

Green Audit of D. Y. Patil University

CHAPTER – I

INTRODUCTION

**'Education is not the learning of many facts
but the training of the mind to think.' - Albert Einstein**

D Y Patil University has been making groundbreaking changes in the arena of education, healthcare, and sports. The moral vision of the university has always been to provide quality education in all spheres of higher learning and healthcare services in India. It has now been 17 diligent years of witnessing out of the box creativity, exceptional growth, and rewarding success of students and faculties. Each year the university evolves into a stronger source of inspiration for all its students, to dream the bigger picture and turn it into reality. The university believes in creating the pioneers of tomorrow, who follow a vision of transforming India into a global platform for education, healthcare, and sports. Our shining alumni stand as a testimony to the D Y Patil model of studies. Every year 1500 students pass out from the university and each one of them is the beacon bearer of the society, who will change the face of our world with passion, dedication, and willpower.

1.1 Vision

To positively contribute to the educational and welfare development of local communities and the region as a whole, with the provision of globally recognized educational programs, which focus on developing professional and fundamental skills. Knowledge is the simple act of knowing through reading books, learning facts and experiencing events in real life.

1.2 Mission

Be committed to maintaining high academic standards, enhancing the quality of teaching and learning offered, and providing a high-quality learning experience for its students. To impart and disseminate knowledge in the emerging areas of Healthcare, Science and Technology, Business Management, Hospitality Management, Liberal Education, Teacher's Education, Sports, etc.

1.3 Objectives of the University

Knowledge is the simple act of knowing through reading books, learning facts and experiencing events in real life. Knowledge empowers, develops, and sharpens the minds of students. It ensures the enhancement of skills and techniques learned by an individual. Hence, knowledge is infinite in nature, which makes it hard to inculcate it in our lives. We as educators must ensure that the youth understands the significance of knowledge in life.

The future of our nation lies in the hands of our Millennial. The potential of the young minds has been witnessed, across the globe with world records being broken and innovation taking



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place at every turn. D.Y. Patil Group hence harnesses the youth's capabilities by honing their skills and providing students with global standards of education while also equipping them with world-class infrastructure, unique extra-curricular activities, and creative cultural celebrations.

1.4 Details of Campus Area

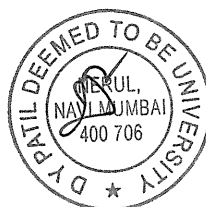
Sr. No.	Particulars	Area
01.	Total campus area	65 acre
02.	Built up area (college + Hospital)	138054.2 Sq. m
03.	Total open area	30.8 acre
04.	Area under green cover	18.2 acre
05.	Total trees planted	37098 Nos.

1.5 Departments of the University

- D.Y. Patil University School of Medicine
- D.Y. Patil University School of Dentistry
- D.Y. Patil University School of Ayurveda
- D.Y. Patil University School of Physiotherapy
- D.Y. Patil University School of Hospitality & Tourism
- D.Y. Patil University School of Biotechnology & Bioinformatics
- D.Y. Patil University School of Management

1.6 Campus Infrastructure

FACILITIES
Administrative Blocks
Examination Branch
Meeting Room
Classrooms
Laboratories
Simulation Laboratory
Operation Theaters
OPD Rooms
In-patient Wards
ICUs



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Seminar halls with AV facility
CCTVs to ensure discipline and security
Well-equipped library with computers and internet facility
Auditoriums
Canteens
Sports Complex
Gymnasium
Hostels (Boys and Girls)
Guest House

1.7 Various committees

Sr. No.	Name of Committee
01.	Students Grievance Redressal Committee
02.	SC/ST/ OBC/Minority Committee
03.	Anti-Ragging Committee
04.	Anti-Sexual Harassment Committee
05.	Internal Complaints Committee



CHAPTER – II

PRE AUDIT STAGE

2.1 Pre-audit meeting

Pre-audit meeting is an important prerequisite for conducting any audit. It is the first avenue to meet the auditee and understand the concerns and address them. The pre-audit meeting was held on 12/09/2019 at 11 am. The audit protocol and audit plan was handed over at this meeting and discuss in advance of the audit itself. The meeting provided an opportunity to reinforce the scope and objectives of the audit and discussions were held on the practicalities associated with the audit.

2.2 Management Commitment

The Management of the university has shown great commitment towards green auditing during pre-audit meeting. Various steps and legal compliances are already in place, whereas management committee wishes to encourage future generations to learn and undertaken various initiatives that may lead to sustainable development and contribute positively in betterment of environment. after the green auditing. The management of the University will formulate policies based on the green auditing report. The management commitment is an indicator which addresses institutional commitment, governance, and investment policy. University administration is vital to the process of realizing campus sustainability, and University policy is an essential instrument for any substantial change in the campus environment.

