



SHARDA
UNIVERSITY
Beyond Boundaries



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



12.1 Responsible consumption and production

Sharda University is a quality conscious institution and focuses on sustainable environment incorporating the process and practices supporting the responsible consumption and production in the campus. The University has installed automated devices to optimize the energy and water consumption. The stakeholders including students, faculty and staff are motivated to reduce the consumption by intelligent use of instruments, lights, fans, ACs, etc. during their stay in the campus or in hostels. Plantation and landscape maintenance helps to have the clean and green campus bringing the temperature down and dust free air in the campus enabling the reduced requirement of ACs during summer. Similar other practices, like smart use of state-of-the-art Labs, solar and biogas energy generation, STPs, anti-smog gun, etc. maintains the culture of responsible consumption and production in the University campus.

Publisher Count of Publication

Sharda University regularly participates in research work and publication of research findings in the form of research articles in reputed journals. The faculty and students are provided with state-of-the-art laboratories and essential facilities to research at global level in scientific, social sciences, education, medical, nursing and agricultural sciences. The following numbers of publications are distributed across the various prestigious journals.

Publisher	Count of Publication
PubMed	149
SCI	130
Scopus	2435
UGC care	302
Web of Science	402
Other	167
Total	3585

12.1 Research on responsible consumption and production

University Practices

In the 63 acres' area of Sharda University about 20,000 humans including students, faculty, staff and visitors in day time interact for various activities, like studies, lab experiments, vendor services, and supporting services, etc. University is an institution of higher learning and responsible for social change and orientation to impact local and global environment. Since its inception the University has grown as global institution in NCR region offering the 130+ programme to the national and international students from 95+ countries from the world. Hence, for the University it is essential to adopt and promote the green practices for a sustainable environment.

Reduced use of traditional electricity

The University regularly arranges to reduce the consumption of electricity for lighting, air-conditioning, lifts, water mining, instruments and other gadgets through various automated devices and strategies as follows:

By installation of smart LED lights, BLDC fans, and Star ranked ACs the consumption of energy is significantly controlled. Practice behaviour that while leaving the room for more than five minutes it is essential to switch off the lights and fans and if more than 30 min then switch off the ACs as well helps to reduce the energy consumption in the campus.

Installation of motion sensors in common areas and washrooms throughout the campus to reduce the consumption of energy when the area is not occupied for more than three minutes. This furthermore saves the ample amount of energy.

Installation of time-controlled switch for street lights: Time-controlled switch for street lights helps to switch off the street lights in the campus while there is no need of light on the roads. This practice supports to reduce the significant amount of consumption of energy.

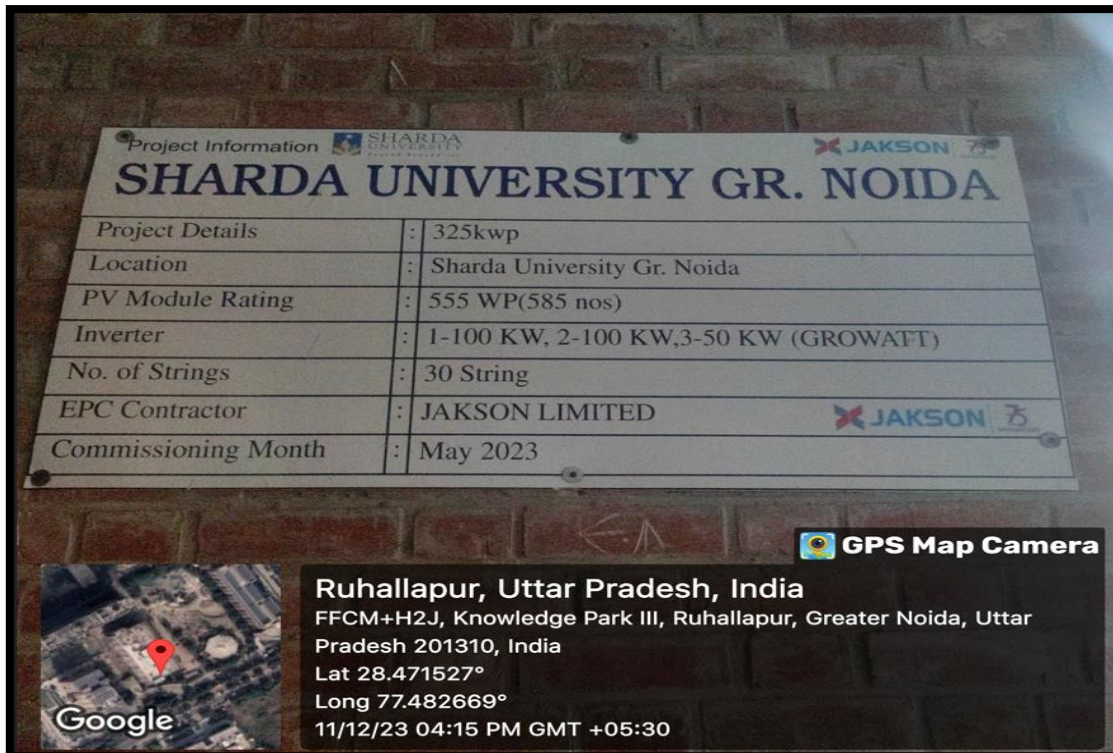
Innovation and Increase in generation and utilization of renewable energy

Sharda University has installed solar system on the top roof of its every building to support the energy demand of the building. Till now University has successfully enabled the **1.54MW solar energy plant** which helps in day-time to save the energy from the grid. The University could win the first position award for energy conservation in a state level competition organized by Uttar Pradesh Government. In fact, the University is in the process to install more solar plant for its new building of cancer hospital so that energy demand can be managed smartly to reduce the consumption of traditional energy.

Bird-eye view of solar system in the campus



Recent addition of Solar system in the campus



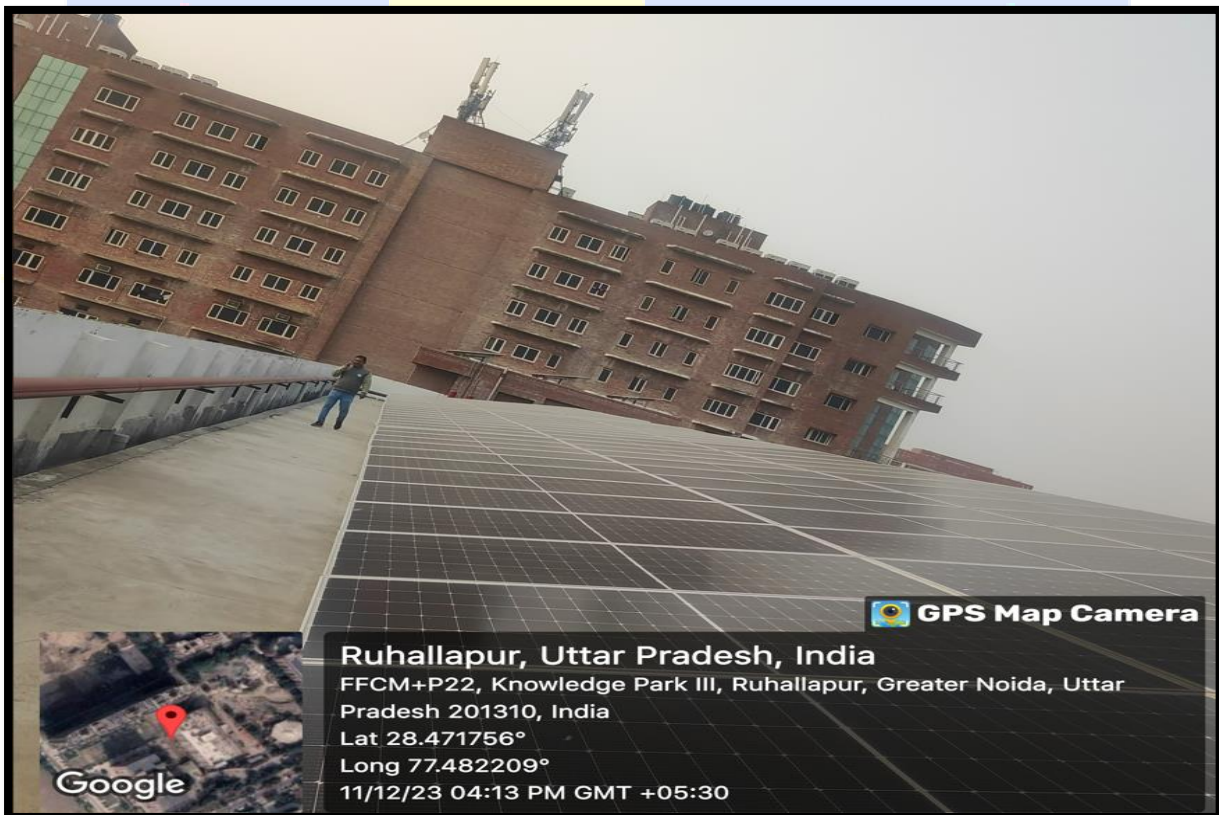
Project Information	
SHARDA UNIVERSITY GR. NOIDA	
Project Details	: 325kwp
Location	: Sharda University Gr. Noida
PV Module Rating	: 555 WP(585 nos)
Inverter	: 1-100 KW, 2-100 KW, 3-50 KW (GROWATT)
No. of Strings	: 30 String
EPC Contractor	: JAKSON LIMITED
Commissioning Month	: May 2023

GPS Map Camera

Ruhallapur, Uttar Pradesh, India
FFCM+H2J, Knowledge Park III, Ruhallapur, Greater Noida, Uttar Pradesh 201310, India
Lat 28.471527°
Long 77.482669°
11/12/23 04:15 PM GMT +05:30

Google

Solar system on multi-level parking in the campus



GPS Map Camera

Ruhallapur, Uttar Pradesh, India
FFCM+P22, Knowledge Park III, Ruhallapur, Greater Noida, Uttar Pradesh 201310, India
Lat 28.471756°
Long 77.482209°
11/12/23 04:13 PM GMT +05:30

Google

Solar system on multi-level parking in the campus



Sensor-based energy conservation

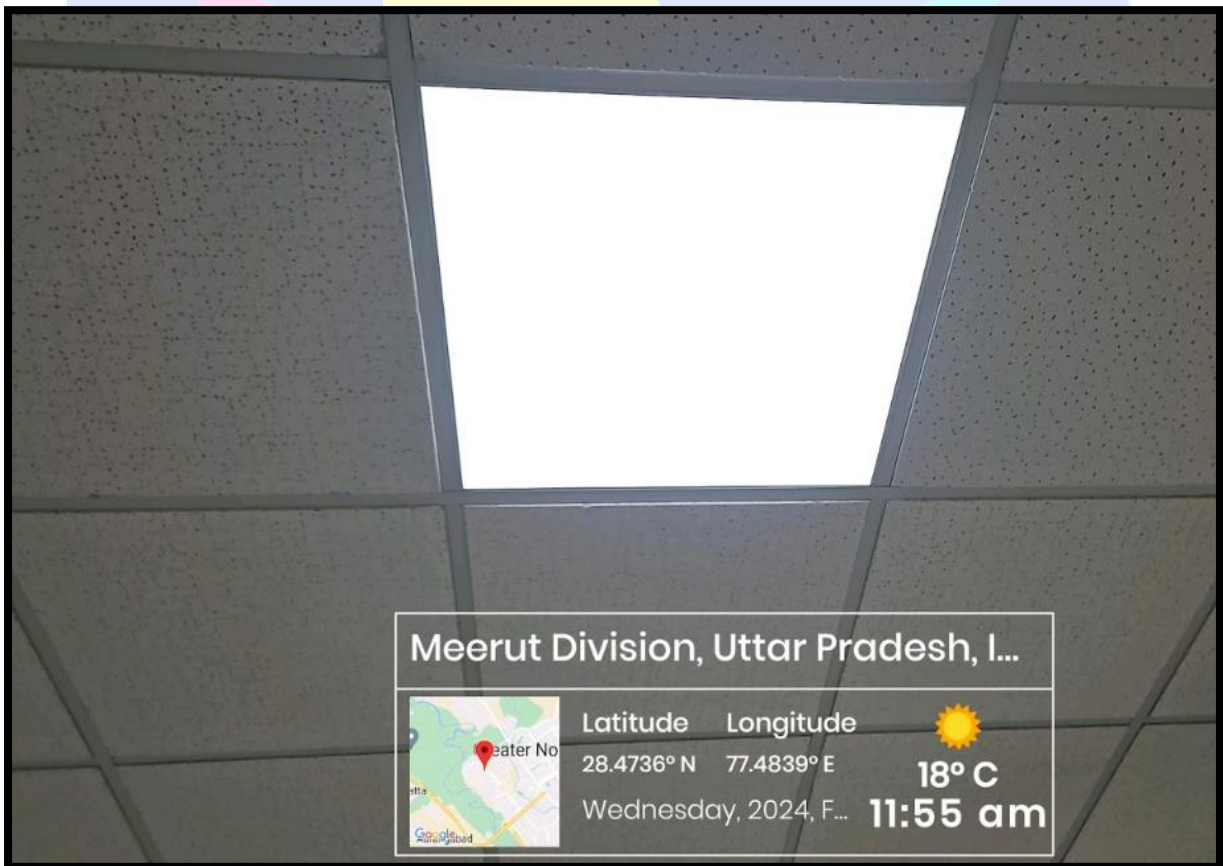


SHARDA UNIVERSITY

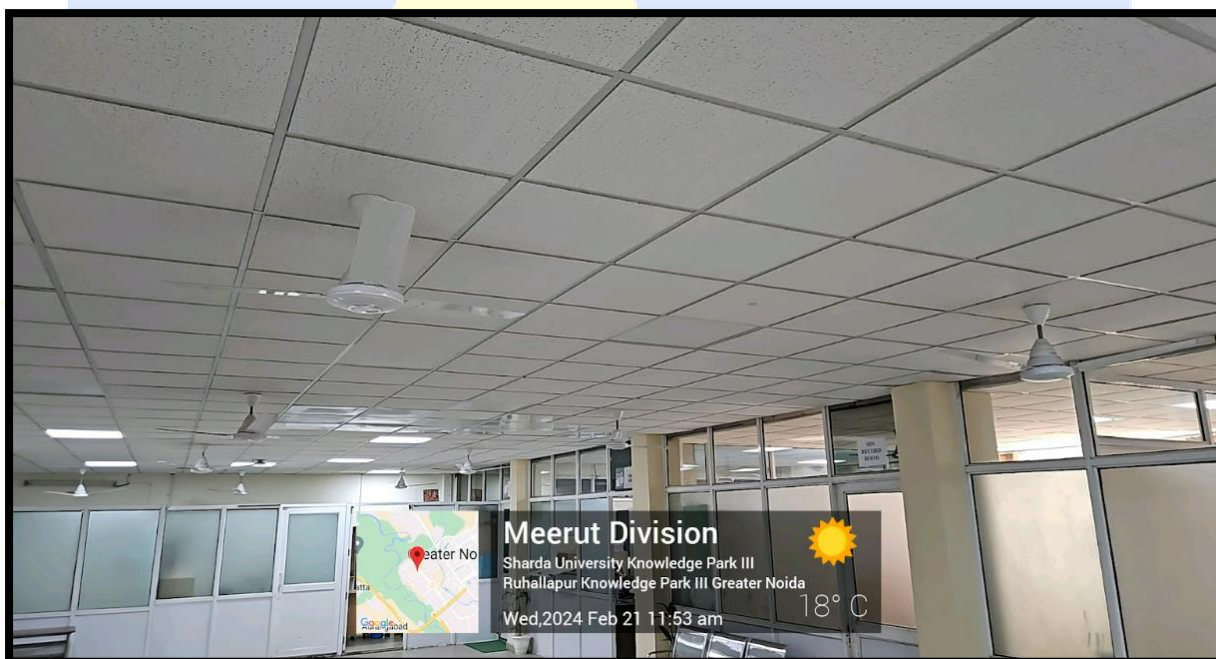
List of motion detector sensors to control the lights automatically

