



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## Green Audit Report

Techno India NJR institute of Technology, Udaipur

### 1 Introduction

#### *Green Audit:*

Green audit is the method of assessing the environmental impact of an organization, process, project, product etc. Green Audit can be defined as a basic management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organizations, management systems and equipment are performing. The aim of the audit is to facilitate management control on environmental practices and to enable the organization to assess compliance with its policies including meeting regulatory requirement. us:



For Techno India NJR Institute of Technology  
  
(B.S. Vyas)  
Director



## Green Audit Report

### Techno India NJR institute of Technology, Udaipur

#### Methodology

The study covered the following area to summarize the present status of environment management in the campus:

#### *i. Pre-audit planning*

- ❖ Preliminary literature review of concepts and methodologies related to green audit
- ❖ Discussion with the management staff on various systems installed in the campus.
- ❖ Awareness creation and interaction with the staff and student on the concept of green audit.
- ❖ Walk through the entire campus to understand the nature of water use, energy use, air quality system, sound quality and waste management systems in the campus.

#### *ii. Data collection*

Development of questionnaire format to identify all water/air/sound/energy using fixtures/ equipment and examine water or energy use patterns for individual buildings in the campus.

Collection of secondary data from compilation of electricity bills, collecting records of pumps, generators, water quality analysis reports, civil and electrical drawings etc.

- ❖ Semi-structured interview with maintenance manager, technicians, plumber and house keeping staff on current situation and the past trends in water consumption, electricity consumption, waste management, waste generation etc.

#### *iii. Data Processing and analysis*

The existing trends and patterns in water usage, energy usage and waste generation and management is analyzed in this step from the data collected from the previous step.

#### *iv. Audit Recommendations and reporting*

Based on the understanding from the green audit, recommendations are given to improve the existing environmental performance of the campus and are documented in a report format.



## Green Audit Report

Techno India NJR institute of Technology, Udaipur

### 2 Water Quality Assessment & Management:

Water quality analysis was conducted by Rahul Engineers Laboratory on following parameters:

- ORP
- TDS
- pH Conductance
- Salinity
- MPN Index
- Ions(Sodium,Potassium)





# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## Green Audit Report

### Techno India NJR institute of Technology, Udaipur

Ground Floor											
Wing-A			Wing-B			Wing-C			Wing-D		
Section	Room No	No. of Taps	Section	Room No	No. of Taps	Section	Room No	No. of Taps	Section	Room No	No. of Taps
Pantry			Common Toilet			Chemistry Lab	C-106	17	Toilet-Gents	D-109	8
Toilet-Gents	A-110	6	Drinking water		2	Toilet-Gents	C-107	6	Toilet-Ladies	D-109	8
Toilet-Ladies	A-110	6				Toilet-Ladies	C-107	6			
Floor Total						17+14+29+16= 76					
First Floor											
Wing-A			Wing-B			Wing-C			Wing-D		
Section	Room No	No. of Taps	Section	Room No	No. of Taps	Section	Room No	No. of Taps	Section	Room No	No. of Taps
Guest Room-1			Toilet-Gents	B-208	8	Toilet-Ladies	C-208	12	Toilet-Gents	D-210	8
Guest Room-2			Drinking water		2						
Guest Room-3											
Floor Total						11+10+12+8=41					
Second Floor											
Wing-A			Wing-B			Wing-C			Wing-D		
Section	Room No	No. of Taps	Section	Room No	No. of Taps	Section	Room No	No. of Taps	Section	Room No	No. of Taps
Girls Hostel	A-305	17+3	Drinking water		2						
Floor Total						22					
Mechanical Workshop			Incubation Lab								
Section	Room No	No. of Taps	Section	Room No	No. of Taps	Section	Room No	No. of Taps	Section	Room No	No. of Taps
Workshop	WS01		IC Lab	IC-103		i-3 Lab	IC-201				
Floor Total						2+4+4=10					
Section	No. of Taps										
Canteen	8										
Cafeteria											
Lawn-1	6										
Lawn-2											
Main Gate	46										
	10 (Showers)										

For Techno India NJR Institute of Technology

(B.S. Was) Director



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## Green Audit Report

Techno India NJR institute of Technology, Udaipur

### ➤ WaterStorageProfile:

		No of Tanks	Capacity of the Tanks	Total Capacity (Litre)	Remark
Main Building	Block-A	2	1000 Litre	2000	
	Block-B	5	1000 Litre	5000	
	Block-C	2	1000 Litre	2000	
Main Gate	RO Water	2	3000 Litre	6000	Raw Water
		1	3000 Litre	3000	RO Water Storage
		2	1000 Litre	2000	Raw Water
		1	1000 Litre	1000	RO Water Storage
		2	2000 Litre	4000	Raw Water
		1	1000 Litre	1000	RO Water Storage
		1	1000 Litre	1000	RO Water Storage
Service Station		1	1000 Litre	1000	
<b>Total</b>				<b>28,000</b>	

### ➤ Bore Well Storage Profile:

SN	Dimension(foot)	Volume(cubic foot)	Total Capacity (Litre)
1	70x16x8	8,960	2,53,718.9