2.2 Scope and goals of the green auditing

A clean and healthy environment aids effective learning and provides a conducive learning environment. There are various efforts around the world to address environmental education issues. Green auditing is one among them for educational institutions. Once a baseline is established, the data can serve as a point of departure for further action in campus greening. Existing data will allow the University to compare its programs and operations with those of peer institutions, identify areas in need of improvement, and prioritize the implementation of future projects. This data will also provide a basis for calculating the economic benefits of resource conservation projects, by establishing the current rates of resource use and their associated costs. A very simple indigenized system has been devised to monitor the environmental performance of University. It comes with a series of questions to be answered on a regular basis. This innovative scheme is user-friendly and totally voluntary. The aim of this is to help the institution to set environmental examples for the community, and to educate the young learners.



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2.3 Envisaged Benefits of Green Auditing

- Create green campus
- Efficient resource management
- Enable effective waste management
- Endeavor for plastic free campus
- To provide basis for sustainable development
- Benchmarking for various environmental initiatives
- Financial gain through optimum use of resources
- Development of environmental ethics and value systems in young generations.

2.4 Target Areas of Green Auditing

➤ Water Management

Water is precious natural resource hence essential that any environmentally responsible institution should examine its water use practices. This indicator addresses water resources, consumption, reuse, water harvesting and treatment.

➤ Energy Management

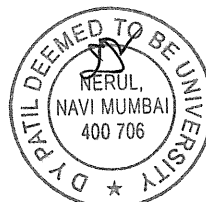
This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliances, and vehicles. Energy use is an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

➤ Waste Management

This indicator addresses waste generation, intermediary storage and its disposal. Waste such as Bio-medical waste, hazardous waste, plastic waste, solid waste etc. has number of environmental impacts, most of which are well known and not in need of elaboration. Unscientific disposal is main reason for ground water contamination, air pollution, spread of epidemics, bad aesthetics etc.

➤ Auditing Plantation

All plant and animal species - including humans - are linked together in a complex web of life; we depend upon biodiversity for our survival. Biodiversity is the key to healthy ecosystems and ultimately a healthy planet. It keeps the air and water clean, regulates our climate and provides us food, shelter, clothing, medicine and other useful products. Each part within this complex web diminishes a little when one part weakens or disappears. To maintain web of life plantation need to be carried out scientifically which include scientific selection of indigenous, native, fruit bearing & ornamental plant species. Such scientific selection of plant species attracts birds and other fauna.

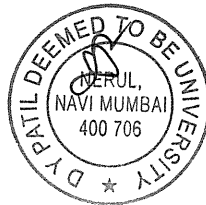


CHAPTER – III AUDIT QUESTIONNAIRE

3.1 Preparation of Green Audit Questionnaire

While preparing green audit questionnaire auditors shall consider many aspects of organization/ institution like vision, mission, objectives, legal status, geographical status, socio-economic settings, current environmental baselines, socio-economic status of students, national & international obligations, policies etc. Considering all this attributes below questionnaire has been prepared.

It is to highlight here that audit findings are not only based on questionnaire but also encompass observations of auditors, focused group discussions and data/ information shared during entire course of audit.



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3.2 Green Audit Questionnaire

Name of the Organization/ Institution:		
Sr.No.	Questionnaire	Details
1	Name of the organization/ Institution	D Y Patil Deemed to be University
2	Area of the organization in acre	65 acre
3	Plantation/ green belt developed in acre	18.2 acre
4	Number of trees planted	37098
5	Whether consent to establish/ operate granted under air, water act and hazardous waste rules. (if yes, provide copy) also mention whether Environmental Clearance has been granted under Environment Impact Assessment Notification, 2006.	Yes
6	Whether organization has valid tie-up with CHWTSDF (e.g. MEPL etc.)	RAMKY- Mumbai waste Management
7	Whether Organization has valid tie-up with E-waste disposal/ collection agency	Yes
8	Whether organization has valid tie-up with Plastic waste disposal agency	Yes
9	Whether organization has STP/ ETP, give details.	Yes- ASP Enviro Engineers <i>Pl. refer Annexure -1</i>
10	What is the mechanism for treatment/ disposal of solid waste/ garden waste	Biogas Plant is available in campus
11	does organization installed solar water heaters or harness solar/ renewable energy, if yes give details	Yes- Service Provider- 7 Greens <i>Pl. refer Annexure -2</i>
12	Does organization has rainwater harvesting structure/ facility	Yes
13	Does Organization obtained any IGBC certificate, if yes provide details	No



