

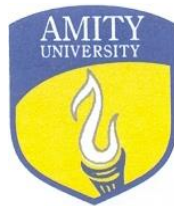
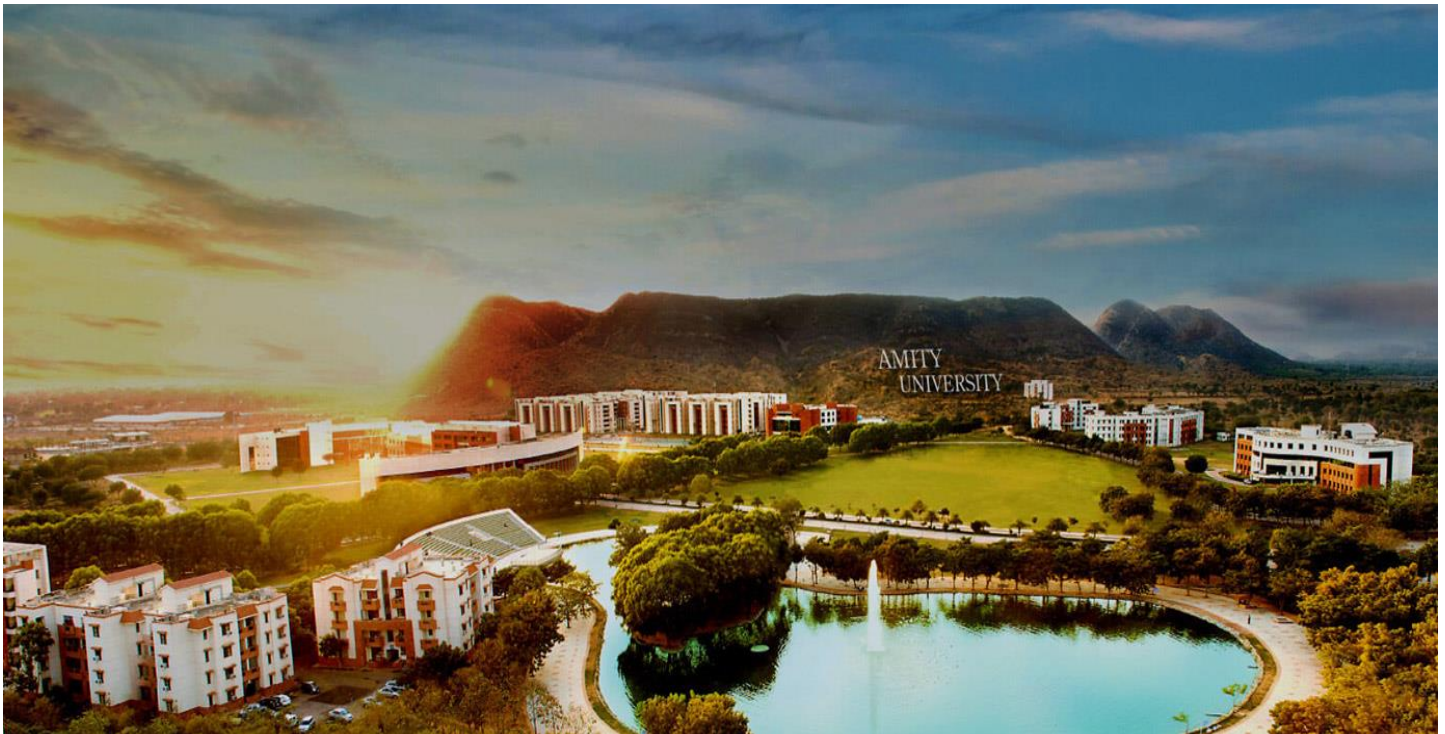
# AMITY UNIVERSITY

## RAJASTHAN

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

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# ENERGY AUDIT REPORT 2022



AMITY UNIVERSITY  
RAJASTHAN

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## Introduction

Amity University, Rajasthan, is green & clean campus, located amidst the oldest mountain ranges of Aravali. The picturesque campus stretches across 152 acres with plantations of regional biodiversity. The university has taken various initiatives like planting Neem Forest with more than 350 trees, 50 palm trees on University streets, a 2 acres regional species bamboo plantation supported by the Ministry of Environment & Forestry, Government of India.

