, I.Q.A.C.
Matoshree Vimalabai Deshmukh Mahavidyalaya
Amravati

Signature of Incharge\Head of the Dept.

Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati

Notice

For students

Date:- 13/12/2021

It is informed to, all the NCC cadets of our college is organizing **"National Heros Statue Cleaning Activity" Under Social Awareness. At Shivtekdi (Maltekdi),** Amravati. on **18 Dec 2021, 11:00 Am**

NOTE- Compulsory to all the cadets

CTO

P.B. BHAMBURKAR

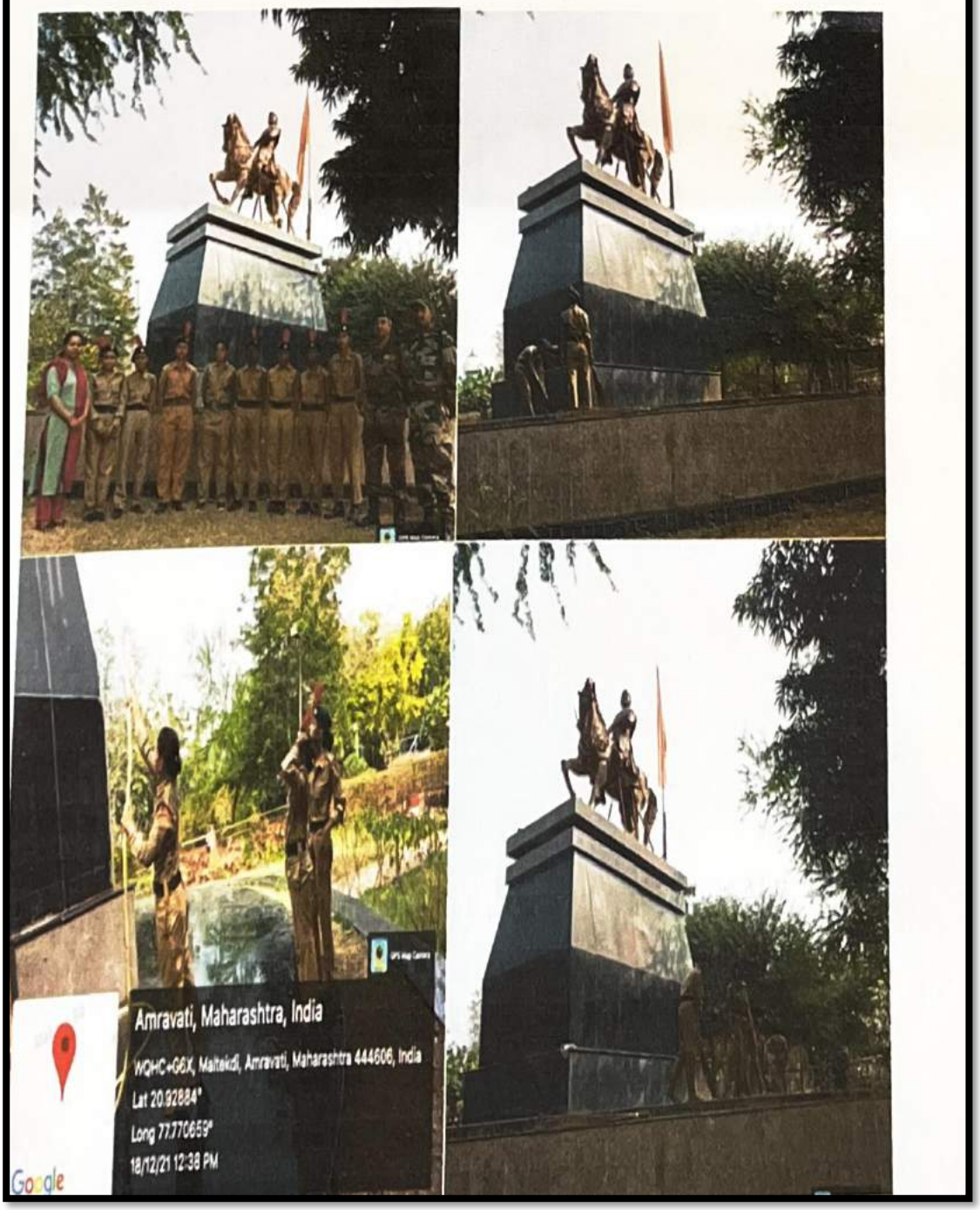
Principal

Principal
Matoshree Vimalabai Deshmukh Mahavidyalaya
Shivaji Nagar Amravati 444603 (M.S.)

Matoshree Vimlabai Deshmukh Mahavidyalaya

NCC ACTIVITY-Shri Shivaji Maharaj Statue Cleanning On 18/12/2021

At.Maltekdi Amravati



Matoshree Vimalabai Deshmukh Mahavidyalaya, Amravati

Internal Quality Assurance cell (IQAC)

Department of NCC

Name of the Event/Program: - Statue cleanning

Date: 18 Dec 2021 Day: Satuedaey Time: 10.00 am

In collaboration with: –

Name of the Guest: –

Participant: N.C.C. cadets No. of Participants: 10

Objective Expeation to geafitude to woeds Greeat Maeathea

Action Taken

Outcome students /cadets clean the statue

Sr. No.	Name of the Participant	Signature
1	ARUSHI A BIRKAD	Abirkad
2	Ku Bodiksha Bodip Gaedi	Bodiksha P. G.
3	Janvi R. Bangale	Janvi
4	Snehal D. Kale	Snehal D. Kale
5	Ku. Nandini B. Wankhade	
6	Ku. Amruta J. Athawale	
7	Divya D. Dhaskat	
8	Ku. Megha shyam chandan	Chandan
9	Nandini B. Wankhade	
10	Purva R. Chaudhari	
11		
12		
13		
14		