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax :+91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## Green Audit Report

Techno India NJR institute of Technology, Udaipur

### 3. Electricity Consumption & Management:

Sr.No.	Month	Consumption Units(kWh)
1.	Jun	22893
2.	Jul	21386
3.	Aug	19191
4.	Sep	16743
5.	Oct	19677
6.	Nov	16151
7.	Dec	22725
8.	Jan	14024
9.	Feb	11460
10.	Mar	10451
11.	Apr	11778
12.	May	20193
13.	Jun	22751
	<b>Total Power Consumption in Yearly</b>	<b>229423kWh</b>
	<b>Average Power Consumption in Monthly</b>	<b>17648kWh</b>

For Techno India NJR Institute of Technology

(B. S. Vyas)  
Director



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

[www.technonjr.org](http://www.technonjr.org)

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax :+91 2942650218, Email : [technonjr@gmail.com](mailto:technonjr@gmail.com), [director@technonjr.org](mailto:director@technonjr.org)

Average power consumption in monthly is **17648** kWh is collected after deducting the Solar generation which approximately generation capacity in between 5000 to 6000 kWh per month.

For Techno India NJR Institute of Technology  
  
(B. S. Vyas)  
Director

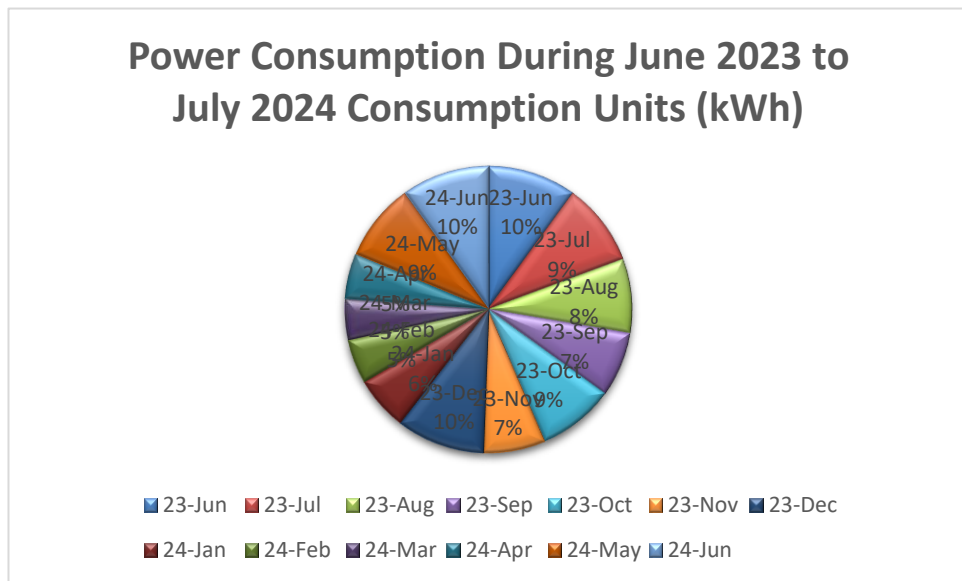


## Green Audit Report

Techno India NJR institute of Technology, Udaipur

### Graphically Representation of Electricity Distribution:

Fig: Electricity distribution from June 2023 to July 2024







## Green Audit Report

### Techno India NJR institute of Technology, Udaipur

**6 Waste Management:** This indicator addresses waste production and disposal of different wastes like paper, food, plastic, glass, dust etc. Furthermore, solid waste often includes wasted material resources that could otherwise be channeled into better service through recycling, repair and reuse. Solid waste generation and management is a burning issue.

**6.1 Solid Waste Management:** The Campus has adopted the principles of the 'best practicable environmental option' to deliver its waste management services. The Campus applies a 'waste hierarchical approach' to reduce, reuse, recycle and recover waste products in preference to waste disposal to land fill.

Figure 3 shows a schematic diagram of solid waste management of the Campus.