S. No.	Location	Number of sensors
1	SDS(Dental) Block-21	39
2	Block 1	24
3	Block 2	31
4	Block 3	24
5	Block 4	26
6	Block 7	27
7	Medical Block	65
8	Library	173
9	F-Block	50
10	E-Block	29
11	F-Block (Blood Bank)	21
12	D- Block	10
13	A-Block	10
14	B-Block	8
Total Nos of Sensors =		537

Use of LED bulbs/ BLDC Fans and power-efficient equipment



Use of LED bulbs/ BLDC Fans and power-efficient equipment





CENTER OF EXCELLENCE ON SOLAR CELLS & RENEWABLE ENERGY



Gautam Buddh Nagar, Uttar Pradesh, India



Longitude Latitude
77.4845° E 28.4728° N

27° C

Reduction in use of water

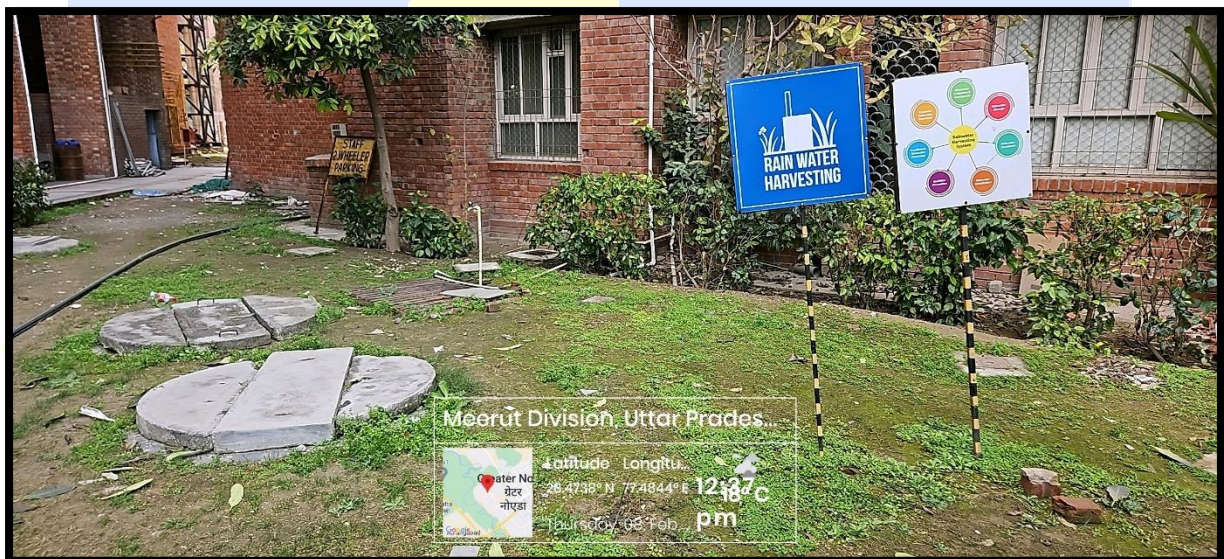
Water is most important natural resource for sustaining the life on earth. A lot of water is wasted due to improper usage patterns and inefficient dispensing and storage systems. The following steps are will be taken to reduce the quantity of water used:

- Sprinkler and drip irrigation systems are used irrigation of trees/plants/crops/lawns etc., wherever possible.
- Water efficient taps/faucets/dispensers will be fitted and used to gradually replace existing ones if inefficient.
- Open water storage and channel systems will be avoided. Waterless urinals will be installed in new buildings.

Collection/Recycling/reuse of waste water

Sharda University has got 35 rain-water harvesting facilities in most buildings and also collects waste water that is treated in a STP plant of 400KLD capacity. The treated water from the STP is used for irrigation and plantation purposes. This practice continues and steps are taken to further improve the collection and treatment of waste water and its reuse by installing another 800KLD STP facility.

Rain Water Harvesting Pits



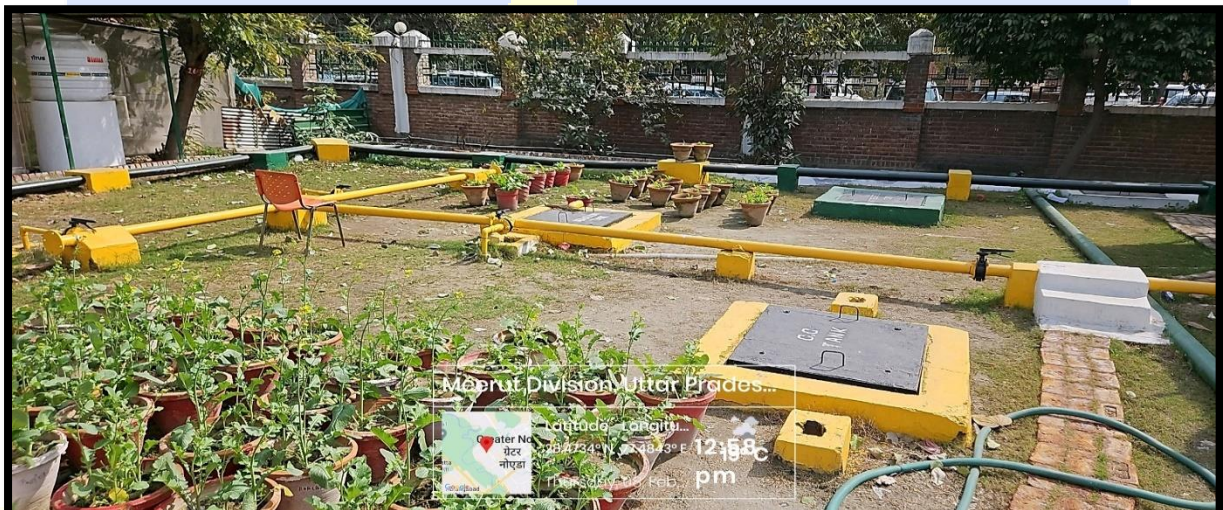
Bore Well Facility among Harvesting Pits



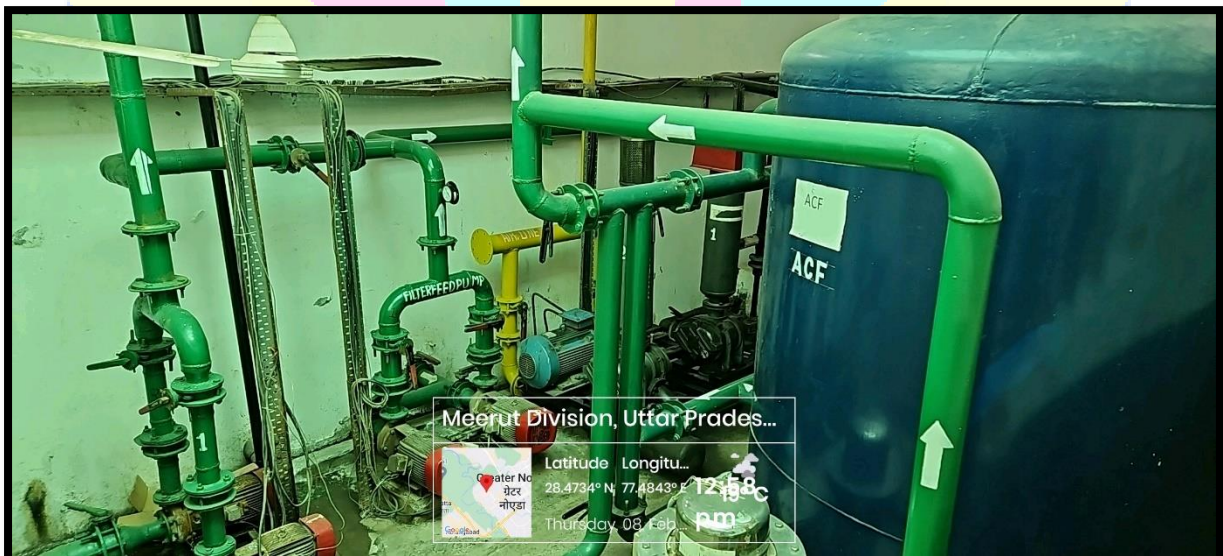
Liquid Waste Management: STP Facility in the University



STP Plant Area



STP Pumps



Waste Recycling System



STP Enhancement and its AMC

Purchase Order

Page: 1 of 1

Sharda University

Sharda University
Plot No. 32-34, Knowledge Park III
Greater Noida UP 201306
India

Approved	Dispatch Via Email	
Purchase Order	Date	Revision
SHSUN-0000024531	11-02-2023	
Payment Terms	Freight Terms	Ship Via
Net 30	Destination	Common Carrier
Buyer	Phone	Currency
Sharda University		INR

Supplier: 0000010959
Aplinka Solutions &
Technologies Pvt. Lt
A-48, Ground Floor, Sector-
64
Noida UP 201301
India

Ship To: Sharda University
Plot No. 32-34,
Knowledge Park III
Greater Noida UP
201306
India

Attention: Not Specified

Bill To: Sharda University
Plot No. 32-34,
Knowledge Park III
Greater Noida UP
201306
India

Line- Sch	Item/Description	Tax Exempt ID: Mfg ID	Quantity	UOM	Replenishment Option: Standard PO Price	Extended Amt	Due Date
1 - 1	AMC of STP		3.00	MNO	100000.00	300000.00	11/02/2023
Schedule Total						300000.00	

AMC for STP 800KLD at MLCP Building for normal operations.
As Scheduled 24 hrs. Of operation with No. of
operators 3 no's of Skilled worker and 1 No.
Helper.

Item Total 300000.00
0000000000000012261

TERMS & CONDITIONS:

- 1- All disputes are subject to Gautam Budh Nagar Jurisdiction only.
- 2- Inspection shall be carried out at our premises and goods not as per specification shall be rejected
- 3- Rejected material shall be collected by the vendors within 7 days. Failing which the same shall be Dispatched to you at you cost and risk.
- 4- No responsibility shall be taken for the rejected material during storage at our end.
- 5- All material shall accompany proper test certificate / warranty cards / operation manual / Inspection Report etc., wherever applicable.
- 6- Your final Invoice should be as per our order.
 - Item should be as per Standard and agreed specification.
 - Tax: Extra Applicable
 - Duration: 25 October 2023 to 24 January 2024.
 - GST No. 09AAATS5294C3ZB (Sharda Educational Trust)
 - For: AMC of 800KLD STP MLCP Building

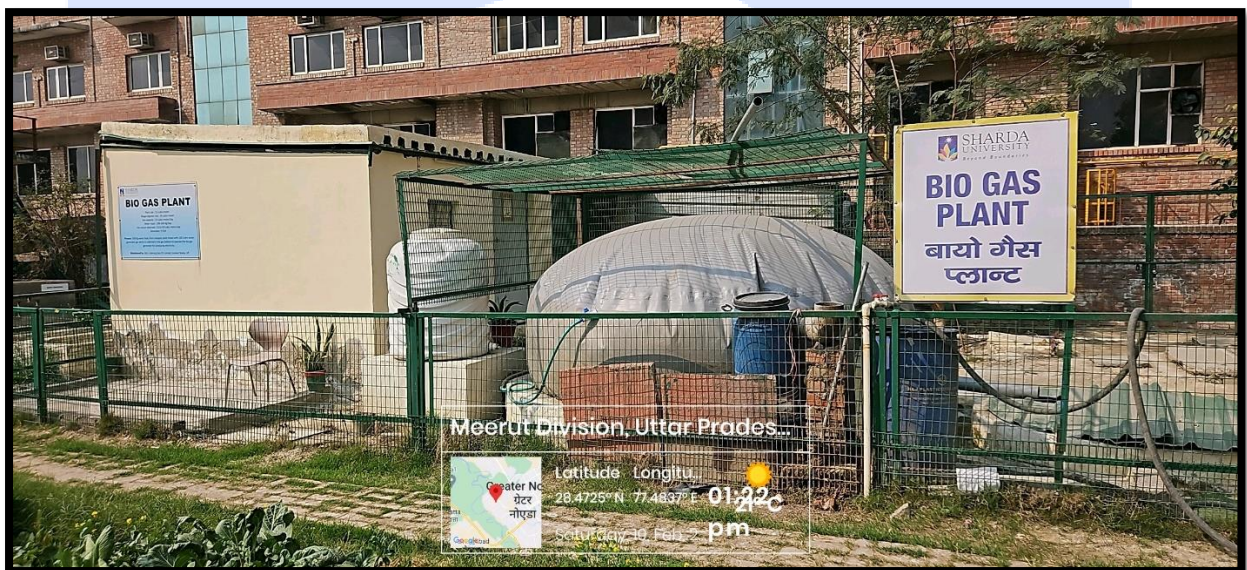
Total PO Amount 300000.00

Reduction in Generation of Biodegradable and Non-Biodegradable Solid Waste

The University generates solid waste of various kinds from the residences, hostels, offices, laboratories, canteens, hospital etc. The University takes steps to reduce the generation of solid waste.

Biodegradable waste is composted through a microbial process. Four different types of composting system are available on campus. A biogas plant is also functional. Reduction in the use of mineral fuels and increased use of electric/solar powered motor vehicles, car-pools and bicycles.