(C.T. NCC)

महत्त्वाचे

एनसीसी कॅडेटचे स्वच्छता अभियान

अमरावती : फोर्थ महाराष्ट्र गर्ल्स एनसीसी बटालियन अमरावती येथील कमांडिंग ऑफिसर कर्नल जी. सी. उपाध्याय यांच्या आदेशानुसार शिवटेकडी येथे श्रमदान करून स्वच्छता अभियान राबविण्यात आले. यामध्ये एनसीसी कॅडेट्सने येथे असलेल्या छत्रपती शिवाजी महाराजांच्या पुतळा परिसरात स्वच्छता अभियानाला सुरुवात केली. एमव्हीडीएम महाविद्यालयातील प्राची भामबूकर यांचे मार्गदर्शन लाभले. कर्नल उपाध्याय यावेळी म्हणाले की, स्वच्छता अभियान राबवून समाजातील सर्व घटकांना स्वच्छतेबाबत जाणीव करून देणार आहे. भविष्यात साफसफाई अभियान मोठ्या प्रमाणात राबवण्यात येणार आहे. ज्यामुळे अमरावती शहर स्वच्छ आणि सुंदर दिसेल. सोबतच कोरोना नियमांचे पालन करण्याचे आवाहनही यावेळी करण्यात आले.

टेंभुर्णी ढाणा येथे सौर ऊर्जा प्रकल्प

सदर आग सकाळी ११ वाजताच्या सुमारास लागल्याचा

26 डिसेंबर रविवार २०२१

शेतात येण्या-जाण्याचा र

शेतकरी आंदोलनाच्या तयारीत

◆ भातकुली, २५ डिसेंबर

भातकुली तालुक्यातील कानफोडी-दाऊतपूर गावातील शेतकरी मोठ्या संकटात सापडले असून १८ शेतात येण्य सायत हा कोणीतरी गावातील शेतात जाण नाही. त्यामु तयारीत आह कानफो वापर मागील शेतकरी जाण्याकरित दाऊतपूर

शेतकऱ्यांची शेती याच मार्गावर आहे. काही वर्षांअगोदर सार्वजनिक बांधकाम विभागातर्फे या रस्त्याचे खडीकरण सुद्धा झाले होते. पण नंतर काहीच झाले नाही.

परिणामी पावसाळ्यात या रस्त्याने जाण्यासाठी [illegible]

अमरावती, रविवार, २६ डिसेंबर २०२१ | ३

सकाळ » TODAY

फोक

» अवतीभवती

अमरावती : स्वच्छता अभियानात सहभागी प्राची भांबुरकर व कॅडेट्स.

एनसीसीतर्फे मालटेकडीवर स्वच्छता

अमरावती : महाराष्ट्र गर्ल्स बटालियनचे कर्नल कमांडिंग ऑफिसर जी.सी. उपाध्याय यांच्या सूचनेनुसार येथील मालटेकडीवर स्वच्छता अभियान राबविण्यात आले. ज्यामध्ये छत्रपती शिवाजी महाराजांच्या पुतळ्याचीसुद्धा स्वच्छता करण्यात आली. प्राची भांबुरकर यांच्या मार्गदर्शनात हे अभियान पार पडले. सोबतच फोर्थ केपीआय स्टाफ सुभेदार गुलाम व नायक श्री. उदय उपस्थित होते. यापुढेही असेच उपक्रम एनसीसीमार्फत राबविले जाणार असल्याचे कर्नल उपाध्याय यांनी सांगितले.

शे

सकाळ

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अर्जाव
कोट्यव
जागेती
दाखव
भूमिअ
केल्या
आहे.
भूमिअ

Principal
Matoshree Vimalabai Deshmukh Mahavidyalaya
Amravati 444603 (M.S.)

DR. S. D. THAKARE
Coordinator, I.Q.A.C.
Matoshree Vimalabai Deshmukh Mahavidyalaya
Amravati

Sell of Sparrow Nest on World Sparrow Day Dated on 20-03-2022

Matoshree Vimalabai Deshmukh Mahavidyalay, Amravati

Internal Quality Assurance Cell (IQAC)
Activity undertaken (Academic Session 2021-2022)
Department of Biology
Name of the Teacher – Dr. K.E. Chaudhary

Sr.No	Name of Activity	Type of the Activity	Day/Date	Resource Person / Guest	Participates / Numbers	Objective	Outcomes
1	Sell of Sparrow Nest on World Sparrow Day	Extension Activity Out of Campus	20-03-2022	Dr. Gajanan Wagh. WFCS	20	To Create Awareness about Habitat conservation for Sparrow	Eco Friendly Nests and Awareness for Birds Conservation.

Name / Signature of the in charge / Head of Department

DR. S. D. THAKARE
Coordinator, I.Q.A.C.
Matoshree Vimalabai Deshmukh Mahavidyalaya
Amravati

Principal
Principal
Matoshree Vimalabai Deshmukh Mahavidyalaya
Shivaji Nagar, Amravati 444603 (M.S.)

Sell of Sparrow Nest on World Sparrow Day Dated on 20-03-2022