## Objectives

- To adopt energy efficient strategies to minimize energy requirements.
- Intelligent utilization of available resources on the campus.
- To contribute in infrastructure installations for production of renewable energy.

  
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## ELECTRICAL ENERGY

- Amity University Rajasthan has 24\*7 electric supply through JVVNL and through its own captive power back up from DG sets.
- With a view towards an energy conscious campus, AUR has installed solar panels on terraces of various buildings and has a ground tracker solar panel system.
- The total sanctioned load for AUR from JVVNL is 3200 KW. AUR has taken approval presently to utilize 2490 KW out of sanctioned 3200 KW. AUR has two substations and has captive power generation capability to the tune of 4700 KVA through 9 DG sets installed near sub stations. The Solar Plant can generate a total of 0.99 MW or approx. 40% of AUR's total electrical energy requirement.
- Peak load, during summers, with all three chillers of air conditioning system running is in the range of 2400 KW. The minimum load is approx. 700 KW (with no chillers/ less geysers operating conditions in the months of November and February).
- The residents are provided subsidized electricity. The vendors are charged at a rate calculated by giving due weightage to the units consumed on JVVNL and DG supply.
- AUR has also got net metering connection with JVVNL, any excess generation of electricity through the solar panels is channeled to JVVNL grid, thus further saving on electrical cost (**Table-1-3 & Figure 1-3 in ANNEXURE-I**).

  
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**General Measures-** The measures adopted to ensure optimal utilization of electricity are as follows:

- Unserviceable Pumps motor winding is done only twice after which the pump is made redundant. This is because further rewinding will increase the load current of the pump.
- General Awareness is spread amongst all stakeholders to lower consumption of electricity and take proper precautions. Proper consumption at residences/vendor outlets is monitored through fitment of electronic meters.
- Residents / Students are made aware of the need to s/w off electrical appliances like light / fans before leaving their rooms. They are also advised to stop keeping appliances like TV, Air Conditioner etc. in standby mode. Three-star rating air Conditioners are installed in the hostel rooms for less consumption of electricity. The power consumption of electrical appliances had been shared with faculty/staff for awareness of electricity consumption (**Table-4 in Annexure-II**).
- Wardens in Hostels ensure that geysers are switched off when not in use. Hostel staff ensures only optimum lighting is used in the common areas of halls, lounges and staircase.
- Attendants in various Academic Blocks ensure that lights/fans are switched off in lecture theatres and classrooms when classes are not being held. Duty attendants also ensure that only necessary lighting is switched on after 6 pm.
- No thermal energy usage in the campus to avoid pollution in the campus.
- It is always ensured that the Lab equipment's should be CE approved.

### **Chiller Plants**

- Air Conditioning system is on AMC to ensure efficient operation and regular maintenance. To increase the efficiency of the chiller plants daily inspection and periodic maintenance as required is carried out (**Picture 3 PO of AMC in ANNEXURE-III**).
- Preventive maintenance (descaling etc) is carried out during the lean period. This ensures that electricity consumption does not increase significantly with ageing of the chillers.
- Chiller plants are used only on as required basis. Timing of usage is between 9 am to 6 pm from 01 Apr to 31 Oct.
- Records of Chiller plant operation and Power consumption are maintained and monitored to ensure that load current does not increase.

### **DG Sets/Electrical Panels/Transformers/line losses/Power Factor**

- A dedicated team of electrical engineer and DG operators ensure effective running of the DG sets. Planned Maintenance is carried out at regular intervals as defined for the DG sets (**Table 5 in Annexure-IV**).
- DG sets are being synchronized to ensure max load (80% of DG rated capacity) on a particular DG set is achieved before other DG set is brought in line. This ensures reduction in fuel consumption.
- Timely servicing of electrical panels and transformers is carried out.
- Proper rating cables are used to ensure that no cable is overloaded. This is to ensure

## Energy Audit

line losses are minimum.