5KV Biogas plant of the University



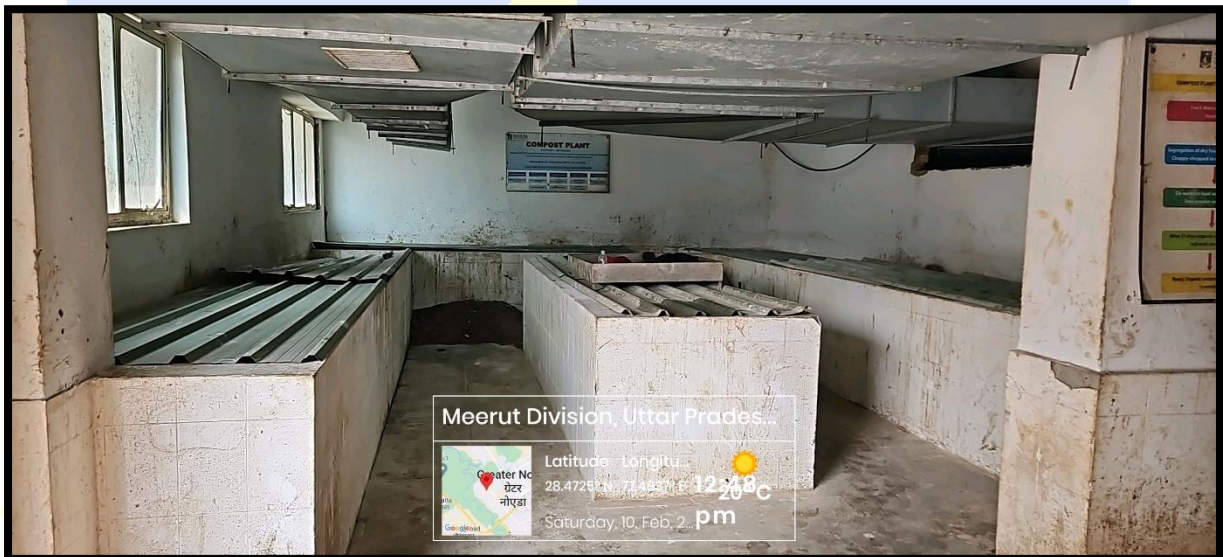
Solid Waste Dump Yard in the University



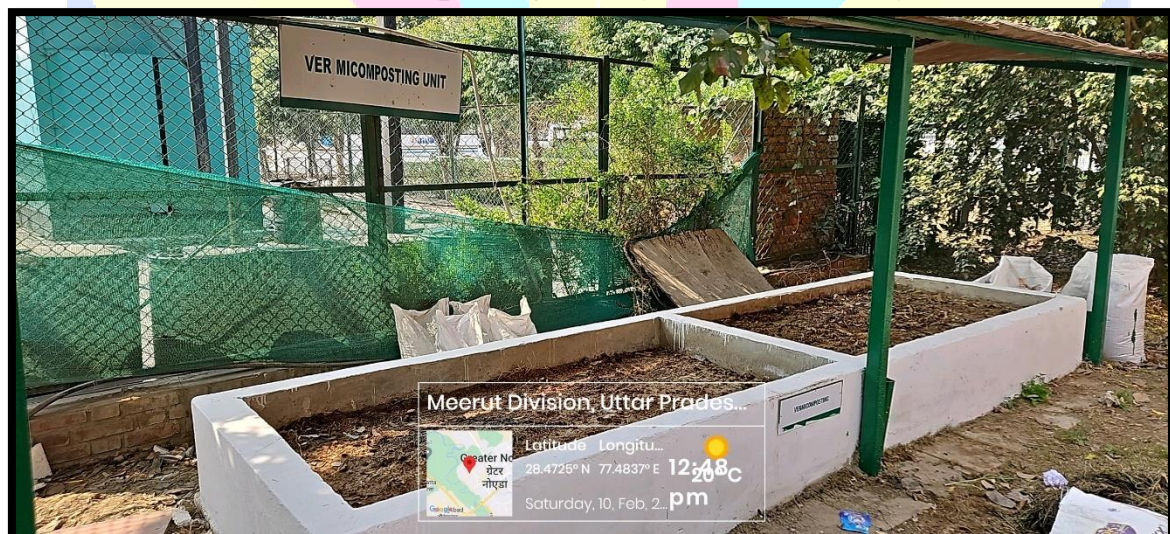
Separate Litter Bins in the Campus

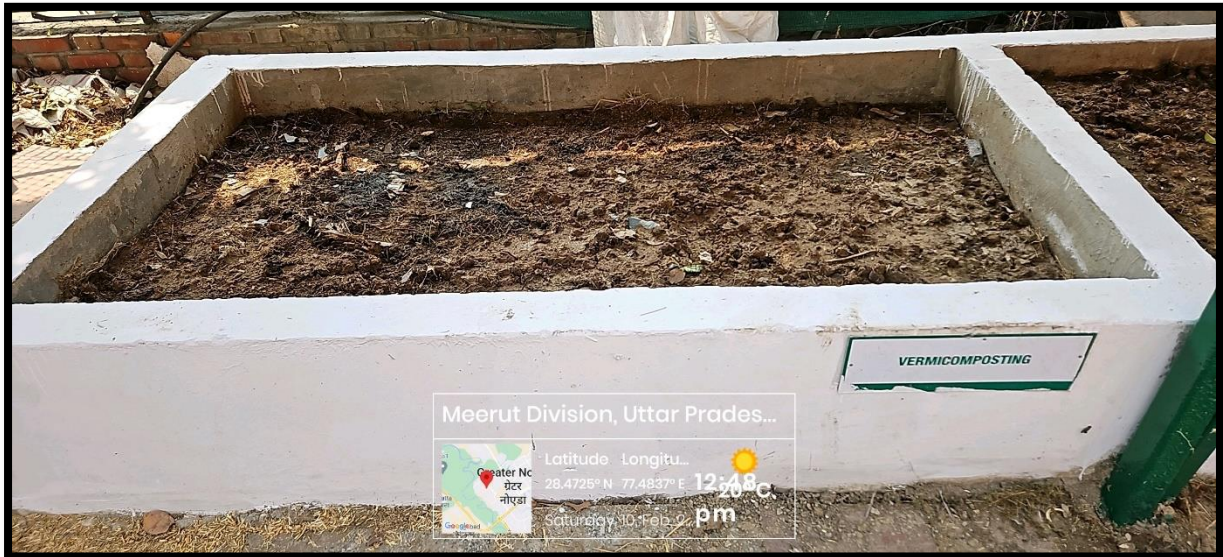


Compost plant in the University



Vermicomposting facility in the University



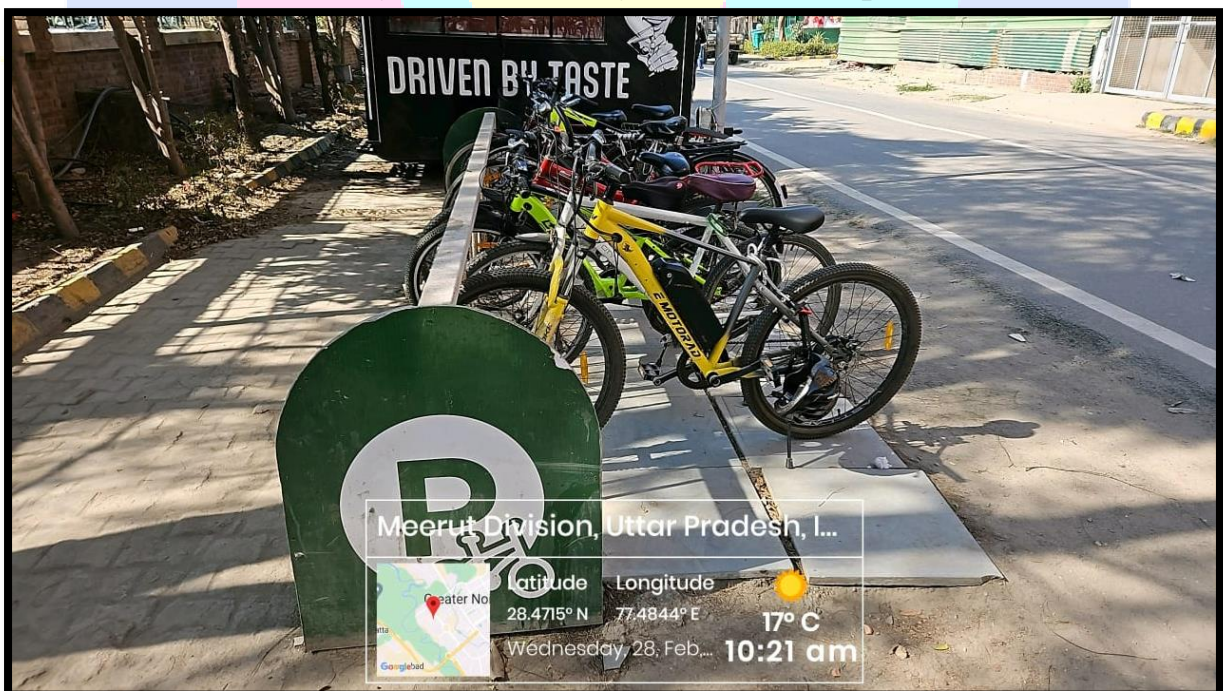


Recovery and Reuse of Paper/Wood/Metal Waste:

The University offices, faculty and students and on-campus businesses use large amounts of paper. Some of it is not usable as paper, but large amounts of unused paper is also discarded. The University will take steps to recover unused paper and recycle the used paper for product development for educational, artistic or commercial purposes.

- Reduction in the use of mineral fuels
- Increased use of electric powered motor vehicles,
- Car-pools
- Bicycles

Bicycle Stand for Cycles in the Campus



Safer Disposal of Electronic Waste after Extraction of Useful Components

Electronic goods in all spheres of life, especially in communications, office equipment, laboratory instruments, televisions, computers, etc. are used. Large amounts plastic, Bakelite, integrated circuits, glass, transistors etc. are generated with discarded with old and defective gadgetry

Promotion of Awareness of Green Practices and Their Importance among Students and Community

Active student groups in each School and Hostels are constituted and coordinated by designated faculty. This activity is linked to the NSS as “Eco-Task Force”.

Creative Use of Solid Waste for Artistic and Architectural Designing

The students in general and those in the School of Arts and Design are encouraged to use paper pulp, card boards, old wood, metal etc. to create art pieces based on themes related to various aspects of different States of India and other countries.

No-Noise Zone

The University has extensive teaching zones, laboratories, offices and hospital areas, all of which are intolerant of noise. Therefore, the campus has been declared No-Noise Zone and signs of “No Horn” and “Silence Zone” are placed strategically.

No-Smoking Zone

The University is a public place and legally smoking tobacco is banned as per law. “No Smoking” notices have been placed at strategic locations to implement among the stakeholders.

Reduction in Air Pollution

- i. There is a ban on the burning of any materials including plant dry matter that emit smoke.
- ii. The dependence on diesel generators is minimized.
- iii. Dust Management - Covers and water spray

AQI Center in the Campus



Introduction of Green-Building Concept in Existing and New Buildings

In the campus most of the existing buildings of the University have large windows and corridor and have large verandahs and open spaces. Thus, the buildings are well ventilated and have good amount of natural lighting, with some exceptions and there is no need during sunlight in day time.

Aware for Reduced Consumption through Community Courses

The University highlights various green practices and their importance for the environment and conservation of natural resources through different courses in academic programmes for students. The Community Connect Course is used to enable the students to interact with community and to notice the sources of various kinds of pollution so as to suggest the systems for their management. In addition, students learn to raise the awareness among people in community for pollution control methods and importance of clean and green environment.

Awareness and Teaching-Learning Crop Area in the University campus

The University has its own crop area under the leadership of its school of Agricultural Sciences where students engage in experiments and innovation for finding out the methods to improve the crops quality and environment friendly agricultural practices.

1. Mandela field= 2465.3 m²
2. Crop Cafeteria Opposite Mushroom house= 3448.6 m²

Activities with Students and Faculty Members

- Use of low cost technologies (polyhouse, micro-irrigation system, biofertilizers)
- Utilization of agricultural wastes for value addition (Mushroom cultivation) and vermicomposting.
- Integration of Farming System
- Analysis of nitrogen use efficiency of rice genotypes
- Crop diversification for food security and sustainability, Collection, cultivation and maintenance of Germplasm (cereals- wheat, rice, maize; vegetables; oil seeds – mustard, ornamentals etc.), Seasonal vegetable production and sale.
- Strengthening of molecular biology and biotechnology laboratories
- Up gradation of tissue culture laboratory and hydroponic facility for indigenous and exotic vegetables
- Trainings for skill enhancement and entrepreneurship among students

Events

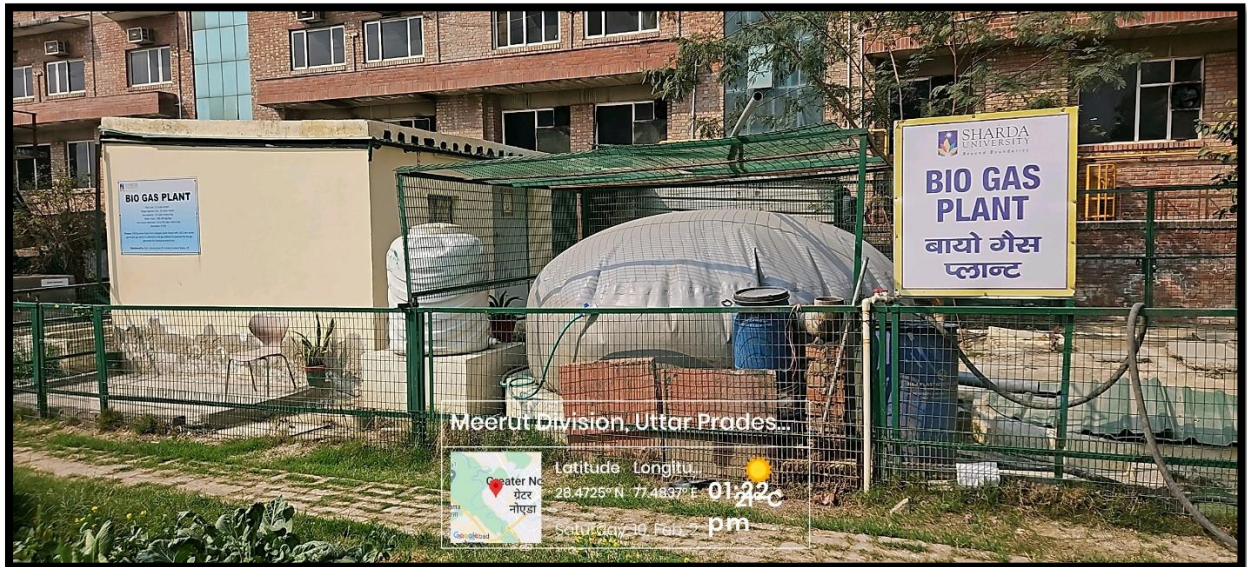
- Community connect visits and Expert Talks and knowledge sharing
- Conferences for students, researchers, entrepreneurs and farmers for knowledge and skill improvement.

Biogas Plant

A biogas power plant is installed for usage of renewable energy. The 15 cubic meter biogas plant is set up behind Mandela Hostel in the campus. Food waste of 100kgs approx per day drawn from Mess canteens and added with cow dung water mixture is used as raw material. The raw material content takes 3-4 days for biogas formation which is used to regenerate approx. 5KVA electric energy for street lights. Thus, food waste is converted into a resource

and creating value in the form of electric power generation. The plant is utilizing the recent technology to generate the efficient energy.

5KV Biogas plant of the University



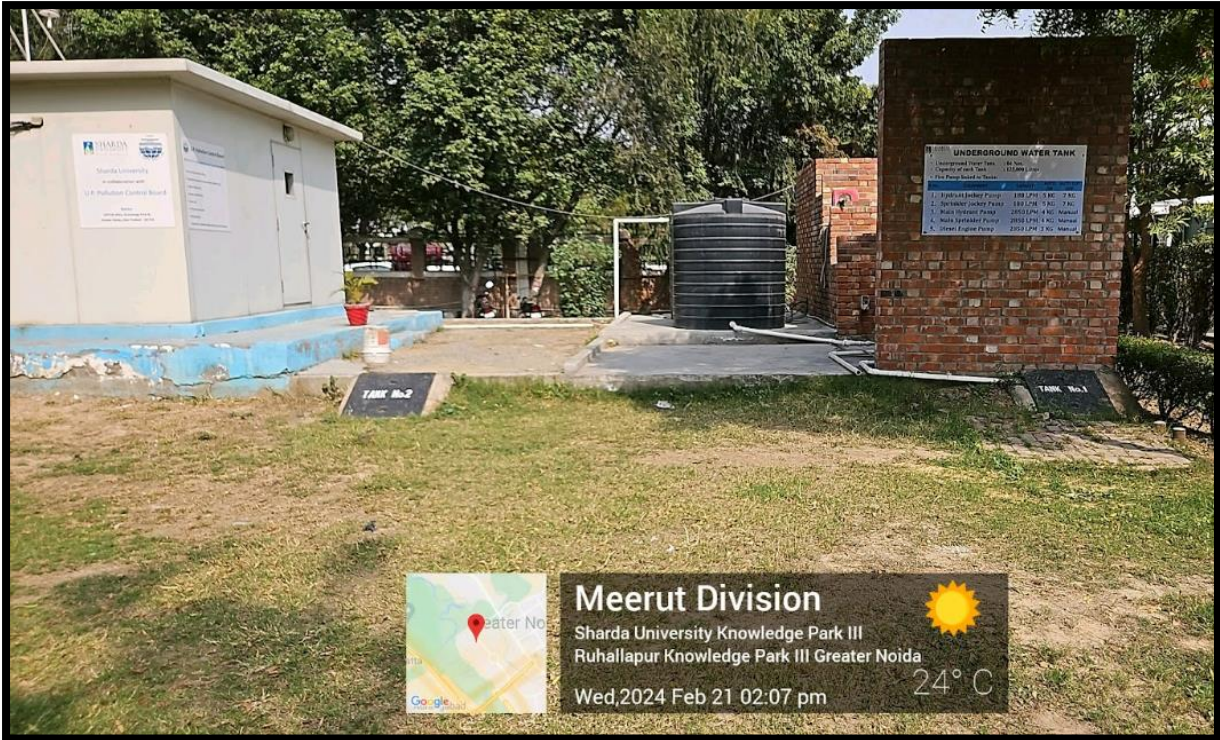
Maintenance of Water Bodies

Sharda University maintains a water body near block 7 to conserve the rain water in a natural way. Presently the capacity of water body to conserve the water is 75KLD. This conserved water is useful to multiple activities such as in agriculture and plantation and recharge of the ground water level. The University intends to further extend this facility across the campus. Also underground water tanks are being maintained in the campus for the optimum utilization of water.