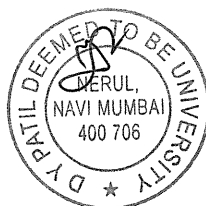
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14	Does organization received Environment clearance, if yes provide copy of the same.	Yes <i>Pl. refer Annexure -3</i>
15	Give details of the saplings planted, Name of trees, species wise numbers etc.	Total number of trees planted-37098 Nos. Details are provided as Annexure- List of Plants
16	What are energy conservation strategies adapted by organization	Yes
17	What are the Environment training programmes/ awareness sessions conducted for staff/ students?	Yes
18	what is the environment monitoring schedule	Yes
19	What are the environmental programmes conducted by staff/ students like swachhhata rallies, seminar, street plays etc.	Yes
20	what are the instructions displayed/ given for saving energy	Sinages are displayed
21	what are the best practices adapted for saving energy	CFL bulbs, Awareness programs
22	Does organization/ institute consider energy star rating criteria while purchasing electrical equipment	Yes
23	Does organization received any Show Cause Notice from MPCB/ Local Body etc	No
25	Does organization/ institute uses Diesel generators	Yes
26	Does such DG sets are installed as per manufacturers recommendation?	Yes



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27	Does regular maintainance ensured for DG sets	Yes
30	Does regular emission and insertion loss testing conducted	Yes
31	Does Organization/ Institute has Environment / Green/ Committee?	Yes
32	What are the efforts taken to make single use plastic free campus	Sensitization programs, Circulars
33	Does canteen facility made available? What is disposal mechanism for treatment of canteen waste	Yes
34	What is disposal mechanism for disposal of paper waste	Yes
35	Does separate waste bins provided to facilitate segregation of waste at source	Yes
36	what is housekeeping mechanism adapted	Outsourced
37	Give number of housekeeping staff	Outsourced
38	Give number of washrooms (M&F)	M-650 and F-790
39	Give details of hand wash facility provided	Yes
40	Give details of disposal for sanitary napkins	Yes
41	What are the committees formed to address various social issues	<ol style="list-style-type: none"> 1. Students Grievance Redressal Committee 2. SC/ST/ OBC/Minority Committee 3. Anti-Ragging Committee 4. Anti-Sexual Harassment Committee 5. Internal Complaints Committee



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CHAPTER – IV

AUDITING

4.1 Audit

Green audit was done by Dr Yogesh Kumar Upadhyay, Lead Auditor in ISO 14001:2015, ISO 45001:2018 and ISO 9001:2015, involving focused group discussion, interviews of students, teaching non-teaching staff and visitors. The audit process begin with the teams walking through all the different facilities at the University, determining the different types of appliances and utilities (lights, taps, toilets, fridges, etc.) as well as measuring the usage per item (Watts indicated on the appliance or measuring water from a tap) and identifying the relevant consumption patterns (such as how often an appliance is used) and the impact that they have. Formal; and informal talks were held to understand various details. University records and documents were verified several times to clarify the data received through survey and discussions.

4.2. Focused groups involved

Students from various department, Teaching & non-teaching staff, contractual employees, canteen staff, various committees& vendors were involved in focused group discussions.

4.3. Comments on facility tour

Site tour with students and staff was quite interesting and fascinating. Students and staff described various green initiatives. Staff of the college was enthusiastic and shared records and legal compliances pertaining to environmental obligations. The University has maintained green cover. All waste was in proper bin. Toilets were clean and tidy, canteen kitchen was maintained in proper hygienic conditions.

Class Rooms, Meeting Rooms and guest visiting area are with natural lights and ventilation. During the site tour, one car having registration number MH- was stopped and checked all mandatory documents and driver's licence.

Security staff at main gate and other places were found excessing vigil with respect to environmental aspects.

4.4. Review of essential records

Audit team carried out review of essential records must of this records are pertaining to compliance of environmental obligations like environment clearance, Consent under Air and water Act, Authorization under Hazardous waste management rules, Authorization under Bio-



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medical waste management rules, contract with disposal agencies. Quantity of waste generated and disposed etc.

4.5. Review of polices

Fruitful discussion was held with Board of Management regarding their policies on environmental management. Future plans of the University were also discussed.



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CHAPTER – V

AUDIT FINDINGS & RECOMMENDATION

5.1 Key Findings

a) Legal compliance:

D. Y. Patil University is recognized under Section 26 of Water (Prevention in control of Pollution Act, 1974 and Under section 21 of the air (Prevention and Control of Pollution act , 1981, Authorized under rule 5 of hazardous waste (M,H & T M) Rules 2016 and Biomedical waste Management rules 2016 by Maharashtra Pollution Control Board (MPCB) granted Consent to Operate vide consent No. Format 1.0/BO/UAN No. 55410/C-AC- for its hospital vide 25/03/2019 dated. For scientific disposal of biomedical waste university has executed contract with Mumbai waste Management Ltd. A MPCB recognized disposal agency.