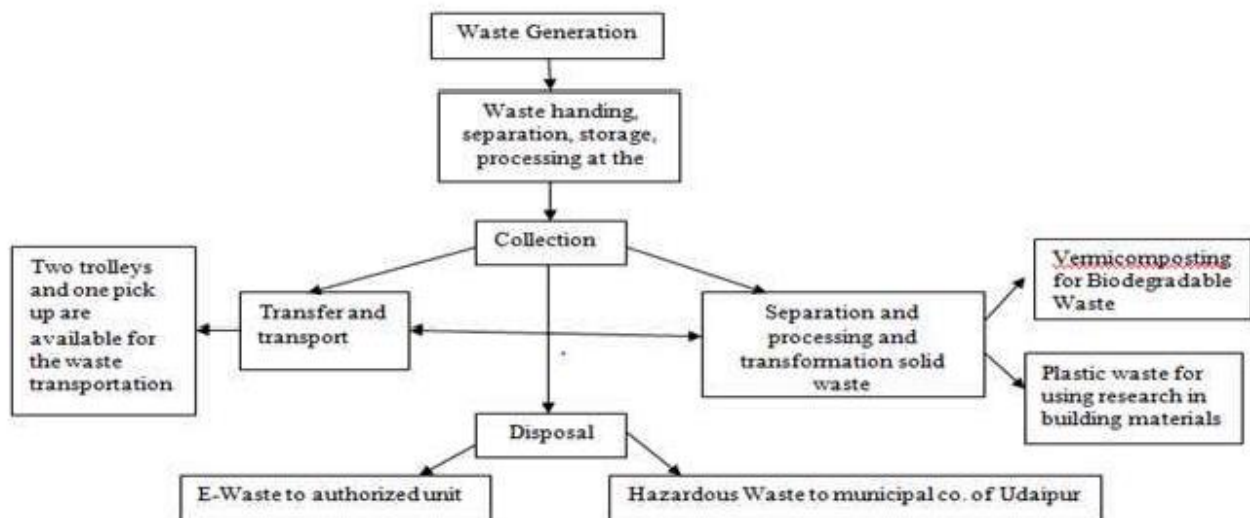


Figure 3: Interrelationships between the functional elements in Solid Waste Management in Campus

**Waste Segregation:** Source segregation via separate bins as per the waste. Following color code is used for different types of wastage.

- Green Bins: For biodegradable waste
- Blue Bins: For plastic waste
- Red Bins: Hazardous and Sanitary waste
- Black Bins: For E-Waste

Dimensions and 3d views of the collection and processing center on the college campus are shown in Figures 4 and 5.



## Green Audit Report

### Techno India NJR institute of Technology, Udaipur

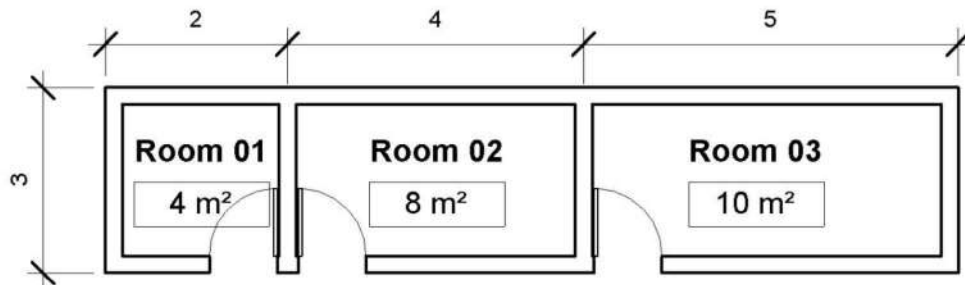


Figure4:Area and Dimensions of Processing Center (Outer Dimensions in meter)

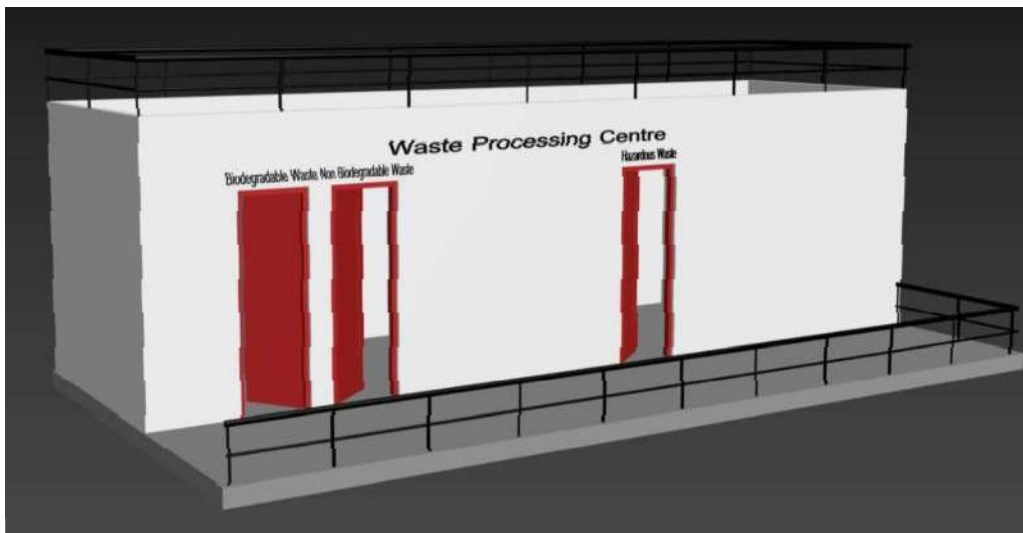


Figure5:Processing Center for Waste at the Campus

**Resources for Waste management:** There are two sets of four colored bins of 120 liter capacity for each location on Campus. One collection center and one processing center are also located on Campus. The location of black colored dustbin is inside the Campus in a particular room. Three sets (60 Liter) of blue and green bins are kept in each wing of each floor. Red bins of 60-liter capacity are kept in each washroom of the Campus.