(Waterbody to conserve the water)



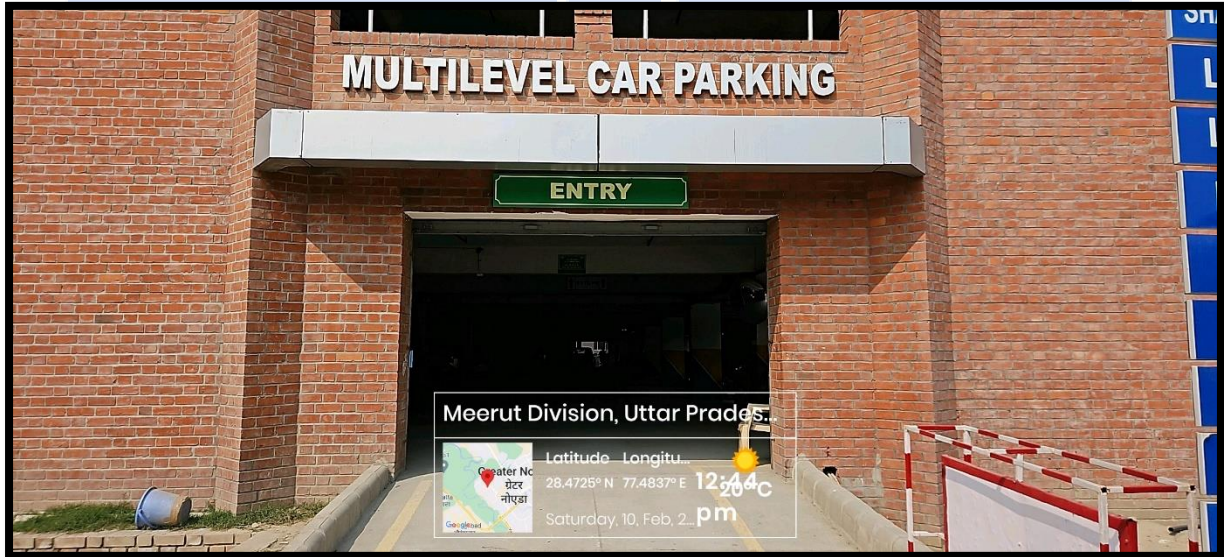
Underground Water Tanks Facility



Multi-level Car Parking to Reduce Vehicles Movement

Sharda University has developed a multi-level car parking to organize the 800+ four-wheelers and 4000+ two-wheelers at one place to support the clean and green environment in the campus. All the two-wheelers and four-wheelers are parked in this parking and there is reduced movement of vehicles in the campus reducing the amount of dust particles in the air.

Multi-level car parking facility to restrict movement of vehicles



ISO Certification

Sharda University regularly follow the audit procedure for energy, environment and green campus. In this process the University maintains the quality standards and comply with the ISO regulations of government approved agencies. The University has active ISO 14001:2015 and ISO 50001:2018 in its records.





CERTIFICATE

This is to Certify that
Energy Management Systems
of

SHARDA UNIVERSITY

KNOWLEDGE PARK -3, GREATER NOIDA -201310, U.P., INDIA

has been independently assessed by DBS
and is compliant with the requirement of:

ISO 50001:2018

For the following scope of activities:

DEVELOPMENT OF ENERGY HARVESTING MATERIALS, RESEARCH AND
DEVELOPMENT ON CLEAN/GREEN ENERGY SOURCES, ENERGY
CONSERVATION, WASTE TO WEALTH

Certificate Number: 2022042713

Date of Initial Registration:	27th April 2022
Date of this Certificate:	27th April 2022
Certificate Expiry:	26th April 2025
Recertification Due:	26th April 2025

This Certificate is property of DBS Certifications and remains valid
subject to satisfactory surveillance audits

Head of Certification



The certificate remains the property of DBS Certifications Private Limited, to whom it must be returned upon request.

DBS CERTIFICATIONS PVT. LTD.

142, 1st Floor, Avatar Enclave, Paschim Vihar, Delhi-110063, (INDIA) info@dbscertification.com, www.dbscertification.com

ACCREDITED BY:

UK Accrediting Forum Limited, UK (www.ukaf.org.uk)

5 Jupiter House, Calveys Park, Aldermaston, Reading Berkshire RG7 8NN UK.

अमृता सोनी

आई.ए.एस.
निदेशक



उ.प्र. नवीन एवं नवीकरणीय ऊर्जा विकास अभिकरण
(अतिरिक्त ऊर्जा स्रोत विभाग, उत्तर प्रदेश शासन)
विनूति खण्ड, गौतमी नगर, लखनऊ - 226 010
दूरभाष: 91-0522-2720652 फ़ैक्स: 91-0522-2720779

सेवा में,
रजिस्टार,
शारदा यूनिवर्सिटी,
ग्रेटर नोएडा।

महोदय,

आप द्वारा विशेष रुचि लेते हुए वेबसाइट www.upsavesenergy.com पर "एनर्जी सेविंग कैम्पेन" के अन्तर्गत अपने प्रतिष्ठान का पंजीकरण कराया गया एवं अपने प्रतिष्ठान के कार्मिकों को ऊर्जा संरक्षण के प्रति जागरूक करते हुए अपने प्रतिष्ठान में ऊर्जा संरक्षण से संबंधित विभिन्न गतिविधियाँ संचालित की गई। प्रदेश में ऊर्जा संरक्षण हेतु अभिकरण के प्रयासों को सफल बनाने में आपके प्रतिष्ठान का सहयोग अत्यंत प्रशंसनीय है।

मुझे यह सूचित करते हुए अत्यंत हर्ष हो रहा है कि उक्त कैम्पेन के अन्तर्गत वर्ष 2018 हेतु निर्धारित स्कोर कार्ड पर आपके प्रतिष्ठान द्वारा अर्जित किए गए अंकों के आधार पर प्रदेश में प्रथम स्थान प्राप्त हुआ है।

उक्त हेतु अभिकरण द्वारा निकट भविष्य में आपके प्रतिष्ठान को पुरस्कृत करते हुए सम्मानित किया जाएगा जिसके लिए पृथक से सूचित किया जाएगा। मुझे पूर्ण विश्वास है कि भविष्य में भी आपके प्रतिष्ठान द्वारा उत्तर प्रदेश सरकार के ऊर्जा संरक्षण अभियान में निरन्तर सहयोग किया जाता रहेगा।

मैं आपकी और आपके प्रतिष्ठान की निरन्तर प्रगति की कामना करती हूँ।

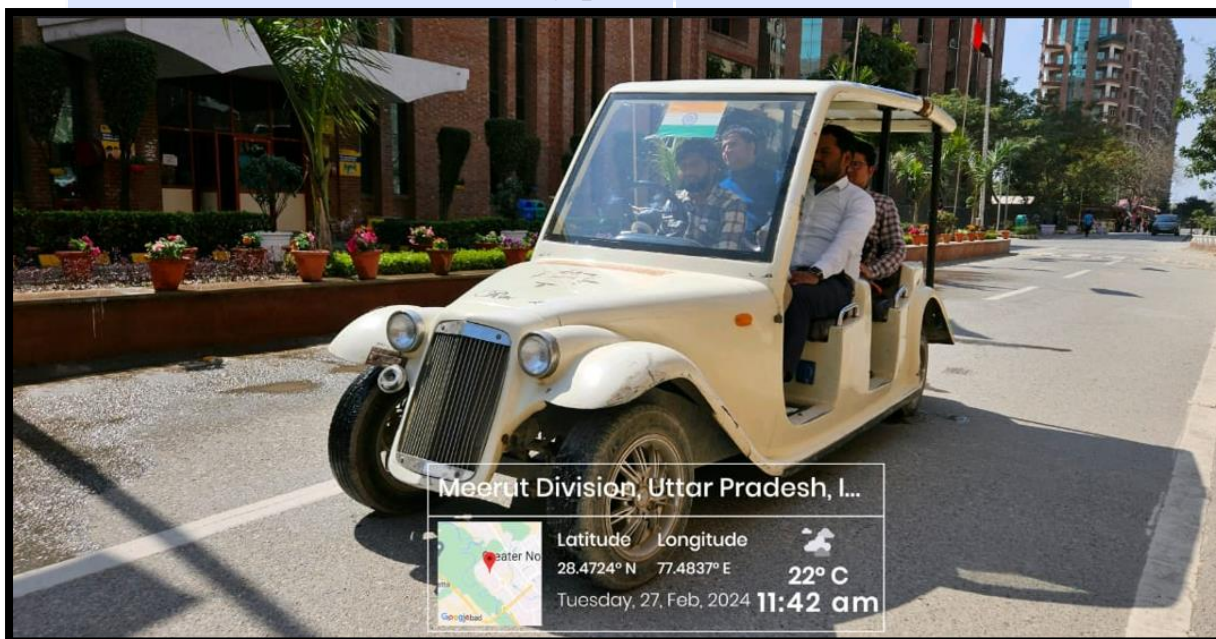
भवदीया

(अमृता सोनी)

Battery Operated Vehicles in the Campus

Further to support the clean and green environment the University uses the CNG operated buses and also the battery operated vehicles in the campus. Battery operated vehicles for internal movements and to be used by students and faculty and visitors.

Use of Battery-powered Vehicles



Hazardous Materials MoUs

The University maintains the quality standards by following the guidelines issued by government in connection with hazardous waste materials in the laboratories. There are awareness signboard and display chart, process chart inside the laboratory for students and users to work carefully. The University also continue with MoU with government approved agency for scientific management of hazardous waste in the campus.

MoU for Hazardous waste management services

INDIA NON JUDICIAL Government of Uttar Pradesh e-Stamp	
Certificate No.	: IN-UP99634171712767U
Certificate Issued Date	: 19-Sep-2022 01:53 PM
Account Reference	: NEWIMPACC (SV)/ up14041904/ GAUTAMBUDDH NAGAR 2/ UP-GBN
Unique Doc. Reference	: SUBIN-UPUP1404190491969869001357U
Purchased by	: SHARDA UNIVERSITY
Description of Document	: Article 5 Agreement or Memorandum of an agreement
Property Description	: Not Applicable
Consideration Price (Rs.)	:
First Party	: SHARDA UNIVERSITY
Second Party	: MS Bharat Oil and Waste Management Ltd
Stamp Duty Paid By	: SHARDA UNIVERSITY
Stamp Duty Amount(Rs.)	: 100 (One Hundred only)

सत्यमेव जयते

Please write or type below this line

*This Agreement is made on 19th September
b/w Sharda education trust and Bharat
oil & waste management ltd for
H/w & ewaste disposal/ recycle.*

NOTARY
Vinod Kumar Sharma
Notary (Advocate)
Gautam Buddh Nagar
Regd. No. 2874
GOVT OF INDIA

NOTARY
Vinod Kumar Sharma
Notary (Advocate)
Gautam Buddh Nagar
Regd. No. 2874
GOVT OF INDIA

For Bharat Oil & Waste Management Ltd.

[Signature]
Director

Registrar
Sharda University
Plot No. 32,34, Knowledge Park-III
Greater Noida - 201310 (U.P.)

Statutory Affidavit
1. The authenticity of this e-Stamp certificate is available at www.shardastamp.org or using e-Stamp Mobile App of Stock Holding Corporation of India Ltd.
2. The onus of checking the legitimacy is on the users of the certificate.
3. In case of any discrepancy please inform the Competent Authority.

AGREEMENT

This Agreement is made and executed at Greater Noida on this 19th day of September 2022.

Sharda University Sponsored by Sharda Education Trust, India, having its address at **Plot No 32, 34, Knowledge Park III, Greater Noida, Gautam Buddha Nagar, Uttar Pradesh, 201306** (constituted under an act of State Legislature of Uttar Pradesh (Act 14 of 2009 (hereinafter called as "FIRST PART" which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successors nominees and assigns of the First Part.

AND

M/s **Bharat Oil and Waste Management Ltd (BOWML)**, a Company registered under the Companies Act 2015, having its registered office and corporate head office at 11, LGF, Community Center, East Of Kailash, New Delhi 110065 and its engineered common facility at Gata #672, Tahsil Akbarpur, Village Kumbhi, NH-2, Kanpur-Dehat, UP-209101, duly authorized by the Uttar Pradesh Pollution Control Board and having another Facility at Mauza Mukimpur, Roorkee-Laksar Road, Roorkee-247664, (Uttarakhand), duly authorized by the UEPPCB, Dehradun to treat, store and dispose of Hazardous Waste and/ or Bharat Oil Company (India) Registered (BOC) a partnership concern registered under the Partnership Act with its registered office at 169 Kailash Hills, New Delhi 110065, duly registered with Central Pollution Control Board, having its CHWTSDf at E-18, Site IV, Sahibabad Industrial Area, Ghaziabad, (UP), duly authorized by the UPPCB, under the Environment Protection Act 1986 (for short the 'Act') and the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 and / or the E-Waste (Management) Rules 2016 (for short 'The Rules') as amended from time to time, represented by its Director/Partner, as the case may be (hereinafter called as "SECOND PART " which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successors, nominees and assigns of the Second Part.

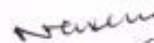
WHEREAS First Part is **engaged in educational field** and during the said process/ activities different types of wastes including Hazardous Waste are generated as per Annexure to this Agreement.

AND WHEREAS the First Part desires that the Hazardous Waste, being generated at its production unit mentioned above, to be lifted, transported, treated, stored and disposed of, by utilizing the services of SECOND PART, as per the Pollution Control Board Authorization (list of Hazardous Wastes and their tentative quantity, which would be generated at the FIRST Part's campus situated at-**Plot No 32, 34, Knowledge Park III, Greater Noida, Gautam**

Page 1

For Bharat Oil & Waste Management Ltd.


Registrar
Sharda University
Plot No. 32,34, Knowledge Park-III
Greater Noida - 201310 (U.P.)


Director

demand the Laboratory Comprehensive Test Analysis Charge, Transport, Storage, Disposal, Treatment Charge along with any applicable Government Taxes, MoEF Escrow Fee etc. SECOND PART will notify the FIRST PART, CPCB (HW Cell) and SPCB of the Exception. The complete liability, risk and costs of such goods/Wastes shall be on FIRST PART and the FIRST PART shall be liable to pay all the charges as demanded by the SECOND PART and FIRST PART shall indemnify the SECOND PART for / during the transport, storage, unloading, treatment, disposal for the said waste.

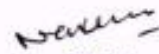


For SHARDA UNIVERSITY
(First Party)

Registrar
Sharda University
Plot No. 32,34, Knowledge Park-III
Greater Noida - 201310 (U.P)

For Bharat Oil & Waste
Management Ltd/ Bharat
Oil Company (I) Regd.
For Bharat Oil & Waste Management Ltd.