b) Water Management

- ❖ Rainwater harvesting system available- Yes
- ❖ Appropriate number of drinking water coolers provided-Yes
- ❖ Number of urinals and toilets – 520 Urinals and 560 toilets
- ❖ Number of bathrooms -460
- ❖ Number of water taps – 3028
- ❖ Washrooms are well equipped with hand washing facility (with soap & hand driers)-All
- ❖ Average water charges per month-326599.33
- ❖ Water use in hostel/ month (Lit/ month)-18000 Lit/Month
- ❖ Waste water treatment plant installed-Yes
- ❖ Low pressure fixtures installed to reduce flow of water-Yes

c) Energy Management

- ❖ Average electricity charges/ month -9351852.33
- ❖ CFL lamps utilized- Yes
- ❖ Led tubes and lamps utilized-Yes
- ❖ Initiatives taken to purchase energy efficient equipment-Yes
- ❖ Sign boards installed for conservation of energy-Yes

d) Waste Management

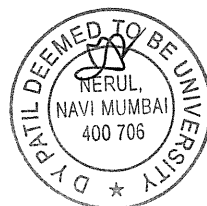
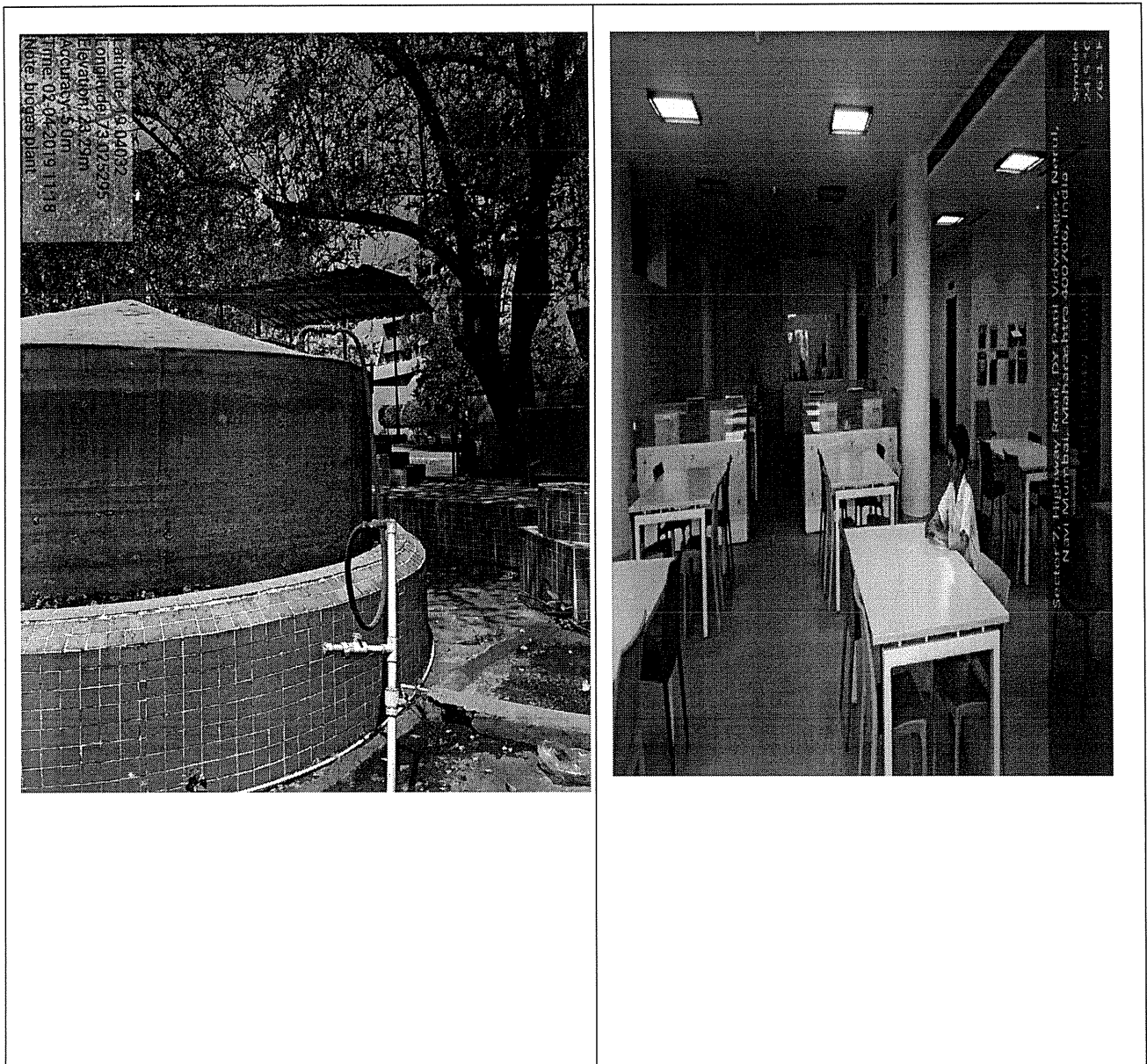
- ❖ Contract in place for biomedical waste management-Yes
- ❖ E-waste disposal through authorized agencies-Yes
- ❖ Waste bins are provided for segregation of waste at source-Yes
- ❖ Water Treatment plant provided-Yes