**Liquid Waste Management:** Wastewater management options and technologies can be functionally divided into two segments. Firstly, septic tanks are used for sewage waste water. Secondly, wastewater from bathrooms is treated through coagulants for the separation of soap and other suspended particles, and this treated water is used for gardening.

**Bio medical and Radioactive Waste Management :**There is no bio medical and radioactive waste



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

[www.technonjr.org](http://www.technonjr.org)

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : [technonjr@gmail.com](mailto:technonjr@gmail.com), [director@technonjr.org](mailto:director@technonjr.org)

generated in the campus.

**Hazardous Chemicals Waste Management:** There are separate red colored bins and room (shown in figure 5) for sanitary and hazardous waste. These types of wastes are disposed on Municipality landfill site outside city

For Techno India NJR Institute of Technology

  
(B. S. Was)  
Director





# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## Green Audit Report Techno India NJR institute of Technology, Udaipur



For Techno India NJR Institute of Technology  
  
(B.S. Was)  
Director





# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax :+91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## 1. Energy Audit

### Collection of experimental data:

All required data is collected by the Department of Electrical Engineering. In the building, in every room, how many fans, tube lights, bulbs, computers, instruments AC, etc. will be measured. According to the survey following data is collected.

Table: Total Load During June 2023 to July 2024

Department/Office	Fan	LED Tubelight	A.C.	Fridge	Computer	Printer	Scanner	Xerox Machine	Projector	LED TV
Director Office	2	6	2	0	1	1	0	0	0	0
Principle Office	4	9	2	0	0	1	0	0	0	0
Chemistry Lab	11	16	0	0	0	0	0	0	0	0
Physics Lab	3	6	0	0	1	0	0	0	0	0
Chairperson Room	1	2	1	0	0	0	0	0	0	0
Account Dept	4	2	1	0	3	1	1	3	0	0
Exam Dept	4	5	0	0	2	1	1	1	0	0
Staff Room	18	30	5	0	25	18	5	0	0	0
Library	8	16	0	0	3	1	1	1	0	0
Classrooms	102	216	0	0	7	0	0	0	8	0
Pantry	1	3	0	1	0	0	0	0	0	0
Seminar Hall	8	16	5	0	1	0	0	0	1	0
Washroom	0	18	0	0	0	0	0	0	0	0
Passage	0	60	0	0	0	0	0	0	0	0
Dept Labs	158	256	20	0	424	0	0	0	8	2
I3 Lab	11	21	4	1	11	3	1	0	1	2
Mechanical Workshop	20	30	0	0	1	0	0	0	0	0
Hostel	30	40	0	0	3	0	0	0	0	0
Canteen	15	16	0	3	0	0	0	0	0	0
Main Entrance	6	16	0	0	0	0	0	0	0	0
Gym	12	15	0	0	0	0	0	0	0	1
Visiting Room	1	2	0	0	0	0	0	0	0	1
Parking Area	6	12	0	0	1	0	0	0	0	1

For Techno India NJR Institute of Technology

(B. S. Was)  
Director



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

<b>Total Quantity</b>	<b>425</b>	<b>813</b>	<b>40</b>	<b>5</b>	<b>483</b>	<b>26</b>	<b>9</b>	<b>5</b>	<b>18</b>	<b>7</b>
<b>Avg. Wattage rating of single appliance(W)</b>	<b>60W</b>	<b>25W</b>	<b>1.5/2.0 Ton</b>	<b>1100 W</b>	<b>180W</b>	<b>100W</b>	<b>100W</b>	<b>300W</b>	<b>220W</b>	<b>90W</b>
<b>Average number on at a time</b>	<b>204</b>	<b>510</b>	<b>20</b>	<b>4</b>	<b>220</b>	<b>20</b>	<b>6</b>	<b>4</b>	<b>14</b>	<b>5</b>
<b>Total Wattage on at a time(W)</b>	<b>12240</b>	<b>12750</b>	<b>34500</b>	<b>4400</b>	<b>39600</b>	<b>2000</b>	<b>600</b>	<b>1200</b>	<b>3080</b>	<b>450</b>
<b>Total maximum Power Requirement of all appliances = 110820 Watts</b>										

For Techno India NJR Institute of Technology  
  
(B. S. Was)  
Director



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax :+91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

- Bore-well motor details:** 3- phase Induction motor of 5 HP, consumes approx. 8 units per day so monthly around 240 units. .
- Power Consumption of Electricity Board**
- Average power consumption in monthly is 17648 kWh (Units) is collected after deducting the Solar generation which approximately generation capacity in between 3000 to 4000 Units per month.**
- Total requirement of electricity, generation of electricity using renewable energy sources (Jun 2023-Jul 2024):**

Power requirement by Renewable energy sources	Total Generation	Renewable energy source	Renewable energy generated and used
15903kWh/Month	200kWh/day	50kWSolaronthe grid	3000to4000kWh/Month

**6. Renewable energy generation details:**

50kW capacity Solar on the grid power plant.Total per day generation is around 200Units(kWh)