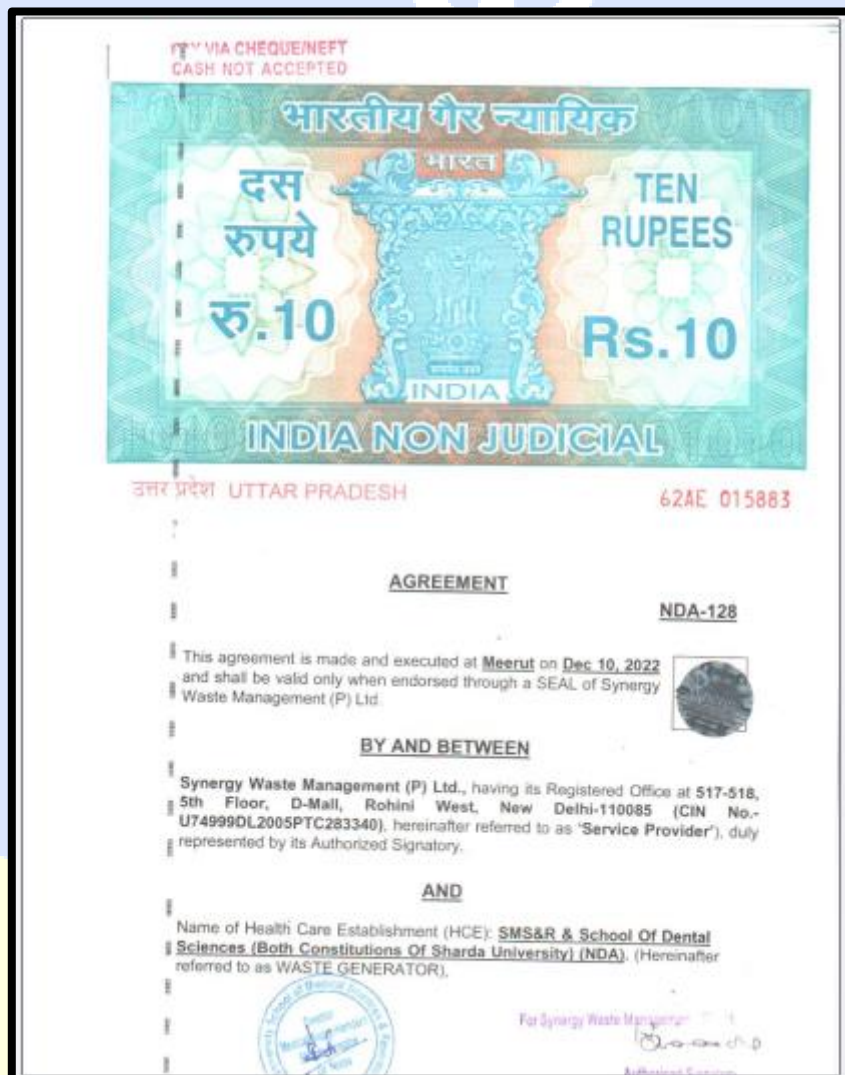
(Second Part)


Director

Bio-Medical Waste Management

The University also medical hospital and dental school which maintain the scientific management of bio-medical waste through government approved waste management agency who pick up the waste on daily basis and the entries of issued waste are maintained in online manner as advised by the state government.

MoU for Bio-Medical Waste Management

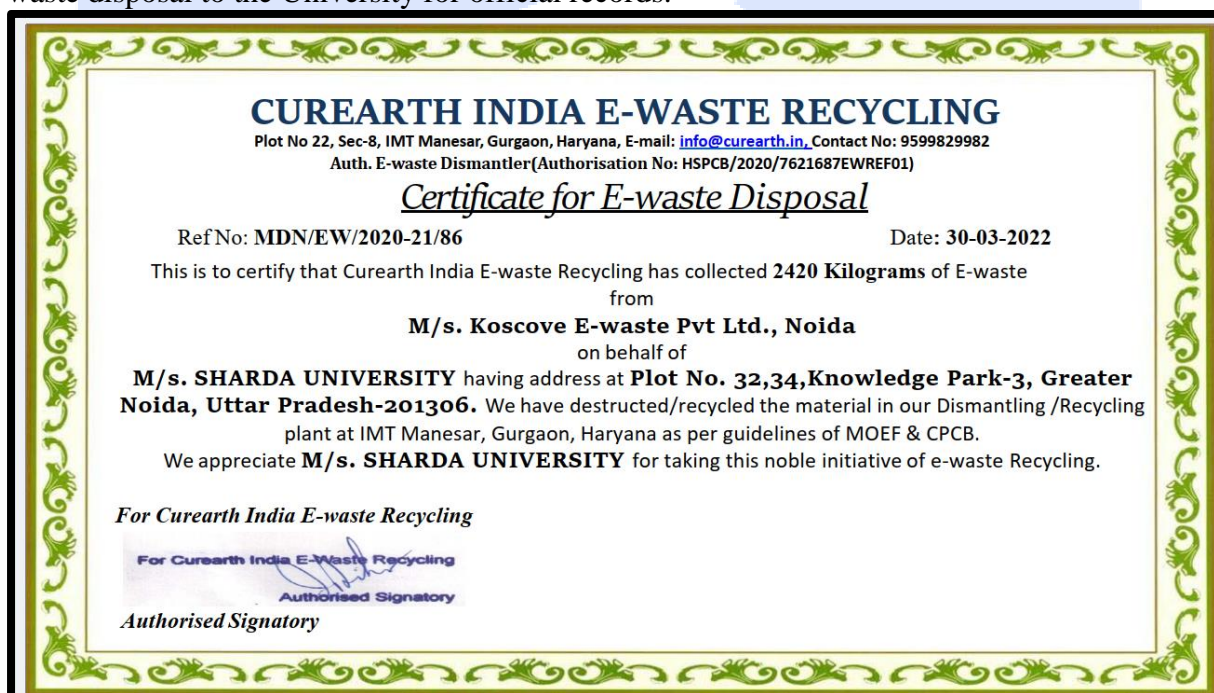


Municipal Solid Waste Management

Daily basis cleaning in the campus including washroom also supports the quality environment in the campus. Different kinds of wastes are being collected systematically and by a competent team to filter these among approved categories of waste. Finally, the waste is transported by Noida authority municipal's truck to the government approved location for further processing.

E-Waste Management

The e-waste is duly approved by IT experts and issued by ensuring protection of data privacy concerns. The University has its policy to manage the e-waste through government approved vendors. The vendors are invited through store office and e-waste is handed over to dispose as per the rules and regulations issued by the government. The vendor submits a certificate of e-waste disposal to the University for official records.



Liquid Waste Management Waste Management Policy

https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias_pdf-2022-2023:criteria_7.1.3:Waste_Management_Policy.pdf

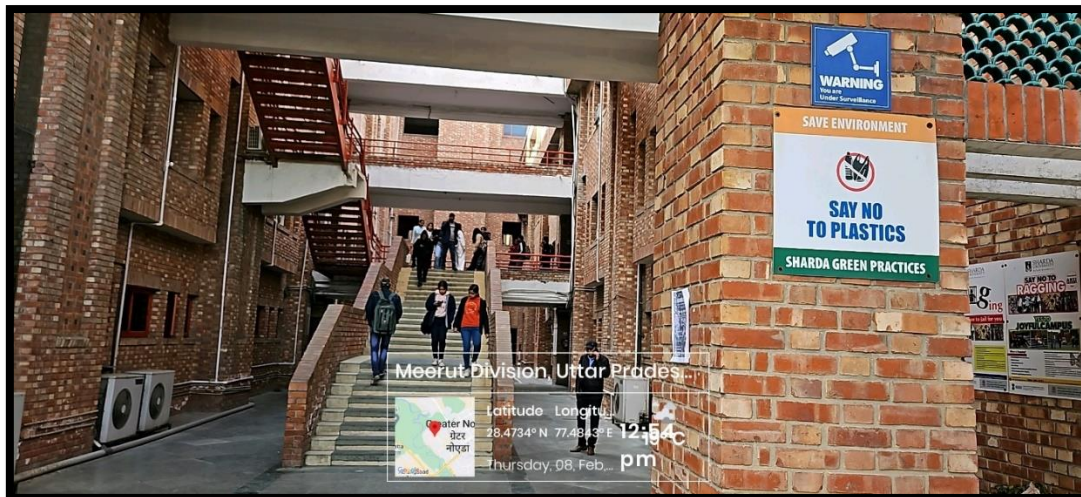
Manual for Green Practices

https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias_pdf-2022-2023:criteria_7.1.5:Eco-friendly_transportation_in_Manual_for_Green_Practices_Policy_Guidelines.pdf

Link to student led society (Environmental club) whose purpose is to engage with sustainability

<https://www.sharda.ac.in/dsw/culturaldetails/environment-club>

Ban on Use of Plastic



Waste Tracking

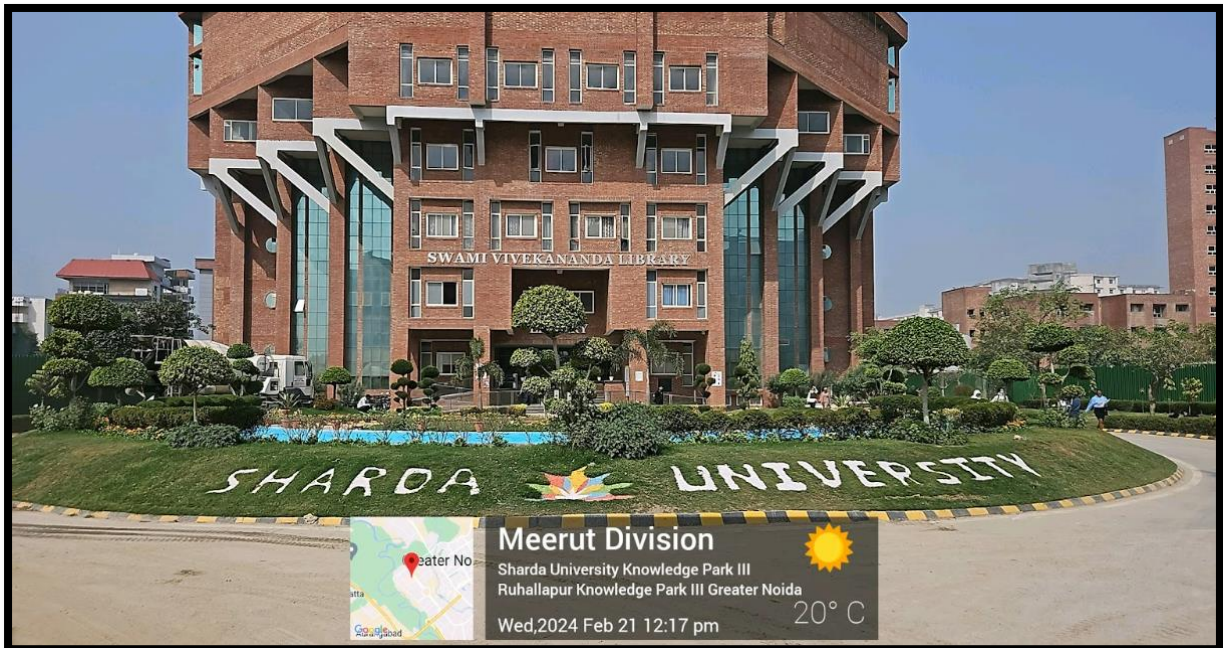
Waste Management practices

https://ezone.sharda.ac.in/ezone-2022/admin/naaccriteria/getpdfdetails/naaccriterias_pdf-2022-2023:criteria_7.1.3:Solid_waste_management_practices.pdf

Landscaping in the University



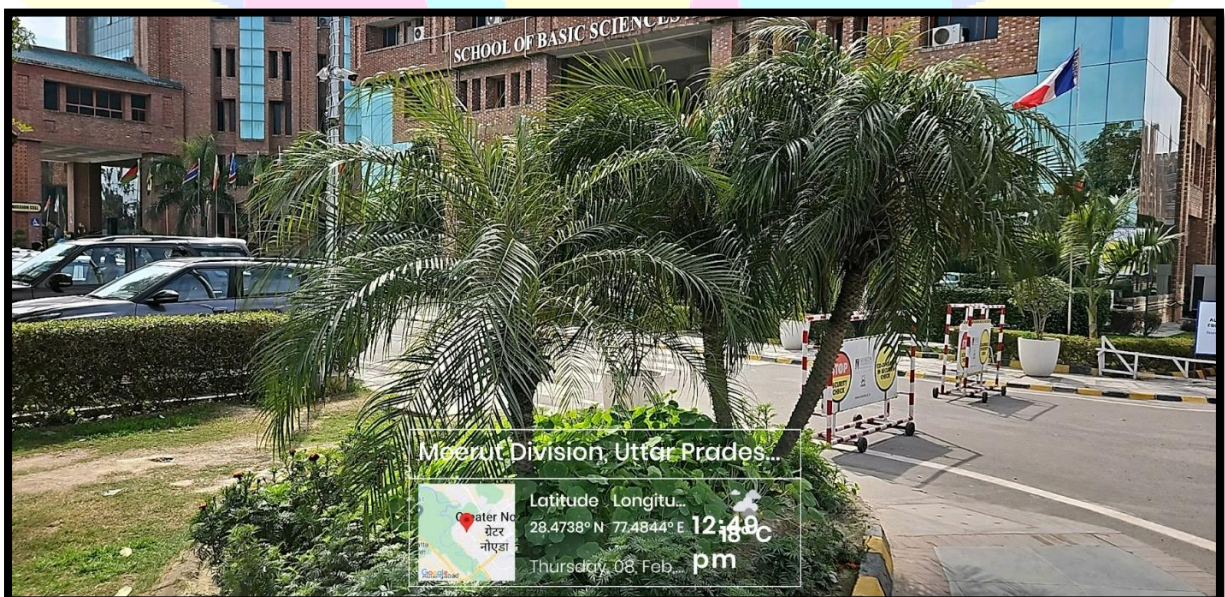
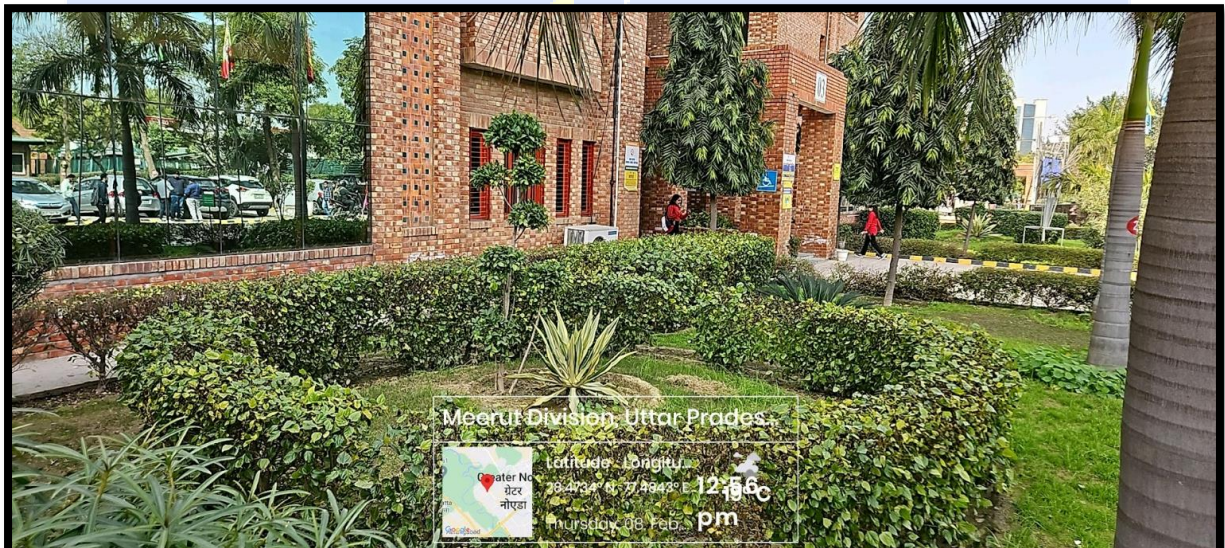
Landscaping for the Green Campus



Anti-Fog Spray Gun of the University



Plantation in the campus



SHARDA UNIVERSITY

32, 34, Knowledge Park-III, Greater Noida-201310 (U.P.)