- Maintaining a higher Power Factor ensures stable current and reduction in its consumption. AUR is presently achieving a power factor of 0.99. Rebate is given by JVVNL for achieving a higher PF and AUR has received a max of Rs. 1.75 Lakhs in a month last year. The average rebate given by JVVNL last year (Table 6 in ANNEXURE-V).

### **Changeover to LED in Phases**

- AUR had approx. 10,000 no. of 36 watt fluorescent tube lights fitted in Academic Blocks, Hostels and Residential Blocks. The 3100 tube lights fitted in Academic Blocks are proposed to be replaced by 18 watt LED tubes in the initial phase (Table 7 in ANNEXURE-VI).
- The testing of LED tubes and their compatibility with the existing frames has been checked. Similarly, there are 85 security lights of 400 watts each which has been replaced with 100/200 watts LED lamps in 2021.
- The Tublights, chokes & starters removed from Academic Blocks will be utilized in the hostel / residential blocks. Subsequently fluorescent tubelights of Residential Blocks will be replaced, with those in hostel being replaced in the last phase.
- AUR has already replaced 1840 nos. of old fittings (inclusive of all types like security, panel and normal tube lights) with new LED in a period 24 months i.e. from Mar'2019 to Feb'2022 saving approx. 780 units daily.

### **Electricity Generation Through Solar Power**

- As AUR already has a sanction of 3200 KW from JVVNL and is generating 990 KW from solar through roof top solar and ground tracker, it is estimated that there will be no requirement of additional power to be sanctioned from JVVNL for the next five years. There is also a thought to extend the ground tracking system to generate additional solar power. (Table 8 in Annexure-VII).

  
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### Wheeling to the Grid 2019

Tabel-1: Month wise wheeling to the grid data of Amity University Rajasthan.

	Jan'19	Feb'19	Mar'19	Apr'19	May'19	Jun'19	Jul'19	Aug'19	Sep'19	Oct'19	Nov'19	Dec'19
JVVNL Billed Units in Mwh	406	228	205	459	285	373	437	580	567	342	251	233
Solar Generation in Mwh	115	119	131	188	174	151	132	112	125	137	92	93
Wheeled Electricity to grid Mwh								0	0	11	0	5
Total Usage of Amity in Mwh	522	346	336	647	459	524	569	692	692	468	342	321
Solar Usage as %age of Total	22	34	39	29	38	29	23	16	18	29	27	29