For Techno India NJR Institute of Technology

(B. S. Vyas)  
Director

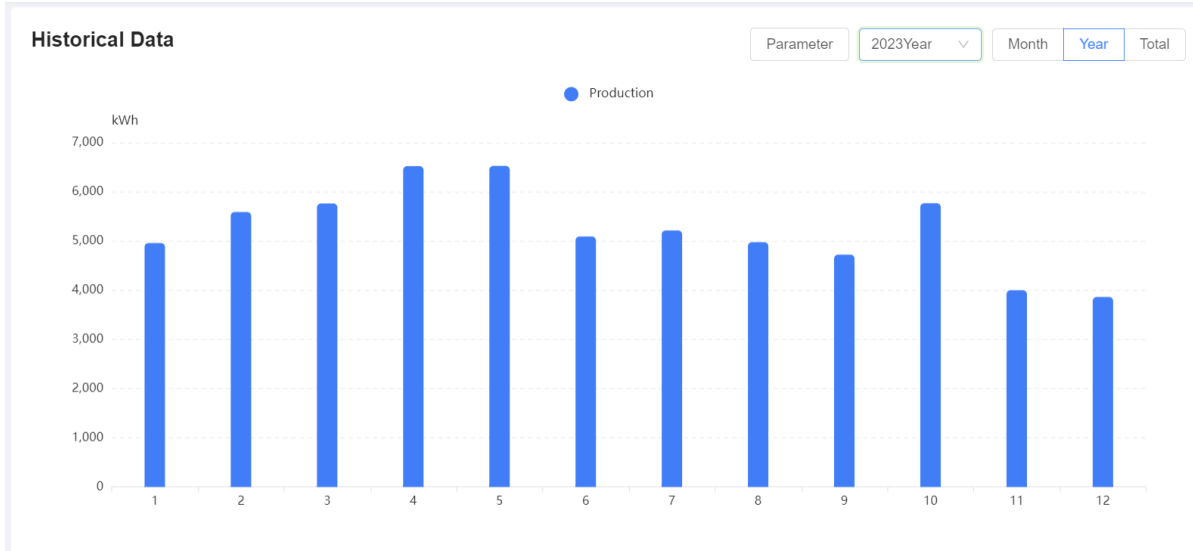


# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax :+91 2942650218, Email : technonjr@gmail.com, director@technonjr.org



**Fig: Jan 2023 to Dec 2023 month per day Solar generation graph**

For Techno India NJR Institute of Technology  
*(B.S. Vyas)*  
Director





# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

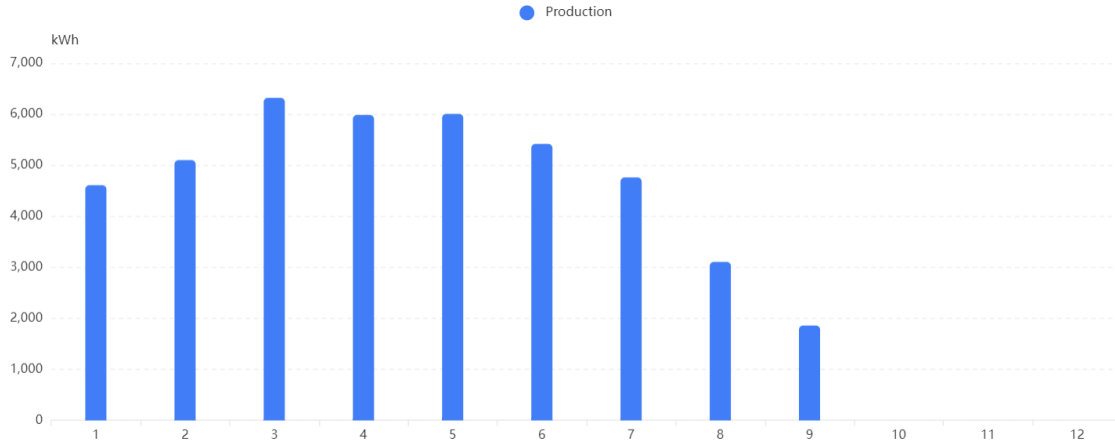
Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## Historical Data

Parameter 2024Year Month Year Total



**Fig: Jan 2024 to Sept.2024 month per day Solar generation graph**

For Techno India NJR Institute of Technology  
*(Signature)*  
(B. S. Vyas)  
Director



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## Plant Profile

Plant ID 883005

Name Techno NJR

Location Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas Udaipur 313003 (Rajasthan) India

Contact Number 8696932729

Plant Type Residential Rooftop

Angle of Tilt 26°

Constructing Cost 375000 INR

System Type All on Grid

Benchmark Price 8.85 INR/kWh

Constructing FIT 1000 INR

Loan Proportion 0 %

Capacity 50kWp

Annual Loan Rate 6 % 0Year

Time Zone (UTC+05:30) Chennai,Kolkata,Mumba... Generation Province FIT 0 INR/kWh 0Year

Refund Method Fixed Payment Mortgage

Azimuth 180°

Generation City FIT 0 INR/kWh 0Year

Generation County FIT 0 INR/kWh 0Year

Creation Time 2020-11-08

**Fig:Solar Power Plant Profile**

## 7. Conclusion:

In conclusion, data generated in energy audits are useful for understanding the energy distribution and utilization of college. The college needs a maximum of 15731 kWh (Units) per month. On-grid Solar plant generates a maximum of 200 units per day so monthly generation is around 5000 to 6000kWh (Units).