OFFICE OF THE REGISTRAR

SU/Reg./Notification/2022/047

August 23, 2022

Notification

Refer Notification dated 05 August 2021 vide serial number SU/Reg./Notification/2021/162 regarding; 'e-waste Management Implementation Plan and Disposal of e-waste in the University', the same is hereby reconstituted, provided as under, on account of replacing/relieving of certain members.

- | | |
|---|------------|
| 1. Prof. Parma Nand, Dean, Sharda School of Engineering & Technology;
Dean, Academic Affairs | - Chairman |
| 2. Prof. Nitin Rakesh, Head of Department, Computer Science & Engineering,
Sharda School of Engineering & Technology | - Member |
| 3. Dr. Nihar Ranjan Roy, Associate Professor, Computer Science Engineering
Sharda School of Engineering & Technology | - Member |
| 4. Dr. Om Prakash, Head (IT Services) | - Convener |

This bears the approval of the competent authority.


(Vivek Kumar Gupta)
Registrar


To: All Concerned

Copy to: (for kind information),

- Chancellor/Pro-Chancellor/ED
- Vice-Chancellor
- All Advisor/ All Deans
- Controller of Examinations/Finance Officer/Chief Proctor
- All Directors
- All Administrative Heads of the respective Department and School
- Notification file



उत्तर प्रदेश UTTAR PRADESH

ES 998326

THIS AGREEMENT made on this 1st Day of July 2019 between Sharda Educational Trust registered under Indian Public Trust Act 1882, having its registered Office located at SGI Tower, 500 mtrs from Bhagwan Talkies towards Agra-Mathura Highway (NH-2), Agra – 282002 (U.P.) and its Plant located at Plot No. 32 & 34, Knowledge park III, Greater Noida, Uttar Pradesh (hereinafter called as "**FIRST PART**") which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successors nominees and assigns of the First Part.

AND

M/s Bharat Oil and Waste Management Ltd (BOWML), a Company registered under the Companies Act 2015, having its registered office and corporate head office at 11, LGF, Community Center, East Of Kailash, New Delhi 110065 and its engineered common facility at Gata #672, Tahsil Akbarpur, Village Kumbhi, NH-2, Kanpur-Dehat, UP-209101, duly authorized by the Uttar Pradesh Pollution Control Board and having another Facility at Mauza Mukimpur, Roorkee-Laksar Road, Roorkee-247664, (Uttarakhand), duly authorized by the UEPPCB, Dehradun to treat, store and dispose of Hazardous Waste and/ or Bharat Oil Company (India) Registered (BOC) a partnership concern registered under the Partnership Act with its registered office at 169 Kailash Hills, New Delhi 110065, duly registered with Central Pollution Control Board, having its CHWTSDF at E-18, Site IV, Sahibabad Industrial Area, Ghaziabad, (UP), duly authorized by the UPPCB, under the Environment Protection Act 1986 (for short the 'Act') and the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 and / or the E-Waste (Management) Rules 2016 (for short 'The Rules') as amended from time to time, represented by its Director/Partner, as the case may be (hereinafter called as "**SECOND PART**" which expression shall, unless repugnant to the context or meaning thereof, be deemed to mean and include its successors, nominees and assigns of the Second Part.

WHEREAS First Part is engaged in Educational deeds under university & Hospital and during the said process/ activities different types of wastes including Hazardous Waste are generated as per Annexure to this Agreement.

AND WHEREAS the First Part desires that the Hazardous Waste, being generated at its production unit mentioned above, to be lifted, transported, treated, stored and disposed of, by utilizing the services of SECOND PART, as per the Pollution Control Board Authorization (list of Hazardous Wastes and their

Page 1

For Bharat Oil & Waste Management Ltd.

Ram Singh
Director

Gulab Singh Chauhan
Gulab Singh Chauhan
Project Manager
Sharda Educational Trust
Plot No.-32-34, K.P.-III
Greater Noida



Waste Management Policy Document

- 1. Bio- Medical Waste Management**
- 2. Municipal Solid Waste Management**
- 3. E- Waste Management**
- 4. Liquid Waste Management**

1.0 General

- 1.1** Solid Waste Management is one of the major challenges which has occurred due to rapid growth of population and urbanization, proper management of the waste generated is critical in protecting individual health, community health and for protecting the environment. Handling solid wastes improperly can create dangerous working conditions, damage vital natural resources and cause irreparable harm to the persons living in the contaminated area. Waste generation encompasses activities in which materials are identified as no longer being of value and are either thrown away or gathered for disposal. The solid waste management system includes the waste handling, storage, treatment and disposal.

At Sharda University, Greater Noida we are committed to scientific management of solid waste generated. The management practices envisages collection, segregation, treatment and safe disposal. Preparation of the Policy on Solid Waste Management is mainly for the purpose as enumerated in the succeeding paragraph.

1.2 Purpose

- 1.2.1** To implement the procedures for the safe storage and disposal of bio- medical waste, hazardous waste, Municipal waste, E-waste generated, Construction & Demolition waste, Plastic waste and liquid waste generated in a clean, safe and economical manner in the campus
- 1.2.2** To provide awareness and waste management training to the staffs, students and waste handlers so that compliance with the requirements of managing waste & environmental safety can be achieved and we are able to minimise waste by following 3 R's of Waste Management namely Reduce, Reuse & Recycle.
- 1.2.3** To ensure compliance of statutory obligations by adopting the principles stipulated in the Waste Management Rules 2016 and its amendment.
- 1.2.4** To act as a document for communicating policy statement with staff, students, commercial partners, contractors, and visitors so that all are aware about the policy on waste management.

2.0 Scope

This applies to all types of wastes generated in Sharda University Campus.

3.0 Types of Solid Waste

3.1 Types of Solid Wastes are as follows:

- Bio-Medical Waste (BMW)
- Municipal Solid Waste (MSW)
- Hazardous Waste
- E- Waste
- Plastic Waste
- Construction & Demolition Waste (C & D Waste)

3.2 Quantity of Solid Waste Generated per month

Different kinds of waste are generated within the campus such as biomedical waste (BMW), Municipal Solid Waste (MSW), E-waste, C&D waste, Hazardous waste and Plastic waste. On an average 6000 Kg of BMW is generated in a month, 39360 kg of MSW is generated in a month, as per the MSW Management Rule, Sharda University comes under the category of bulk waste generator, however the waste generation quantity of C&D waste is less than 20 T per day and does not come under the category of bulk waste generator of C&D waste. Minimum quantity of plastic waste generated is 5000 kg per month. E-waste generated is 2975 Kg per month and hence, qualify as bulk generator for E -waste. Huge quantity of hazardous waste is also generated in the form of used engine oil & oil sludge due to operation of generators.

3.3 Waste Management System includes the following activities

- Waste collection (Primary and Secondary)
- Sweeping of main roads, internal roads, open and green areas
- Segregation of waste
- Transportation of waste
- Treatment of organic waste to Compost Plant
- Scientific disposal of waste, wherein, domestic, industrial, and bio-medical waste shall be disposed as recommended by Central Pollution Control Board (CPCB) through its various Acts and guidelines / rules.

4.0 Responsibility:

- Bio- Medical Waste - Sharda Hospital Administration
- Municipal Solid Waste- Estate Department, Sharda University
- Hazardous Waste- Fire and Safety Officer, Sharda University
- E-Waste - IT Department, Sharda University
- Plastic Waste- Estate Department, Sharda University
- Construction & Demolition Waste (C & D Waste)- Fire and Safety Officer, Sharda University

5.0 BIO MEDICAL WASTE MANAGEMENT

5.1 All Biomedical waste shall be treated destroyed or disposed of as per the provisions of Bio Medical Waste Management (Amendment) Rules, 2018. It is a statutory requirement and compliance is must. This applies to all types of wastes generated in the Hospital.

5.2. Responsibility: Nursing Staff, Infection Control Nurse, Operations Executive

Sr. No	Activity	Responsibility
5.2.0	Types of waste generated	
5.2.1	All general and biomedical waste from the hospital is handled as per the protocols set by the Biomedical waste management (amendment) rules, 2018, Ministry of Environment and Forests.	Infection Control Nurse
5.2.2	General Waste <ul style="list-style-type: none"> • Paper • Cardboard and packing materials • Aluminum Foil • Tea Bags • Disposable plates, glasses, bottles • Used polythene bags • Vegetable, fruit peels and left-over food 	
5.2.3	Bio Medical Waste <ul style="list-style-type: none"> • Soiled cotton, dressings, bandages, plaster casts, amputated body parts, pathological specimens, pathology laboratory waste, microbiology laboratory waste. • Plastics, disposable syringes, tubing's, catheters, and bags. • Sharps consisting of needles, blades, broken vials, ampoules, thermometers. • Blood bags tested positive for HIV and Hepatitis B, C, VDRL & MP • Human parts, foetus, placenta, etc. Category of waste are defined in enclosure "1"	
5.3.0	Operational guidelines	
5.3.1	An operational and maintenance protocol is drawn up and filed as guidelines / requirement for day-to-day operations; also, the exact description of methodology practiced under each activity such as segregation, internal and external transportation, pre-treatment, storage, post treatment and final disposal.	Infection Control Nurse
5.3.2	The different levels of waste disposal at all levels of processes, and hospital areas are identified, and responsibilities are assigned – as an organizational structure from management, supervision / monitoring, collection, treatment, and disposal.	
5.3.3	Daily collection loads by category, treatment and disposal data records maintained.	Manager - Housekeeping

5.4.0	Segregation of Waste	
5.4.1	Blue & green bags (without BMW signage) are used for General waste (Wet & Dry) segregation.	-
5.4.2	Bio Medical Waste is segregated as 1. Red bags for infectious plastic disposable waste. 2. Yellow bags for incinerable waste. 3. Cardboard box with blue marking for glass waste and for disposal of implants. 4. White puncture proof container for sharp waste The Red, Blue, and Yellow bags along with white puncture proof container should have the Bio-hazard Emblem printed on them. All trolleys used for collecting and transporting BMW have the Bio-hazard symbols on them and are adequately covered.	Infection Control Nurse
5.5.0	Collection of Waste	
5.5.1	A specific allotted area of the ward – the same place in each ward identified as waste disposal corner – but easily identified and accessible by nursing and sanitary staff.	-
5.5.2	The general waste is collected from wards and transported to the garbage collection bin in every shift i.e. three times a day – All waste handlers wear thick impervious gloves and immunized for Hepatitis B.	Housekeeping Staff
5.5.3	Two rounds are made per shift - one for collecting incinerable waste and second for plastic (disinfected) waste and sharps.	Housekeeping Staff
5.5.4	The BMW is collected and transported in a covered garbage trolley, displaying the Bio-Hazard Symbol.	-
5.5.5	Biomedical waste is segregated at the point of generation.	Nursing Staff
5.6.0	Disposal of Waste	
5.6.1	All incinerable waste is accumulated in a central garbage repository. This is picked up by the Synergy waste management (an approved external agency) every day except Sundays.	-
5.6.2	Disposable of sharps – collected in puncture proof containers and handed over to agency for disposal.	-
5.6.3	<ul style="list-style-type: none"> General waste in green bags (i.e. Wet Waste) without BMW signage bags after being sanitized is treated in the campus for the compost. General waste in Blue bags (i.e. Dry Waste) without BMW signage bags after being sanitized are carried away by the local municipal authority. 	-
5.6.4	All categories of waste are weighed each day and noted. This is common practice as weight limits are present for autoclave etc. – to keep a record of and monitor different categories and total biomedical waste by the hospital.	Manager - Housekeeping

5.7.0	Emergency response plan	
5.7.1	The emergency can include <ul style="list-style-type: none"> ▪ Needle prick, cut, or injury to the handler. ▪ An accidental spill of biomedical waste inside or outside the hospital building. There should be an emergency response protocol to handle each of these incidents adequately and quickly.	
5.8.0	Monitoring of Waste Management	
5.8.1	Biomedical waste management to be monitored daily at all departments.	Ward In-charge / Infection Control Nurse
5.8.2	At least a monthly inspection of the waste management process all over the hospital needs to be inspected.	Infection Control Team
5.8.3	Report Generation & Submission to Regulatory Authority - A report of compliance to regulatory requirements are taken and submitted annually to Government by 30 th June in form IV.	Medical Superintendent
5.9.0	Biomedical waste management training for 'good practices'	
5.9.1	Waste management training of all categories of staff of all departments handling biomedical waste, adequate treatment, and disposal, is necessary at least one in six months.	Infection Control Nurse

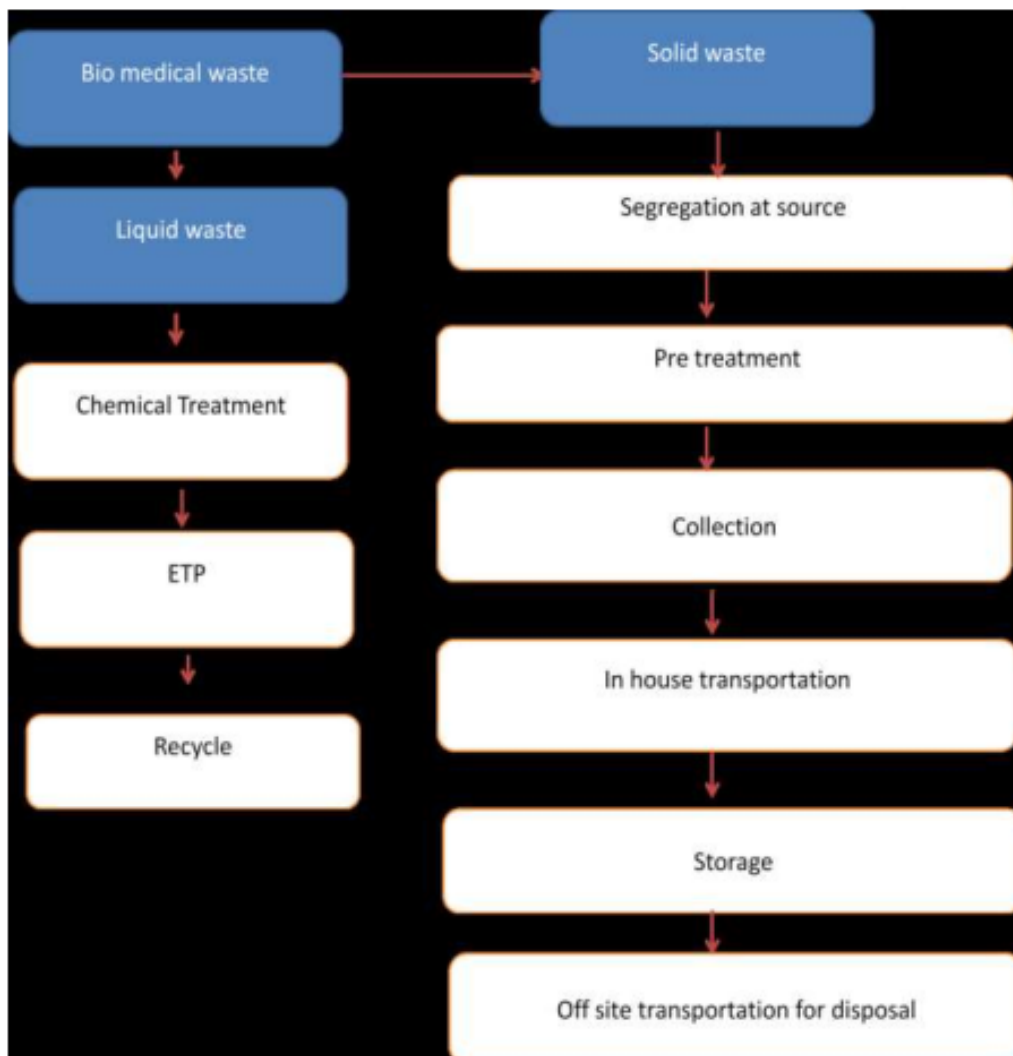
6.0 Classification:

Categorization and classification of waste is important for the purpose of safe waste disposal.
 At Hospital the waste generated has been broadly' classified into the following categories:

Non – Infectious Waste

- General office waste comprising of wrapping paper, office paper, cartons packaging materials including plastic sheets, newspapers & bouquets.
- Kitchen waste includes left over food, peels & dirty water generated from the hospital kitchen. Kitchen waste is further divided into two categories.
- Bio-degradable, waste. This waste includes peels of fruit and vegetable skins, left over food, tea dregs & other natural kitchen waste.
- General Waste as wrapping paper, aluminum foils and disposables.