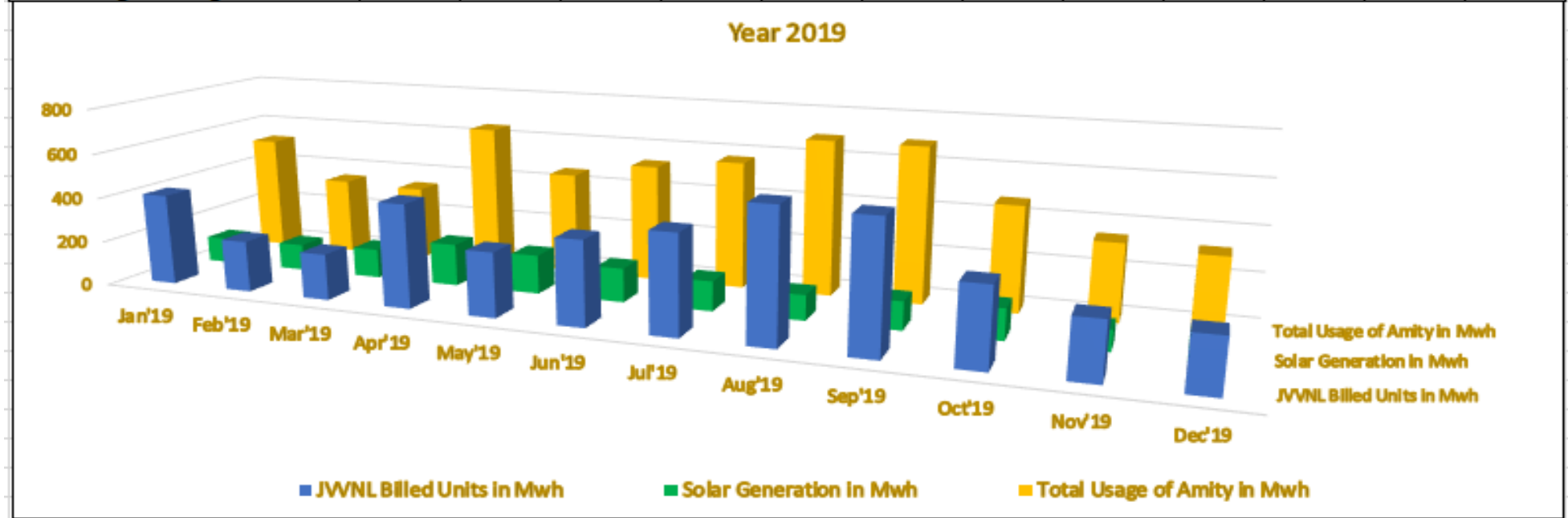


Figure-1: Graphical representation of total usage, solar energy generation and JVVNL billed units.



### Wheeling to the Grid 2020

Tabel-2: Month wise wheeling to the grid data of Amity University Rajasthan.

	Jan'20	Feb'20	Mar'20	Apr'20	May'20	Jun'20	Jul'20	Aug'20	Sep'20	Oct'20	Nov'20	Dec'20
JVVNL Billed Units in Mwh	238	208	232	193	78	91	103	98	86	77	66	77
Solar Generation in Mwh	103	123	138	156	168	145	129	99	131	138	99	102
Wheeled Electricity to grid Mwh	4	8	0	35	19	17	15	12	15	16	11	12
Total Usage of Amity in Mwh	337	323	370	314	228	219	216	185	202	199	154	167
Solar Usage as %age of Total	31	38	37	50	74	66	60	54	65	69	64	61

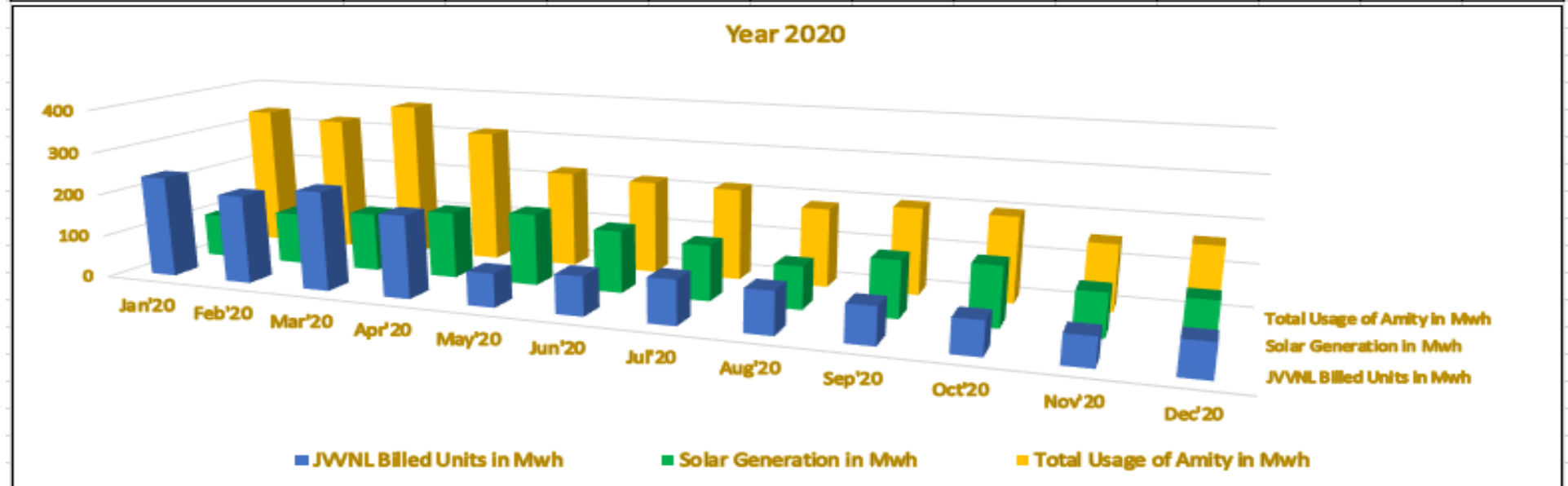


Figure-2: Graphical representation of total usage, solar energy generation and JVVNL billed units.