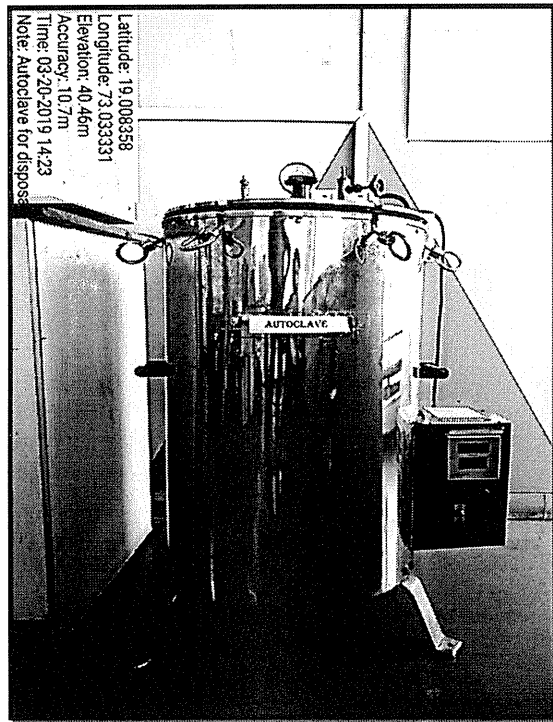
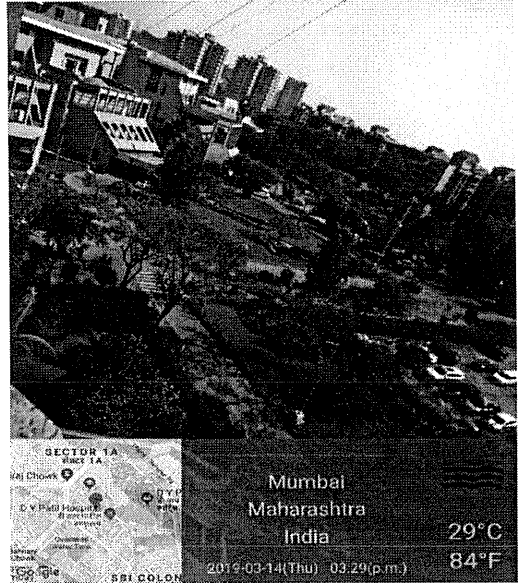
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- ❖ Separate bins provided for collection of sanitary napkins-Yes
- ❖ Solid waste collected and disposed with the help of local body-Yes
- ❖ Slogans and instructions observed in campus “DO NOT LITTER”

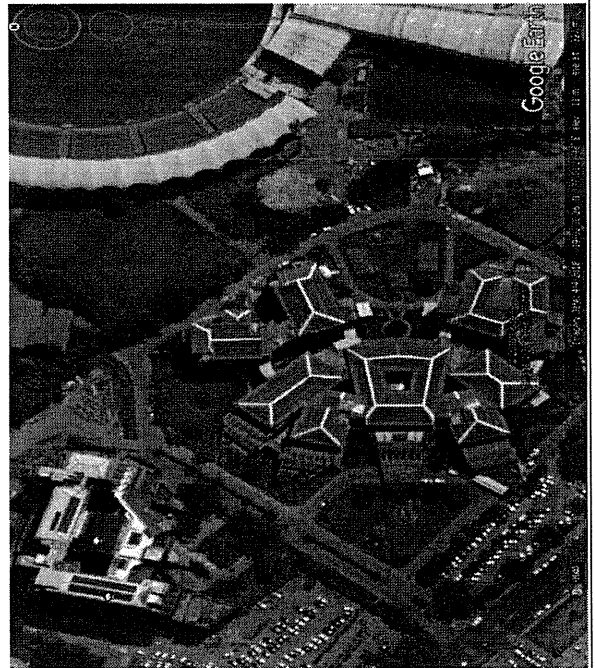
5.2 Photographs (provide photographs showing above points &/ or best green practices)