8.0 Bio Medical Waste Handling:



23.7.8 Keep record of any waste management activity or camp organised within the University in consultation with Environment Club.

23.7.9 Ensure housekeeping staff complies with visual coding for unskilled labour employed.

23.1.10 Report accidents, if any.

24.0 Record Reference

24.1 Housekeeping register

24.2 MSW Register (Dry & Wet Waste)

25.0 Liquid Waste Management

Sharda University has installed a Sewage Treatment Plant to treat effluents and unaerated Water. We have one STP and one ETP, both located near Block 1 and beside Sharda Hospital respectively. Operation and maintenance of the STP (capacity- 400 KLD) and ETP (capacity 30 (KLD)) is ensured 24X7 by regular staff employed for the job and periodic checks/tests are also carried out.

25.1 STP (Sewage Treatment plant)

At present a sewage treatment plant of capacity campus 400 KLD has been installed to treat the wastewater. The treatment plant is meant for treating domestic sewage from hostels, hospitals, colleges etc. by extended aeration activity sludge process using fine bubble diffused aeration system. Lab check of treated water and other parameters are carried out every quarter. The STP is located near Block-1 of the Sharda University.

25.2 ETP (Effluent Treatment plant)

Hospital also generates large volumes of waste water that needs to be treated Main objective of ETP is to remove as much of suspended solids and organic matter as possible before the waste water is discharged back to the environment or reused for any other purpose. The ETP has a functional capacity of 30 KLD. Lab checks of treated water and other parameters are carried out every quarter.

26.0 Hazardous Waste

DG sets are used to supply power back up in the premises. Waste oil generated from these are hazardous wastes and are stored in containers. Oil should not be discharged in drains, and also must not be mixed with municipal solid waste. It is advised to store such waste separately and handed over to the vendor for proper disposal. Corrosive substances must be kept away from substances that may react with them and produce undesirable, toxic products.

26.1 Disposal of Hazardous waste

Hazardous waste must be stored in containers and must be in good condition and free of leaks. Waste oil from diesel generator sets oil should be kept in containers of appropriate quantity to avoid overloading and spillage.

Recommendation & Approval

Mr. G. Ravi Kiran
Chief Operating Officer, Sharda Hospital



Mr. Om Prakash Shukla
General Manager, Planning, Project & Maintenance



Mr. Sandeep Rana
SU Deputy Registrar Estate



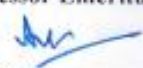
Dr. Mojahidul Islam
IQAC Member




Dr. V P S Arora, Professor Emeritus
Director, IQAC



Shri. Ashok Kumar Singh
Registrar




Vice Chancellor

may be notified
by Registrar 



SHARDA
UNIVERSITY
Beyond Boundaries

MANUAL for GREEN PRACTICES

(Policy and Guidelines)

SHARDA UNIVERSITY

GREEN PRACTICES: POLICY & GUIDELINES

1. Preamble

The 'Environment Protection Act, 1986', (EPA) generally accepts that environment is threatened by a wide variety of human activities ranging from the instinctive drive to reproduce its kind to the intrinsic urge of improving the standards of living. Development of technological solutions to this end leads to generation of vast amounts of waste, both natural and synthetic. Paradoxically, this urge to grow and develop, which was initially uncontrolled is now widely perceived to be threatening as it results in the depletion of both living and non-living natural resources and life support systems. The air, water, land, living creatures as components of environment in general are all becoming polluted at an alarming rate that needs to be controlled and curbed as soon as possible. Several legislations such as the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 were enacted with the above in mind.

To this effect, the Sharda University has a dual status, as (i) a microcosm inhabited by about 20000 humans engaged in many diverse activities over an area of 63 acres and (ii) an institution of higher learning and social change with an orientation to enhance the local and global environment. It is thus necessary for the University to decrease the adverse impact of the work and products of the activities of students, staff, faculty and businesses; improve energy and resource efficiency; improving existing ones; construct new systems and structures but also to serve as a frontrunner for the society in using and adopting some of the best green practices and innovations.

2. Aim and Objectives

2.1 Aim

To minimize soil, air, water and noise pollution through eco-friendly practices of natural resource conservation and reduce carbon footprint by developing Sharda University as a leading institution in implementing and disseminating green practices.

2.2 Objective

To promote adoption and evolution of practices for environmental protection and direct social development that may ensure long-term congenial conditions for human health, well-being & quality of life, conservation of natural resources and biological diversity.

Keeping the above broad objective in view, the Sharda University resolves to take concrete steps on the following aspects and adopt the hereinafter specified and other novel green practices in the following areas:

2.2.1 Reduction in use of electricity

Presently, the total electricity consumption of the University campus is 14006 MWH per annum while solar power generation is 1125 MWH per annum. Total roof top area where solar modules are installed is 213698.3 Sq. m. The University will make all round effort to reduce the amount of electricity consumed for lighting, air-circulation, air-conditioning, lifts, water mining, instruments and other gadgets by the following approaches:

- i. Create awareness and inculcate the culture of using electrical devices and appliances including lifts only when and where necessary;
- ii. Installation of occupancy sensors in common areas to regulate the use of lights and fans when the area is not occupied for more than 3 minutes and
- iii. to gradually replace conventional electric devices with energy efficient devices such as LED lights and star rated fans, ACs and other gadgets.

2.2.2 Innovation and increase in generation and utilization of renewable energy

Presently, the University has a robust solar power generation system producing a total of 1125 MWH per annum and this has the distinction of being awarded by the State Government as the most Energy Efficient University in the state. The University, however intends to double the harvest of solar energy and its use to replace traditional grid electricity by:

- i. will create a centre of excellence to intensify research on development of more efficient systems of solar power harvesting and utilization;
- ii. will identify more open building top spaces will be used to install solar panels for electricity generation including installation of solar trees in open spaces for lighting, pumping water, communications and audio-video surveillance;



- iii. will be installing flexible cum semi-transparent solar panel films on sun-facing windows;

2.2.3 Reduction in use of water

The most important natural resource sustaining life on earth is water. A lot of water is wasted due to improper usage patterns and inefficient dispensing and storage systems. The following steps are will be taken to reduce the quantity of water used:

- i. Sprinkler and drip irrigation systems will be deployed for irrigation of trees/plants/crops/lawns etc., wherever possible;
- ii. water efficient cum sensor based taps/faucets/dispensers will be fitted and used to gradually replace existing ones;
- iii. open water storage and channel systems will be avoided and
- iv. sensor based or waterless urinals will be installed in new buildings.

2.2.4 Collection/Recycling/reuse of waste water

The University has got rain-water harvesting systems in most buildings and also collects waste water that is treated in a STP plant of 0.40 MLD capacity. The treated water from the STP is used for irrigation purposes. This practice will continue and steps will be taken to further improve the collection and treatment of waste and its reuse.

2.2.5 Reduction in generation of biodegradable and non-biodegradable solid waste

The University generates solid waste of various kinds from the residences, hostels, offices, laboratories, canteens, hospital etc. The University will take the following steps to reduce the generation of solid waste:

- i. Awareness will be created among the staff, students and residents to avoid and reduce generation of solid waste.
- ii. Instructions will be issued to reduce and gradually stop the use of disposable plastic/ metal/ polystyrene cups/ plates/bottles etc. All vendors will be encouraged to use biodegradable eating/packing material made of paper/cotton cloth which decompose early.



- iii. Steps will be taken to reduce the number of sheets in the examination answer-books and issue supplementary addenda with proper record to those students who need.
- iv. University will advise and promote two side printing/writing on paper in routine work. Single side printing will be restricted only to documents of special nature. In future, the office printers will be gradually replaced with automatic two side printing capability. Segregated collection of solid waste will be made in four categories, viz., (a) Biodegradable waste like crop residues/vegetables/fruits/food and paper; (b) non-biodegradable waste like plastic, metal, hard-wood; (c) Injurious waste like broken glass; (d) Biomedical and bioactive hazardous chemical waste.
- v. The biodegradable waste will be used for composting and the compost by aerobic/anaerobic microbial composting or vermi-compost production will be done on specified spots.
- vi. The University will ban the use of polybags in the campus for carrying, packing and selling from canteens, shops and other sale counters.
- vii. Attempts will be made to recycle the non-biodegradable solid waste where possible or will be given to authorized solid waste collecting agencies.
- viii. The hazardous solid waste like glass deposited at designated places and will be given to authorized collection agents for their safe disposal or recycling.
- ix. The bioactive waste from laboratories, operation theatres, hospital wards etc. will be incinerated before disposal on campus or given to authorized collecting and incinerating agencies.
- x. Waste from chemistry/biochemistry/biotechnology laboratories that may be hazardous/ carcinogenic in nature will be separately collected and disposed in prescribed manner at officially designated places.
- xi. The University will make further progress in following online and paperless office processes that are already followed.

2.2.6 Recovery and reuse of paper/wood/metal waste

The University offices, faculty and students and on-campus businesses use large amounts of paper. Some of it is not usable as paper, but large amount of unused paper is also discarded. The University will take steps to recover unused paper and recycle the used paper for product development for educational, artistic or commercial purposes. Some steps proposed are:

- i. All buildings and offices will have designated places for depositing waste paper.
- ii. Hard copy office records/applications/CVs etc. may be screened periodically and useless ones may be disposed off for recycling, preferably after shredding to avoid possible misuse of any document or official information.



- iii. The waste paper will be recycled on campus and used for creating artworks, educational models, architectural designs or handicrafts/gift items/file covers/greeting cards/carry-bags etc.
- iv. The unused paper will be removed from examination answer-books, laboratory notebooks etc. left behind by the students, after certain defined waiting period. Thus removed paper may be trimmed and rebound to form notebooks that may be sold to the students at nominal prices.
- v. The post-fabrication left over wooden, metal rods/pipes/sheets etc. shall be used for fabrication of smaller items and for preparation of modeling exercises of engineering/architecture/design students.

2.2.7 Reduction in the use of mineral fuels and increased use of electric/solar powered motor vehicles and bicycles

- i. The University will continue to reduce its dependence on petrol/diesel driven vehicles.
- ii. The culture of walking short distances, use of bicycles, public transport and car pooling wherever possible will be promoted by special campaigns and advisories from time to time.
- iii. Solar powered or electric automobiles will be gradually increased.
- iv. Use of pedaled and battery fitted bicycles will be encouraged on campus.
- v. Dedicated bicycle stations may be established at a few strategic places in the campus for on-campus movement.

2.2.8 Safer disposal of electronic waste after extraction of useful components

Electronic goods in all spheres of life, especially in communications, office equipment, laboratory instruments, televisions, computers, etc. are used. Large amounts plastic, bakelite, integrated circuits, glass, transistors etc. are generated with discarded with old and defective gadgetry. The University will deal with this waste in the following manner:

- i. Attempts will be made to explore possibility of repair and continued use of the gadgets as far as possible only if the same is beyond repair and cannot be useful anywhere in the university.
- ii. Old computers and other gadgets will be disposed off by auction and sold to consumers of used gadgets.

- iii. The unserviceable gadgets may be used for hands-on assembling practice of the engineering students.
- iv. The reusable components like ICs, transistors etc. may be taken out for practical exercises and assembling labs of engineering students.
- v. Some precious metals are often used in electronic gadgets; these may be extracted as far as possible, before discarding and giving to authorized electronic junk dealers.

2.2.9 Promotion of awareness of green practices and their importance among students and community

- i. Active student groups in each School and Hostels will be constituted and will be coordinated by designated faculty. This activity will be linked to the NSS. This student group will be called as "Eco-Task Force".
- ii. The students and faculty will be supplied bulletins on Green Practices and motivated to help in their implementation.

2.2.10 Creative use of solid waste for artistic and architectural designing

The students in general and those in the Department of Arts and Design will be encouraged to use paper pulp, card boards, old wood, metal etc. to create art pieces based on themes related to various aspects of different States of India and other countries from where students study in the University, that can be used as souvenirs or as practice in designing. The creating students may be allowed to carry their creations with them.

2.2.11 Increasing the green coverage of the campus and surroundings

- i. The University will plant more trees and bushes to increase green canopy cover inside the campus and surrounding roadsides.
- ii. All empty non-concrete areas will be covered with grass.
- iii. The open rooftops not covered with solar power harvesting panels will be used to establish terrace gardening for production of vegetables, flowers, spices and medicinal plants etc. Drip or sprinklers will be used for irrigation of the terrace gardens to minimize water use.
- iv. More indoor plants will be installed to improve internal environment and power consumption for cooling.
- v. As far as possible the University will avoid using synthetic chemical pesticides and minimize use of detergents.
- vi. The University shall maintain a record of existing, new planted and dying trees.



2.2.12 No-Noise Zone

The University has extensive teaching zones, laboratories, offices and hospital areas, all of which are intolerant of noise. Therefore, the campus will be declared No-Noise Zone and signs of "No-Horn" and "Silence Zone" will be placed strategically.

2.2.13 No-Smoking Campus

The University is a public place and legally smoking tobacco is banned as per law. The University will place "No Smoking Campus" notices will be placed at strategic locations.

2.2.14 Reduction in Air Pollution

- i. There will be a ban on the burning of any materials including plant dry matter that emit smoke.
- ii. The dependence on diesel generators will be reduced. The exhaust pipes and chimneys of Diesel Generators will have opening much above the roof level of the neighboring buildings.

2.2.15 Introduction of green-building concept in existing and new buildings

Most of the existing buildings of the University have large windows and corridor and have large verandahs and open spaces. Thus, the buildings are well ventilated and have good amount of natural lighting, with some exceptions. In all future building constructions, the University will consciously include the green building concept, with minimal dependence on electricity for ventilation, cooling and lighting.

2.2.16 Assessment, reduction and periodic monitoring of carbon foot print of the campus

The University will prepare an initial status report, make continuous efforts to conserve natural resources and reduce carbon footprint. Annual inspections, monitoring and assessments will be carried out and proper records will be maintained of the major actions taken and impact thereof.

2.2.17 Establishment of a Green Practices Committee

The University will establish a Green Practices Committee for disseminating the practices mentioned hereunder. The Green Practices Committee will meet for review and planning once or more annually.

2.2.18 Awareness through open electives and community courses

The University will run an open elective course for creating awareness of various green practices and its importance for the environment and conservation of natural resources. The Community



Connect Courses will be used to enable the students to learn the sources of pollution and systems for its effective treatment as well as to spread awareness on pollution control methods in the community.