### Wheeling to the Grid 2021

Tabel-3: Month wise wheeling to the grid data of Amity University Rajasthan.

	Jan'21	Feb'21	Mar'21	Apr'21	May'21	Jun'21	Jul'21	Aug'21	Sep'21	Oct'21	Nov'21
JVVNL Billed Units in Mwh	92	79	128	80	204	78	220	215	223	187	112
Solar Generation in Mwh	106	117	144	160	134	141	123	129	99	123	100
Wheeled Electricity to grid Mwh	12	14	17	0	40	16	9	16	177	59	50
Total Usage of Amity in Mwh	185	182	255	240	298	203	335	327	145	251	162
Solar Usage as %age of Total	57	64	56	67	45	69	37	39	68	49	62

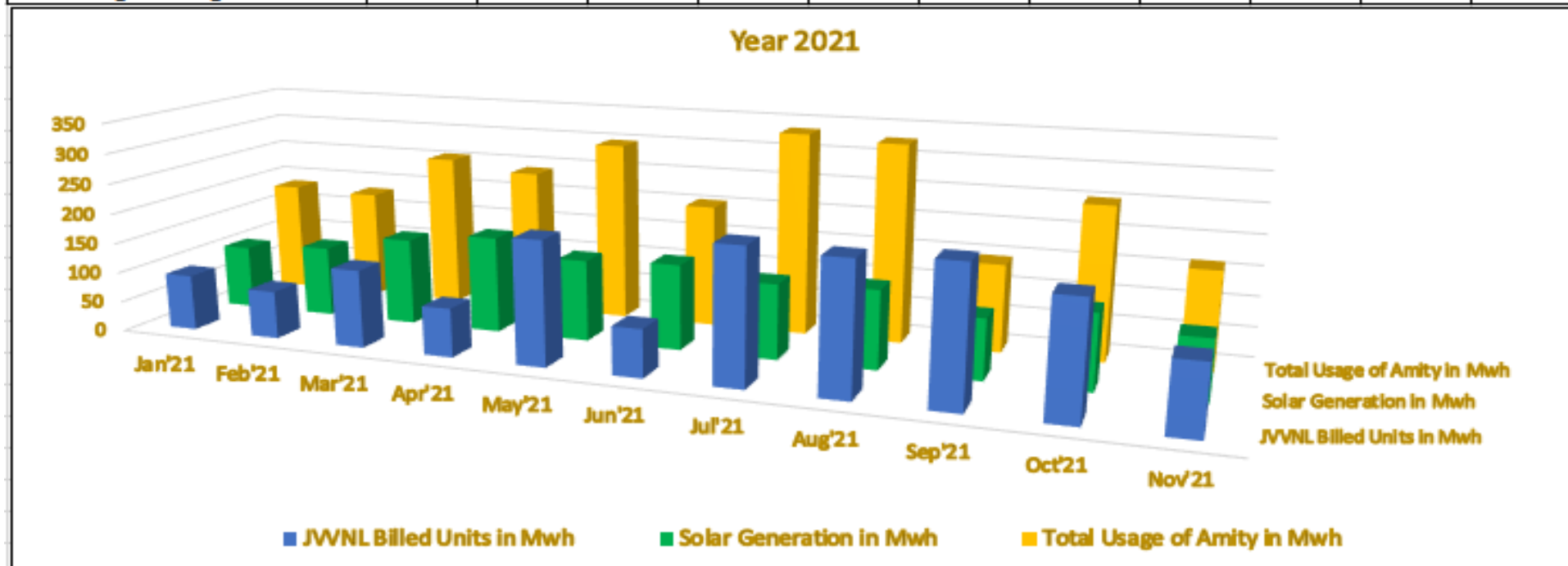


Figure-3: Graphical representation of total usage, solar energy generation and JVVNL billed units.