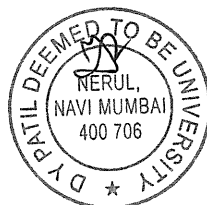
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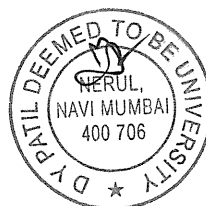
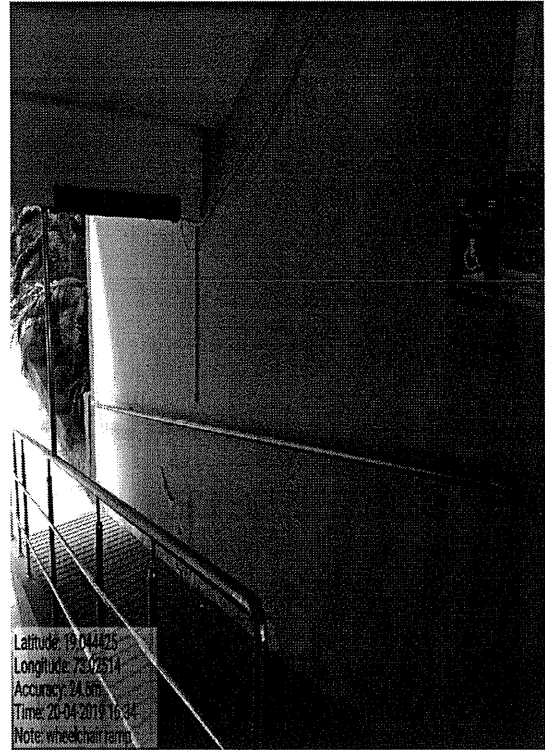
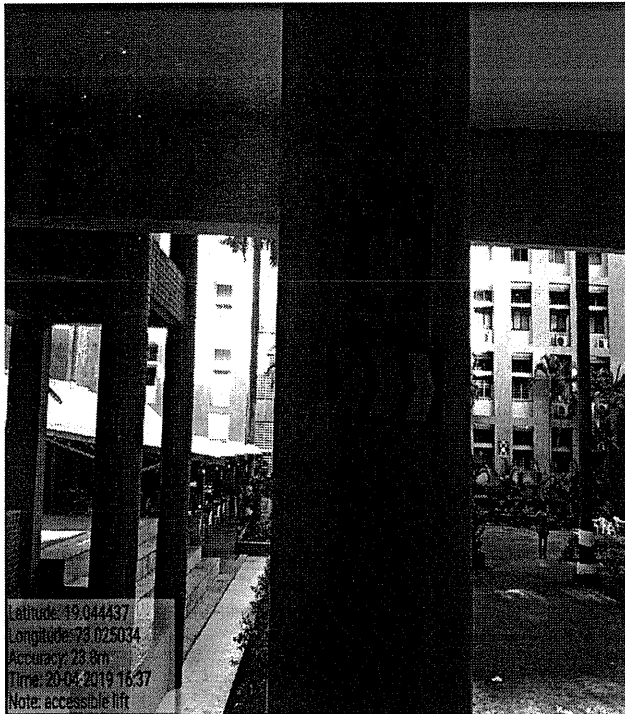
Autoclave