3. Environmental Protection Club (EPC)

To effectively implement Green Practices Policy, an Environmental Protection Club (EPC) will be established in Sharda University consisting of a Chairman and Members from administrative and academic staff including students' welfare department. The Club will advise the Vice-Chancellor and the Registrar on the programs to fulfill the environmental protection objectives and to ensure that new and existing initiatives are brought forward for consideration. The EPC will:

- i. Periodically review University policies and carry out appropriate environmental audits and pilot projects.
- ii. Undertake education and training programs to inform the University Community about this policy and how its members, both personally and collectively, can best meet the objectives set forth in it.
- iii. Inform all contractors, service operators and users of University facilities that they must comply with the requirements of the policy to meet our Environment Protection objectives.
- iv. Carry out inspection of any premises, plant, equipment, machinery, manufacturing or other processes, materials or substances and give, by order, of such directions to such authorities, officers or persons as it may consider necessary to take steps for the prevention, control and abatement of environmental pollution.
- v. Collect and disseminate information in respect of matters relating to environmental pollution.
- vi. Annually issue a report concerning the initiatives undertaken, results achieved and identifying matters for future course of action.


4. Green Practices Committee

The composition of the Green Practices Committee, which will form the core group within the Environment Protection Club, will be as under:



1	A Professor of the University as nominated by the Vice Chancellor	- Chairman
2	Dean of Students' Welfare	- Member
3	Chief Proctor	- Member
4	General Manager, Operations, Sharda Hospital	- Member
5	Superintending Engineer (Maintenance)	- Member
6	Chief Warden	- Member
7	Co-coordinators, National Service Scheme (NSS)	- Members
8	Dy. Registrar, Estate	- Convener

Barring the ex-officio members, the term of the above committee will be of two years.


8-3-2019
Registrar (i/c)

SHARDA UNIVERSITY

32, 34, Knowledge Park-III, Greater Noida-201310 (U.P.)

OFFICE OF THE REGISTRAR

SU/Reg./Notification/2023/005

January 13, 2023

Notification

Refer Notification dated October 25, 2022 vide serial number SU/Reg./Notification/2018/432 regarding; 'Sustainable Energy and Conservation Cell', which is being reconstituted, provided as under, on account of replacing/ relieving of certain members.

- | | |
|--|----------|
| 1. Dr. Tarun Varshney, Professor & HoD-EE&CE, SSET | Chairman |
| 2. Dr. Hariom Sharma, Associate Professor, SSHSS & Member, IQAC | Member |
| 3. Dr. Suman Lata Dhar, Associate Professor, SSET & Member, IQAC | Convener |
| 4. Dr. C. Mohan, Assistant Professor, SSET | Member |
| 5. Mr. Shyam Sunder Sharma, Superintendent Engineer | Member |
| 6. Mr. Amar Singh Rathore, Sr. Executive Engineer, Maintenance | Member |
| 7. Mr. Sachin Kumar, Executive Engineer, Maintenance | Member |

This bears the approval of the Competent Authority


(Vivek Kumar Gupta)
Registrar

To,

- All Concerned

Copy for kind information:

- Chancellor/ Pro-Chancellor/ ED
- Vice-Chancellor
- Advisor
- All Deans
- Controller of Examinations/ Finance Officer/ Chief Proctor
- All Directors
- All Administrative Heads of the respective Departments and Schools.
- Notification file

OFFICE OF THE REGISTRAR

SU/Reg./Notification/2024/014


March 22, 2024

Notification

Refer Notification dated April 18, 2023 vide serial number SU/Reg./Circular/2023/003 regarding 'Green Practices Committee', which is being reconstituted, provided as under, on account of replacing/ relieving of certain members:

- | | |
|--|---------------------|
| 1. Prof. Saleem Siddiqui, Sharda School of Agricultural Sciences | - Chairperson |
| 2. Prof. Pramod Kumar, Dean of Students' Welfare | - Member |
| 3. Prof. Alok Gupta, Chief Proctor | - Member |
| 4. Dr. Suman, Assistant Professor, Dept. of Environmental Sciences, SSBS&R | - Member |
| 5. Dr. Krishna Kumar Pandey, Assistant Professor, SSBS&R & NSS-Coordinator | - Member |
| 6. Dr. Santhi Narayanan, Assistant Professor, SSBS & NSS-Coordinator | - Member |
| 7. Sh. Sharat Chandra, Chief Warden | - Member |
| 8. Sh. Pankaj Jindal, Manager (Operations), Sharda Hospital | - Member |
| 9. Ms. Satyam, Dy. Registrar (Estate) | - Member |
| 10. Sh. O.P. Shukla, General Manager, Maintenance | - Member & Convener |

This bears the approval of the Competent Authority.

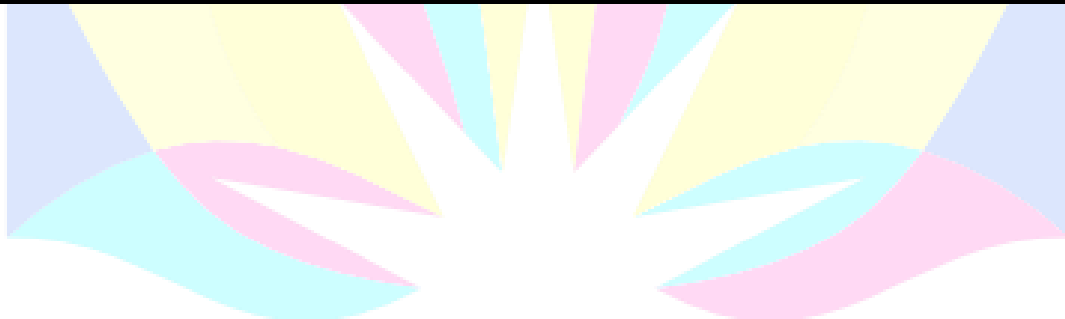

(Vivek Kumar Gupta)
Registrar

S.P. N. BRADY

To
All concerned

Copy for kind information:

- Chancellor / Pro Chancellor / CEO
- Vice-Chancellor
- Pro Vice-Chancellor
- Advisor
- Medical Superintendent, Sharda Hospital
- Controller of Examinations/ Finance Officer/ Chief Proctor/ Librarian
- All Directors
- All Administrative Heads of the respective Departments and Schools
- Notification file



SHARDA UNIVERSITY

32, 34, Knowledge Park-III, Greater Noida- 201310 (U.P.)

OFFICE OF THE REGISTRAR

SU/Reg./Circular/2023/003

April 18, 2023

Circular

Refer Notification dated December 19, 2018 vide serial number SU/Reg./Notification/2018/439 regarding; 'Green Practices Committee', which is being reconstituted, provided as under, on account of replacing/ relieving of certain members:

- | | |
|--|------------------------|
| 1. Prof. Saleem Siddiqui, Sharda School of Agricultural Sciences | - Chairman |
| 2. Prof. (Dr.) Brijendra Krishna Singh, Dean of Students' Welfare | - Member |
| 3. Prof. Alok Gupta, Chief Proctor | - Member |
| 4. Dr. Suman, Asstt. Prof., Dept. of Env. Sciences, SSBS&R | - Member |
| 5. Dr. Krishna Kumar Pandey, Asstt. Prof., SSBS&R & NSS Co-ordinator | - Member |
| 6. Dr. Santhi Narayanan, Asstt. Prof., SSBS & NSS Co-ordinator | - Member |
| 7. Sh. Sharat Chandra, Chief Warden | - Member |
| 8. Sh. Sushil Kumar Das, Dy. GM (Operations), Sharda Hospital | - Member |
| 9. Ms. Satyam, Dy. Registrar (Estate) | - Member |
| 10. Sh. Shyam Sunder Sharma, Superintendent Er. | - Member &
Convener |

This bears the approval of the Competent Authority.


(Vivek Kumar Gupta)
Registrar
S. P. Sharma

To,
All concerned

Copy also for kind information:

- Chancellor / Pro-Chancellor/ CEO
- Vice Chancellor
- Advisor
- All Deans
- Controller of Examinations/ Finance Officer/ Chief Proctor
- All Directors
- All Administrative Heads of the respective Departments and Schools
- Circular file

Courses on Environment Studies

School: SET SOL SMFE SBS-BBA SBSR SOE SAP		Batch: 2023-2027	
Program: All		Current Academic Year: 2023-24	
Branch: All		Semester: I	
1	Course Code	VAC103	
2	Course Title	Environment Management	
3	Credits	03	
4	Contact Hours (L-T-P)	3-0-0	
	Course Status	Compulsory	
5	Course Objective	<ol style="list-style-type: none"> 1. Enable students to learn the concepts, principles and importance of environmental science 2. Provide students an insight of various causes of natural resource depletion and its conservation 3. Provide detailed knowledge of causes, effects and control of different types of environmental pollution and its effect on climate change, global warming and ozone layer depletion. 4. Provide knowledge of different methods of water conservation 5. Provide and enrich the students about sustainable practices and environmental management 	
6	Course Outcomes	<p>CO1.Develop a better understanding of the principles and scope of environmental science</p> <p>CO2. Acquire to learn various pollution causes, effects and control and solid waste management.</p> <p>CO3. Interpret the effect of global warming and ozone layer depletion</p> <p>CO4. Comprehend about various types of natural resources and its conservation</p> <p>CO5. Develop a better understanding about sustainable practices and environmental management</p> <p>CO6. Function effectively an overall understanding of various environmental components, its protection and management.</p>	
7	Course Description	<p>Environmental Science emphasises on various factors as</p> <ol style="list-style-type: none"> 1. Importance and scope of environmental science 2. Natural resource conservation 3. Pollution causes, effects and control methods 4. Sustainable and Environmental environment 	
8	Outline syllabus		CO Mapping
	Unit 1	Natural resource management	
	A	Introduction to Natural Resources	CO1/CO6

	B	Management of Land and Forest Resources	CO1/CO6
	C	Water and Energy resource Management	CO1/CO6
	Unit 2	Environmental Pollution Management	
	A	Air pollution Control and Water Pollution treatment Methods	CO2/CO6
	B	Soil and Noise Pollution Management	CO2/CO6
	C	Solid waste management	CO2/CO6
	Unit 3	Climate Change Mitigation	
	A	Concept of Global Warming and greenhouse effect	CO3/CO6
	B	Ozone layer Depletion and its consequences	CO3/CO6
	C	Climate change, its effect on ecosystem and its mitigation. Kyoto protocol and IPCC concerns on changing climate.	CO3/CO6
	Unit 4	Natural resource conservation and management	
	A	Hot spots, Endangered and endemic species of India	CO4/CO6
	B	Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions	CO4/CO6
	C	Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.	CO4/CO6
	Unit 5	Sustainable practices and environmental management	
	A	Sustainable development and sustainable consumption	CO4/CO6
	B	Environmental Issues and Management in India	CO4/CO6
	C	Environmental Management System (EMS)	CO4/CO6
	Mode of examination	Theory	
	Weightage Distribution	CA 25%	MTE 25%
			ETE 50%
	Text book/s*	Textbook of Environmental Studies for Undergraduate Courses by Erach Bharucha, Pub: Orient Blackswan Pvt Ltd	
	Other References	Environmental Science by G. Tyler Miller, JR. and Scott E. Spoolman; Brooks/Cole.	

School: SHSS		Batch : 2022-2026
Program: BA (Research) Psychology		Current Academic Year: 2025-2026
Branch: Psychology		Semester VIII
1	Course Code	BPY469
2	Course Title	Environment Psychology
3	Credits	4
4	Contact Hours (L-T-P)	4-0-0
	Course Type	Major
5	Course Objective	1. To understand the various perspectives on human-environment inter-relationships. 2. To explore the ways in which the environment influences our feelings and experiences 3. To understand the major theories dealing with human-environment relations. 4. To analyze and build intervention behavior aiming to change environmental behaviour.
6	Course Outcomes	CO1: The students will be able to understand the key concepts, theories, and methods in the field of environmental psychology. CO2: The students will be able to understand the impact of personal space on environmental behaviour. CO3: The students will be able to understand the role of psychological processes (people's attitudes and beliefs) in their responses to environmental issues. CO4: The students will be able to understand the environmental degradation processes and their impact on human life. CO5: The students will be able to appreciate pro-environment behaviour and human-environment transaction, and be able to design behavioral interventions to minimize the adverse effects of anti-environment behaviour. CO6: The students will be able to reflect upon and evaluate research questions in this topic area.
7	Course Description	The study of the interaction between people and their natural and built environments is the focus of Environmental Psychology as a discipline. On the one hand, Environmental Psychology focuses on the role of physical

		environments in people's lives, such as natural environments' ability to restore people's psychological resources. It investigates how people shape their physical environments, for example, the psychology of urban design or the processes involved in pro-environmental action. Since the 1960s, the role of Environmental Psychology has been twofold: to conduct research and to apply the findings of that research in real life, such as in urban design, environmental sustainability, health, education, and other fields. Today, Environmental Psychology plays a critical role in shaping people's awareness and behaviour.	
8	Outline syllabus		CO Mapping
	Unit 1	Introduction	
	A	Emergence of environmental psychology and its growth: Definition and scope, Roles and functions of environmental psychologists.	CO1
	B	Salient features of environmental psychology; Recent trends and future directions in environmental psychology.	CO1
	C	Indian views on human-environment relationship..	CO1, CO5
	Unit 2	Human-environment transaction	
	A	Personal space, territoriality, crowding.	CO1, CO6
	B	Indian research on crowding and personal space.	CO1, CO6
	C	Theoretical models: stimulus overload, behavioural constraint, ecological and adaptation.	CO1, CO6
	Unit 3	Environmental Perception and Cognition	
	A	Environmental perception; Spatial Cognition; Environmental values and attitudes	CO2, CO3, CO5
	B	Attachment and Identity; Appraisal and Assessment	CO2, CO3, CO5
	C	Personal space; Privacy and territoriality	CO2, CO3, CO5
	Unit 4	Environmental Stress	
	A	Concept and types of stress; Sources of stressors: Cataclysmic, ambient stressors, daily hassles	CO2, CO3, CO5
	B	Pollutions: noise, air, water, chemical and their consequences.	CO2, CO3, CO5
	C	Effects of physical environment on health	CO2, CO3, CO5
	Unit 5	Pro environmental behaviour	
	A	Changing the environmental destructive mindset.	CO4, CO5
	B	Environmental education, environmental prompts and cues.	CO4, CO5

C	Reinforcement strategies, Environmental movements			CO4, CO5
Mode of examination	Theory			
Weightage Distribution	IA	EA		
	25%	75%		
Text book/s*	Kaur, G.(2020).Environmental Psychology. Vikas Publishing House:New Delhi.			
Other References	<ol style="list-style-type: none"> 1. Fisher, J.D., Bell, P.A., and Baum, A. (1984).Environmental Psychology. NY: Holt, Rinehart and Winston. 2. Jain, U. (1987). The Psychological Consequences on Crowding. New Delhi, India: Sage. 3. Jain, U., &Palsane, M. N. (2004).Environment and Behaviour. 4. Pandey, J. (2002). Psychology in India revisited: Developments in the discipline. Vol. 3, Applied 5. social and organizational psychology. London: SAGE. 6. Nagar, D. (2006). Environmental psychology. New Delhi, India: Concept. 			

POs \ COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3
CO1	3	2	1	1	1	2	1	1	2	1	3
CO2	3	2	1	1	1	1	2	1	1	1	1
CO3	2	2	2	2	2	1	2	1	1	2	3
CO4	2	2	2	2	2	1	2	1	1	2	3
CO5	2	2	2	1	1	1	1	1	2	1	2
CO6	2	3	2	2	2	2	1	1	2	2	1