## Energy Audit

### Annexure-II


Sl. No.	Appliances/Fixtures	Consumption in Watts	Daily hours of use	Units per day	Units per month
1	Fluorescent Tube light	36.0	8.0	0.3	8.6
2	LED Tube light	20.0	8.0	0.2	4.8
3	Ceiling Fan	70.0	20.0	1.4	42.0
4	Exhaust Fan	70.0	2.0	0.1	4.2
5	Refrigerator (165 Litres)*	-	24.0	-	20 - 45
6	Refrigerator (250 Litres)*	-	24.0	-	25 -50
7	Refrigerator (350 Litres)*	-	24.0	-	30-60
8	Air Conditioner - Window (1.5 Ton - 3 Star)	1680.0	10.0	16.8	504.0
9	Air Conditioner - Split (1.5 Ton - 3 Star)	1570.0	10.0	15.7	471.0
10	Air Conditioner - Split (1.5 Ton - 5 Star)	1490.0	10.0	14.9	447.0
11	LED TV (32 inch)	55.0	6.0	0.3	9.9
12	LED TV (43 inch)	80.0	6.0	0.5	14.4
13	LED TV (55-60 inch)	120.0	6.0	0.7	21.6
14	Satellite dish	25.0	6.0	0.2	4.5
15	Semi-automatic Washing Machine (6 kg)	400.0	2.0	0.8	24.0
16	Fully automatic Washing Machine (6 kg)	1000.0	2.0	2.0	60.0
17	Microwave oven - 20Litre	800.0	2.0	1.6	48.0
18	Microwave oven - 25Litre	1000.0	2.0	2.0	60.0
19	Toaster	750.0	0.5	0.4	11.3
20	Electric Iron	750.0	1.0	0.8	22.5
21	Water Heater (25 liters)	2000.0	3.0	6.0	180.0
22	Room Heater	1500.0	2.0	3.0	90.0
23	Blender	200.0	0.5	0.1	3.0
24	Electric Kettle	1500.0	0.5	0.8	22.5
25	Electric Oven	1200.0	1.0	1.2	36.0
26	Mixer/Grinder	900.0	0.5	0.5	13.5
27	Hair dryer	1200.0	0.5	0.6	18.0
28	Electric Shaver	15.0	0.5	0.0	0.2
29	Smart phone/tablet recharge	8.0	5.0	0.0	1.2

Tabel-4: The power consumption of electrical appliances.

# Energy Audit

Annexure-III

## Chiller Plant AMC PO



AMITY UNIVERSITY JAIPUR  
AMITY EDUCATION VALLEY KANT KALWAR, NH11C,  
JAIPUR, RAJASTHAN, INDIA

**PURCHASE ORDER**

PO Number : AU JAIPUR/PO/2019-20/02742

PO Date : 23-09-2019

Status: Approved

Vendor Address : NORTHWIND COOL BLOWER LIMITED  
B-2/46,S-18,ROHINI, DELHI-85  
New Delhi - 110001, Delhi, India  
Email id :  
Contact Person : Amit Kumar  
Contact : 9990595963  
VAT No. :  
TIN No. :  
GSTIN : 09AAFNC4790E123

Site Address AMITY UNIVERSITY JAIPUR  
AMITY EDUCATION VALLEY KANT KALWAR, NH11C,  
JAIPUR, RAJASTHAN, INDIA  
Contact Name :  
Contact Email :  
Contact No :  
Cost Center : Administration  
GSTIN : 08AAATR7314Q1ZY  
PAN No. :

Billing Address : AMITY UNIVERSITY JAIPUR  
AMITY EDUCATION VALLEY KANT KALWAR, NH11C,

Sr No.	Service Description	Service Date	Service End Date	Specification	Service Qty	Service Amount	Tax	Charge	Discount	Service Cost
1	Maintenance of AC Plants	01-07-2019	31-03-2020	CHARGES PER MONTH	1.00	60,246.04	0.00	0.00	0.00	60,246.04
2	Operations of AC Plants	01-07-2019	31-03-2020	CHARGES PER MONTH	1.00	174,619.09	0.00	0.00	0.00	174,619.09
Discounts										0.00
Charges										0.00
Taxes										0.00
<b>Grand Total :</b>						Two Lakh Thirty Four Thousand Eight Hundred Sixty Five Rupee And Thirteen Paise Only				234,865.13
<b>Grand Total (Rounded off) :</b>						Rupee Two Lakh Thirty Four Thousand Eight Hundred Sixty Five Only				234,865.00