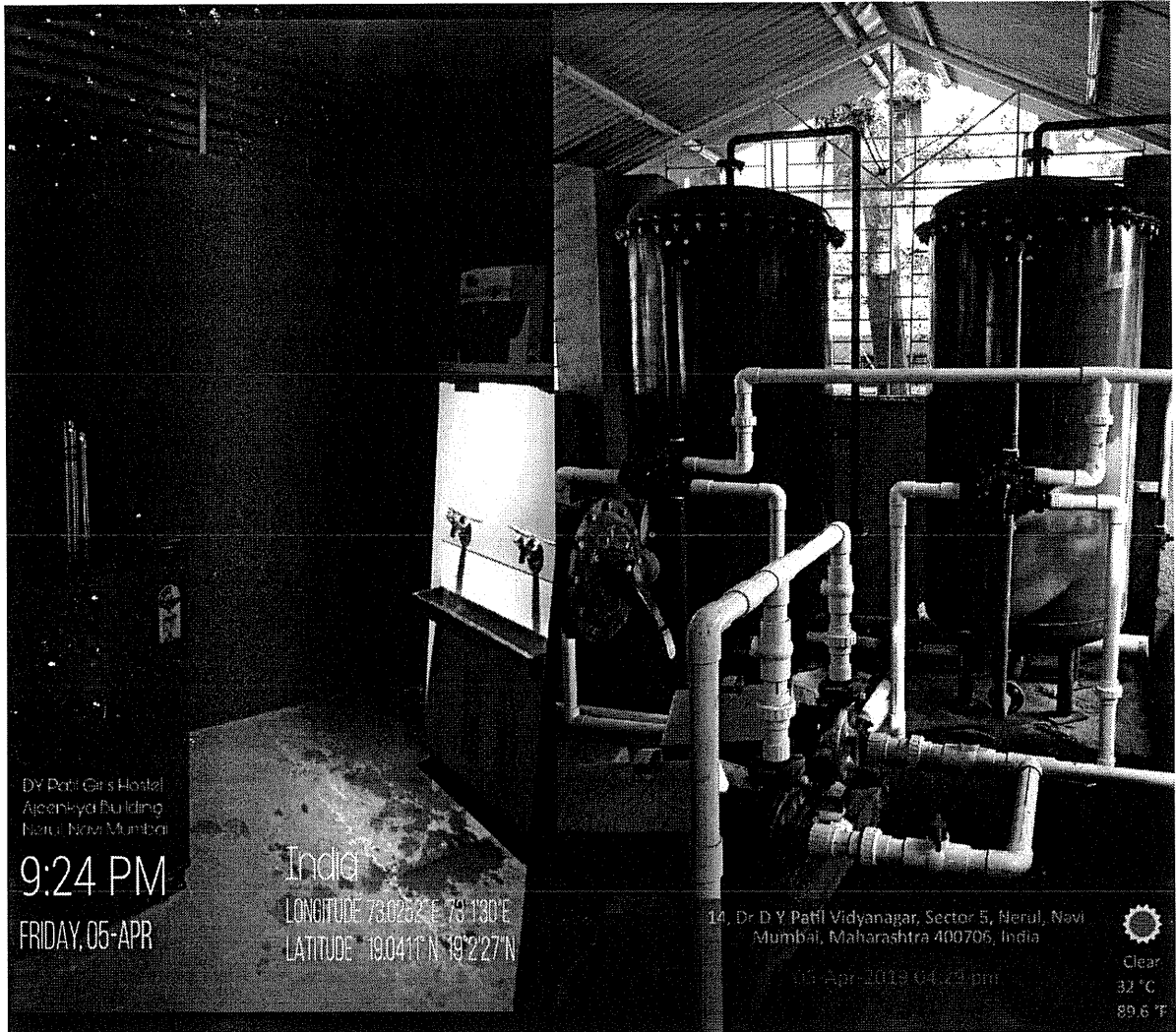
Solar Panels



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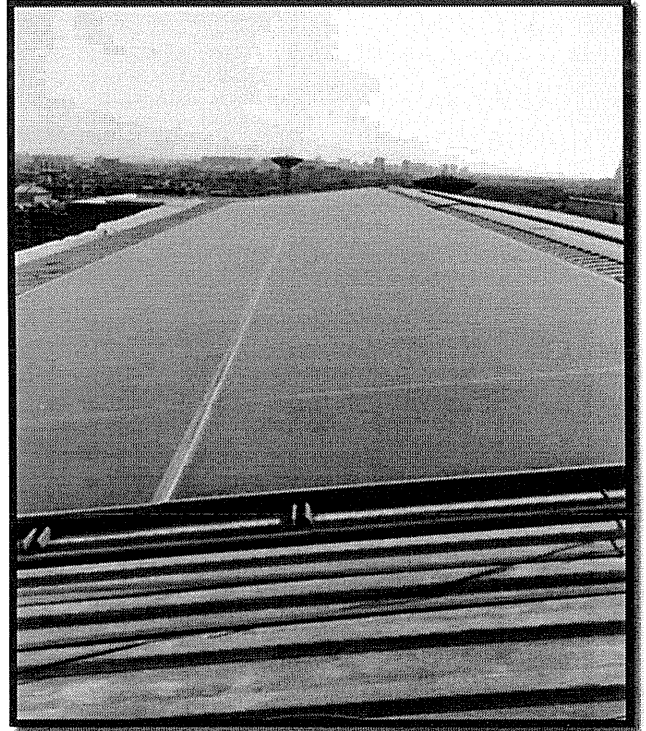
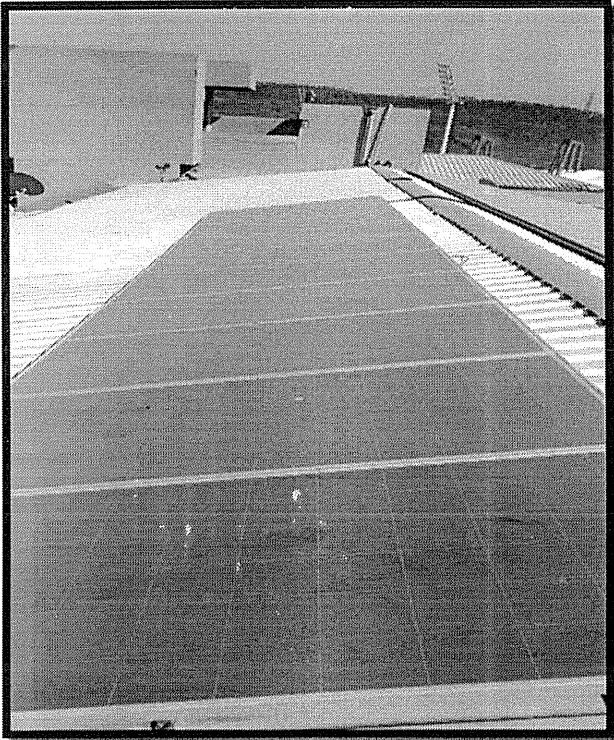
Water Cooler