## 8. Recommendation:

- Use separate sub energy meter/connection for different locations like hostel, canteen, Mechanical workshop and offices.
- Replace all non-LED Tube lights with LED lights and bulbs, to save more power.
- Replace CRT monitor using LED or LCD monitor.

## 9. Result and Discussion:

As far as the energy audit, electricity audit is the main concern regarding the educational institutions. We have collected data by considering the tube light, fan, computer, printer, A.C. and instruments. The total requires full load power is 217.855 kW. The energy consumption by all devices is 15731 kWh per month and On-grid solar renewable sources generate around 3000 to 4000 Units/Month.

For Techno India NJR Institute of Technology  
  
(B. S. Was)  
Director



**TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY**

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

# Environmental Audit Report



## Techno India NJR Institute of Technology, Udaipur (Rajasthan)



For Techno India NJR Institute of Technology

*(Signature)*  
(B. S. Was)  
Director



www.technonjr.org

# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax :+91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## CONTENTS

ACKNOWLEDGEMENT

INTRODUCTION: OVERVIEW OF INSTITUTE

AUDIT OBJECTIVES

AUDIT PARTICIPANTS

ENVIRONMENTAL AUDIT - QUESTION ARE

1. WASTE MINIMIZATION AND RECYCLING

2. GREENING

3. ENERGY CONSERVATION

4. WATER CONSERVATION

5. CLEAN AIR

6. ANIMAL WELFARE

7. ENVIRONMENTAL LEGISLATIVE

For Techno India NJR Institute of Technology  
  
(B.S. Vyas)  
Director





www.technonjr.org

# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax :+91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## ACKNOWLEDGEMENT

Techno India Environmental Audit Team thanks the management of Techno India NJR Institute of Technology, Udaipur for assigning this important work of environmental audit. we appreciate the cooperation to our team for completion of study

Our special thanks are due to:

- Director Mr. R.S. Vyas and Chair Person MRS. Meera Ranawat for providing all data for this audit work
- Teaching and Supporting staff of College

For Techno India NJR Institute of Technology  
  
(R.S. Vyas)  
Director



## INTRODUCTION:OVERVIEW OFINSTITUTE

Techno India NJR Institute of Technology is located on a beautiful campus of 10 acres in Udaipur. The college has also adopted the Green Campus System for environmental conservation and sustainability. Following sustainable techniques have been adopted by this Institute:

1. Vermicomposting for biodegradable waste
2. Plastic recycling through a start-up project of the Institute
3. Use of treated wastewater from bathrooms in gardening
- 4 . Wastewater from toilets is being disposed of utilizing septic tanks
5. Separate sections in Campus for e-waste and hazardous waste collection for authorized vendors are available for waste recycling.
- 6 . Rainwater harvesting system
7. Solar panel for energy conservation

The whole Campus is divided into the following blocks.

S.No.	Block Name	Ground Coverage (SqM.)
1	Academic Block	3377.01
2	Work Shop	606.3
3	Hostel Building	597.9064
4	Lab	275.394
5	Road	2668.166
6	Area of Covered by Tiles	1613.306
	<b>Total Area</b>	<b>9138.824Sq.M</b>

This Institute has to ensure that all the campus wastes are disposed of responsibly by using proper waste segregation mechanism at the source and, if possible, converting it into a value-added environmentally friendly product. As per the guidelines provided by the Indian Ministry of Urban Development ((MoUD) in the form policies of SWM rules 2016, all gated societies and campuses have been advised to develop the treatment and segregation of waste within their premise.

The Campus has adopted the principles of the 'best practicable environmental option' to deliver its waste management services. The Campus applies a 'waste hierarchical approach' to reduce, reuse, recycle, and recover waste products in preference to waste disposal to landfill.



## OBJECTIVES

The board aims of the eco-auditing system would be

- Environmental education through systematic environmental approach
- Improving environmental standards
- Benchmarking for environmental protection initiative
- Reduction in resource use
- Financial saving through a reduction in resource use
- Curriculum enrichment through practical experience
- Development of ownership, personal and social responsibility for the university campus and its environment
- Developing an environmental ethic and value system in young people

## AUDIT PARTICIPANTS

On behalf of Institute:

Name	Education
Mr. Rakesh Yadav	M.Tech in Structural Engineering
Dr. Kuldeep Swarnkar	PHD in "Contaminant Transport modelling in an Urban Drainage system" & M. Tech in Hydraulic and Water Resource Engineering
Mr. Rajkumar Soni	M.Tech in Energy and power system
Mr. Nishit Jain	M. Tech in Environmental Engineering



## ENVIRONMENTAL AUDIT QUESTIONARE

The areas of eco/environmental/green auditing to be followed/practiced by participating institutions:

1. Waste Minimization and Recycling
2. Greening
3. Energy Conservation
4. Water Conservation
5. Clean Air
6. Animal Welfare
7. Environmental Legislative

### **Does your Environmental Audit conducted earlier?**

No, this is for the first time that institute has taken a systematic way of monitoring the environmental aspects of the campus for better management.





# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

What is the total permanent population of the institute?	Male	Female	Total
Students	423	167	590
Teachers	39	10	49
Non –Teaching Staff	4	1	5
Supporting staff	4	2	6
Sub total	470	180	650
Approximate Number of Visitors (Per Day)	20		
What is total number of working days of your campus in a year?	270		

Where is the campus located?	
	The campus is located at Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur

Which of the following are available in your institute?			
a Garden area		Available	
b Play ground		Available	
c Kitchen		Available	
d Toilets		Available	
	Garbage Or Waste Store Yard	Available	
f	Laboratry	Available	
g	Canteen	Available	
h	Hostel Facility (numbers)	Available	
i	Guest House	Available	

Which of the following are found near your institute?			
Municipal Dump yard	Not in the area of institute		
Garbage heap	No		
Public Convenience	Yes		
Sewer line	Yes		
Stagnant water	No		
Open drainage	Yes		
Industry – (Mention the type)	Yes, Campus is in industrial Area, So various type of industry are there the nearest one is soap stone manufacturing industry		
Bus/ Railway Station	About 11 Km from campus		
Public halls	About 9-11 Km from campus		

For Techno India NJR Institute of Technology

(B. S. Vyas)  
Director



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

1

1. WASTE MINIMIZATION AND RECYCLING					
2	Does your institute generate any waste? If so, what are they?	Yes. Solid, paper, plastic toiletry waste etc.			
3	What is the approximate amount of waste generated per day? (in Kilograms/month) (approx.)	Bio Degradable ~15 kg	Non-Biodegradable ~ 1kg	Hazardous 1 kg	Others <1 kg
4	3 Reusing 4 Others (specify)	Institute has planned a Vermi-Compost at Backyard of college. Where Solid waste of the institute will be dumped. For Reusing – Civil Engineering Alumni are working on a project named <b>Wricks</b> , in which they are using plastic to make sustainable bricks.			
6	Do you use recycled paper in institute?	Yes			
5	Do you use reused paper in institute?	Yes			
7	How would you spread the message of recycling to others in the community? Have you taken any initiatives? If yes, please specify.	Yes, students from Civil engineering department conducted a various research works in the city. One of them was at the city's main vegetable market and they studied the waste generation and proposed a detailed case report in order to reduce the solid waste generation.			
	Can you achieve zero garbage in your institute? If yes, how?	Yes we can, With proper handling of materials and its processing we can achieve zero garbage.			
2 GREENING THE CAMPUS					



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

8	Is there a garden in your institute?		Yes, About 2.6 Acre
9	Do students spend time in the garden?		Yes
10	Total number of Plants in Campus	<b>Plant type</b>	<b>Approx. Number</b>
		Trees	390
		Shrubs	160
		Grass Cover	2 Acre
11	Suggest plants for your campus (Trees, vegetables, herbs, etc.)		Ashoka, Mulberry, Bauhinia purpurea (Kachnar), Tamarind, Neem.
12	Is the College campus have any Horticulture Department		Yes
	Number of Staff working in Horticulture Department		2
13	Number of Tree Plantation Drives organized by College per annum. (If Any)		02 Drives till date
14	Number of Trees Planted in Last FY		50 200-250 Ornamental Plants
	Survival Rate		90 %
15	Plant Distribution Program for Students and Community		Green Kaladwas programme was organized in 2015-16 with the aim of planting trees across all over the industrial area. In 2016, Tree plantation programme by students and faculties was carried out in Campus garden with a quantity of 500. NCC Cadets organized a tree plantation drive in 2019-20.
16	Plant Ownership Program		Yes

For Techno India NJR Institute of Technology

(B. S. Was) Director



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax :+91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

3 ENERGY			
17	List few ways that you use energy in your institute. (Electricity, LPG, firewood, others). Using this list, try to think of ways that you could use less energy every day.		By using LED bulb and solar street lights we are saving on electricity consumption. Also Solar panel on roof tops are installed with capacity of 50 Kilowatts.
18	Are there any energy saving methods employed in your institute? If yes, please specify. If no, suggest some		Yes renewable source of energy by using solar panels over street lights and solar panels with capacity of 50 Kilowatts on rooftop are installed in campus.  Also the institute is planning for more 50 Kilowatts of solar installation
19	How many CFL/LED bulbs has your institute installed?		LED Tube lights = 813
20	Are any alternative energy sources employed / installed in your institute? (photovoltaic cells for solar energy, windmill, energy efficient stoves, etc.) Specify.		Yes, Photovoltaic cells for solar energy in street lights
21	Do you run "switch off" drills at institute?		No
22	Are your computers and other equipment's put on power-saving mode?		Yes
23	Does your machinery (TV, AC, Computer, weighing balance, printers, etc.) run on standby modes most of the time? If yes, how many hours?		No
	Table showed the power consumption details of last year	Month	Electrical Consumption (KWH)
		Jun-23	22893
		Jul-23	21386
		Aug-23	19191
		Sep-23	16743
		Oct-23	19677
		Nov-23	16151
		Dec-23	22725
		Jan-24	14024