**Purchase Clauses**

- Please find attached order copy with all invoices and submit one original set of invoice to the purchase department and another to the user department
- Attached duly signed delivery / installation report alongwith invoice for payment processing
- Purchase order number and date must appear on all related correspondence, shipping papers and invoices
- Confirmation and supply of material under this purchase order shall be deemed to be acceptance of the terms and conditions specified under this purchase order
- Packing should be strong enough to avoid and damage / pilferage during transit. Enough precautions to be taken during packing.
- Proper labelling to be done
- All taxes applicable to respective state of delivery E.g Entry tax, octroi etc to be paid by you
- Upon Duly and satisfactorily Deliver, Tested and installed in working conditions of Ordered items, It is mandatory for you to immediately inform through mail to us with a copy by default to mmudgal(at)amity.edu, failing to Duly and satisfactorily Deliver, Tested and installed in working conditions on time mail information, penalty of 0.5% per week or a maximum of 2% of total PO value, will be imposed.
- Upon Delivery of Ordered items, It is mandatory for you to immediately inform us through mail, with a copy by default to Purchase dept. Late delivery will attract penalty of 0.5% per week or part thereof on the basic value, up to a maximum of 2% of total Basic value

**Additional Information**

- Email ID
- Contact Number : 9602102551
- Recipient : Gp. Capt Ajay Murlar
- Approved By : C4
- PR NO : 1307
- CIF\_CIP\_FOB
- PR DATE : 2019-09-23 00:00:00

**Comments** : GST Extra as applicable.  
Terms of Payment : The service charges shall be payable on monthly basis within one week of bill submission. The service charges are payable for twelve month in a year. In case air conditioning is required in any block beyond the specified timings service charge @ Rs 400.00 per hour shall be extra payable.  
Details as per Annexure I (Page 3 to 6)

Visit <https://www.tcsion.com/vendorportal/> to view online the Purchase Order details of all ION Customers serviced by you.

Page 1 of 2  
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Picture-1: PO of Chiller plant operation.

*Shankar*  
Incube Sustainability Pvt. Ltd.

## Energy Audit

Annexure-IV

### Diesel Engine Service Record

Tabel-5: Diesel Engine service record.

Servicing Details of Diesel Generating sets														
Sr. No.	Equipment code	Capacity	Make	Engine Model	Location Sub Station	Year of Manufacture	Total Hrs run so for	Date of last servicing	Date of servicing due	Hrs at last servicing	Hrs run after servicing	Next servicing due at Hrs	Job Done	15-01-2020
														Remark /Proposal
1	S1D1	82.5 KVA	Kirloskar	4R1040TA	S/S 1	2004	6616	15.10.17	15.10.18	6615	1.0	6915	Changed lube oil, lube oil filter, diesel filters	Not in use since Jun'16. Dg set can be spared and moved to inventory
2	S1D2	320 KVA	Kirloskar	6KL12TA Sr-I	S/S 1	2004	2069.6	19.9.19	19.9.20	1969.6	100.0	2270	Changed lube oil, lube oil filter, diesel filters	Servicing done on 19.9.19
3	S1D3	400 KVA	Kirloskar	8K15TA	S/S 1	2006	1604.7	9.10.19	9.10.20	1604.6	0.1	1905	Changed lube oil, lube oil filter, diesel filters	Servicing done on 9.10.19
4	S2D1	600 KVA	Cummins	VTA28G3-I	S/S 2	2009	32.3	22.5.19	22.5.20	2705.7	46.8	286	Changed lube oil, lube oil filter, bypass filter, diesel filters	Servicing done on 22.5.19
5	S2D2	600 KVA	Cummins	VTA28G3-I	S/S 2	2009	2386.7	23.5.19	23.5.20	2280.1	106.6	2580	Changed lube oil, lube oil filter, bypass filter, diesel filters	Servicing done on 23.5.19
6	S2D3	600 KVA	Kirloskar	12K22TA	S/S 2	2007	1131	31.1.19	31.1.20	1082.3	48.7	1382	Changed lube oil, lube oil filter, diesel filters	Spares for annual servicing. Material received
7	S2D4	600 KVA	Kirloskar	12K22TA	S/S 2	2007	1536.4	9.10.19	9.10.20	1527.9	8.5	1828	Changed lube oil, lube oil filter, diesel filters	Servicing done on 9.10.19
8	S2D5	750 KVA	Cummins	KTA38G2-1	S/S 2	2014	688.5	24.5.19	24.5.20	559.0	129.5	859	Changed lube oil, lube oil filter, bypass filter, diesel filters	Servicing done on 24.5.19
9	S2D6	750 KVA	Cummins	KTA38G2-1	S/S 2	2014	667.8	24.5.19	24.5.20	573.4	94.4	873	Changed lube oil, lube oil filter, bypass filter, diesel filters	Servicing done on 24.5.19