Sewage Treatment Plant

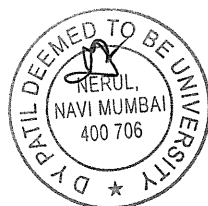
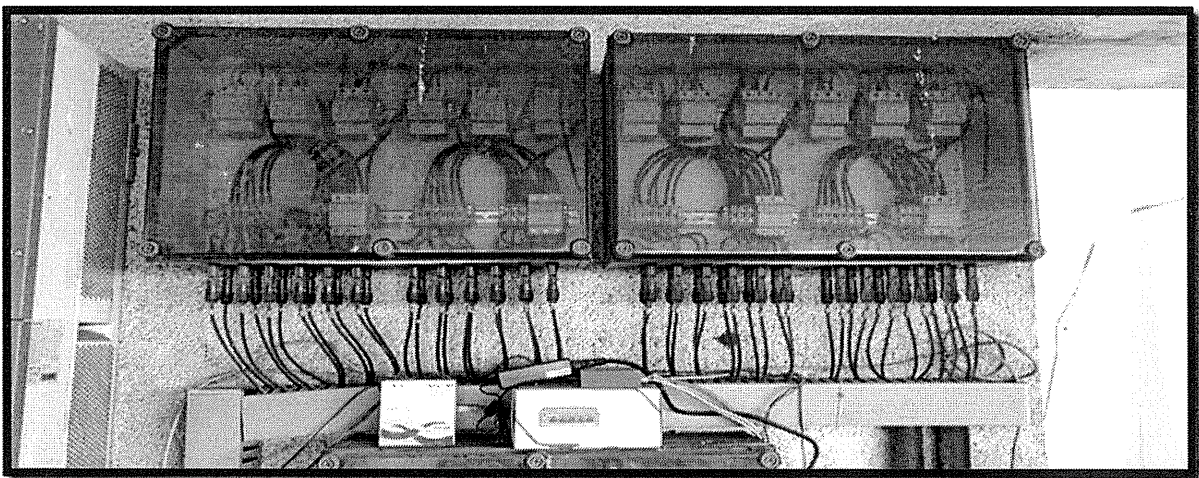


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Solar Panels



Solar Grid



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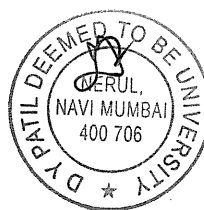
5.3 Green Campus

Open land	26 in acre
Area under green cover	18 in acre
No. of trees planted	37098 Nos

5.4 Plantation done till date- Please Refer Annexure- List of Plants

5.5 Recommendations

- ❖ It is appreciated that university has maintained good compliance level of its Environmental legal obligations whereas to strengthen the same and for better understanding of environmental obligations university shall arrange various seminars/ workshops on environmental obligations for its staff and students.
- ❖ University shall constitute environment cell or green cell and may appoint external agency for monitoring its environmental performance and compliance.
- ❖ Number of environmental, social activities to be increased so that future generation get involved in environmental safeguard
- ❖ Tree plantation, water harvesting practices may extend beyond campus level
- ❖ Phasing out of old non energy conversant equipment to be initiated
- ❖ Installation of solar power panel for energy generation
- ❖ Adopt an environment policy for the University
- ❖ While purchasing emphasis must be given on environmental impacts of product/ service
- ❖ Initiate tie-up for plastic waste disposal
- ❖ Ban entry of single use plastic in campus
- ❖ Start swacchh campaign / swachh department competition etc.



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CHAPTER – VI

EXIT MEETING

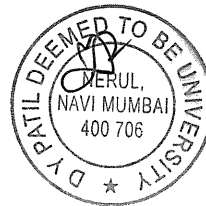
6.1 Exit Meeting

The exit meeting was conducted by the auditor Dr. Yogesh Kumar Upadhyay, wherein preliminary findings were discussed. Auditor also acknowledged cooperation of all stakeholders, sincere efforts taken for green campus and also requested Management to take actions on recommendations for larger goal of sustainable development.

6.2 Follow up plans

Green audits form a part of an on-going process. Auditor requested to communicate in case of any difficulties or designing policies or action plans.

6.3 Acknowledgement



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CHAPTER – VII

ANNEXURES

1. Annexures-1-STP Plant-ASP Enviro Engineers
2. Annexures-2-Solar Panels and Grid-7 Greens
3. Annexures-3-Environment clearance
4. Annexure-4-Biowaste Management
5. Annexures-5-Recognition of college
6. Filled questionnaire
7. Consent to Establish & Operate

Report accepted

Patil
(Yashwant Patil)
03.03.2020