For Techno India NJR Institute of Technology

*(Signature)*  
(B. S. Was)  
Director





# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax :+91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

		Feb-24	11460
		Mar-24	10451
		Apr-24	11778
		May-24	20193
		Jun-24	22751

For Techno India NJR Institute of Technology  
  
(B. S. Was)  
Director



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

4 WATER CONSERVATION			
24	List uses of water in your institute	The basic uses are: Drinking, Kitchen & Toilets, Gardening, Vehicle cleaning etc We have installed a RO plant of capacity 50 LPH	
25	How does your institute store water? Are there any water saving techniques followed in your institute?	An underground water tank of capacity 3 Lakh Liters is used to Pump water to various places.	
26	If there is water wastage, specify why and How can the wastage be prevented / stopped?	No	
27	Locate the point of entry of water and point of exit of waste water in your institute.	Entry Point – Borewell Exit Point – 1. R.O Water – Garden 2. R.O Water – Toilet 3. Bathroom – Garden 4. Rest Water – Water harvesting Pit	
28	Write down few ways that could reduce the amount of water used in your institute	1. By avoiding unnecessary or wastage of water. 2. Water conservation awareness programs need to be scheduled.	
29	Record water use from the institute water meter for six months (record at the same time of each day). At the end of the period, compile a table to show how many litres of water have been used.	Calculation of water usage is shown below	
30	Does your institute harvest rain water?	Yes, Institute have planned a water harvesting system.	
31	Is there any water recycling System	Yes, R.O Water is fed to garden and is also attached to toilet supplies.	
		<b>Month</b>	
		<b>Water Consumption (KL)</b>	
	1	Jan 2023	94
	2	Feb 2023	135
	3	March 2023	225
	4	April 2023	240
	5	May 2023	230
	6	June 2023	220

For Techno India NJR Institute of Technology

(B. S. Was) Director



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

5 CLEAN AIR						
32	Are the Rooms in Campus are Well Ventilated?	Yes				
33	Window Floor ratio of the Rooms	Good				
34	Provide details of school-owned motorized vehicles?	Buses	Cars	Vans	Other	Total
	No. of vehicles	10	07	01	--	17
	No. of vehicles more than five years old	10	05	00	--	15
	No. of Air conditioned vehicles	--	04	--	--	04
	PUC done	10	07	01	--	18
35	Specify the type of fuel used by your school's vehicles:	Total				
	Diesel	12				
	Petrol	05				
	CNG	--				
	LPG	--				
	Electric	--				
36	Air Quality Monitoring Program (If Any)	Institute is planning for its own air Quality monitoring system, Air Quality monitoring is being done by approved laboratory				
37	Students suffer from respiratory ailments? (If Any)	None				
38	Details of Genet	Yes, a total of 3 Generators of 15 KV, 62.5 KV (Spare) and 125 KV are installed throughout campus				



# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

6 ANIMAL WELFARE		
39	List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects etc)	Cows, Squirrels, birds
40	How many dogs in your area have undergone Animal Birth Control - Anti Rabies (ABC-AR)?	NA
41	Does your institute have a Biodiversity programme or a KARUNA CLUB?	NA

7 ENVIRONMENTAL LEGISLATIVE COMPLIANCE		
42	Are you aware of any environmental Laws pertaining to different aspects of environmental management?	Yes
43	Does your institute have any rules to protect the environment? List possible rules you could include	Yes we are working on using more of conventional sources of energy in our institute and also tree plantation drives are being organized on regular basis.
44	Does Environmental Ambient Air Quality Monitoring conducted by the Institute?	Yes
45	Does Water and Wastewater Quality monitoring conducted by the Institute?	Yes
46	Does stack monitoring of DG sets conducted by the Institute?	No
47	Is any warning notice, letter issued by state government bodies?	No
48	Does any Hazardous waste generated by the Institute?	Yes.
49	Does any Bio medical waste generated by the Institute? If yes explain its category and disposal method	No

For Techno India NJR Institute of Technology

  
(B. S. Was)  
Director





# TECHNO INDIA NJR INSTITUTE OF TECHNOLOGY

Approved by AICTE & Affiliated to Rajasthan Technical University

www.technonjr.org

NJR Knowledge Campus, Plot-SPL-T, Bhamashah (RIICO) Industrial Area, Kaladwas, Udaipur - 313003 (Raj.)  
Tel. : +91 2942650214-17 Fax : +91 2942650218, Email : technonjr@gmail.com, director@technonjr.org

## ANNEXURE PHOTOGRAPHS OF ENVIRONMENT CONSIIOUSNESS



For Techno India NJR Institute of Technology  
  
(B. S. Was)  
Director