Servicing Done
Servicing Due

Note:- The 'B' check (Servicing) of DG is be carried out at every 300 hours of operation or after one year whichever is earlier.

  
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## Energy Audit

Annexure-V

### Power Factor and Incentive

*Tabel-6: Power factor and Incentives.*

Month	Power Factor Achieved	Maximum Demand KVA	Fixed Cost in Rs.	Energy Charges in Rs.	Power factor rebate in % age of Energy Charges	Power Factor rebate in Rs.
1	2	3	4	5	6	7
Jan'19	0.9938	959	354825	3392021	3.3	111937
Feb'19	0.9917	811	354825	1899792	3.0	56994
Mar'19	0.9900	1034	354825	1706406	3.0	51192
Apr'19	0.9956	1876	356364	3832901	3.5	134152
May'19	0.9974	1959	372210	2382213	3.7	88142
Jun'19	0.9900	1959	354825	3117222	3.0	93517
Jul'19	0.9951	1868	354825	3646779	3.5	127637
Aug'19	0.9961	1885	358074	4843117	3.6	174352
Sep'19	0.9970	2000	380076	4732697	3.7	175110
Oct'19	0.9946	1569	354825	2764017	3.4	93977
Nov'19	0.9912	1022	354825	2094180	3.1	64920
Dec'19	0.9923	684	354825	1904051	3.2	60930
<b>G. Total/Average</b>	<b>0.9937</b>	<b>1469</b>			<b>3.3</b>	<b>102738</b>

  
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### Use of LED Lights

The LED lights can be up to 80% more energy efficient than conventional bulbs, and waste far less energy than other styles of lighting. The LEDs require less power than regular forms of lighting, lesser energy consumption means a positive effect for the environment. Amity University Rajasthan has started changing over from conventional bulbs to LED lights. The University also installed Road lights (LED) on NH-11 in a patch of almost one and half kilometer.

Tabel-7: Use of LED lights and savings.

Amity University Jaipur, Rajasthan													20.10.2021	
S. No.	Name of Light	Location	2019	2020	Oct'2021	Total Lights Replaced	LED Wattage	Old light wattage	Wattage Saved	Hr usage/day	Hr usage/ annual	KWh Saved Annual	Total Annual Saving in Rs.	Total Co2 emission Reduced in Kg
1	LED Flood Light	Block terrace/outdoor			66	66	200	400	13200	10	3650	48180	₹ 481,800	40953
2	LED Flood Light	Block terrace/outdoor			19	19	100	400	5700	10	3650	20805	₹ 208,050	17684
3	LED Street Light	Outdoor			20	20	60	150	1800	10	3650	6570	₹ 65,700	5585
4	LED 4 ft. Tube Light	Academic block Corridor/Office	123	320	580	1023	18	45	27621	12	3960	109379	₹ 1,093,792	92972
5	LED 4 ft. Tube Light	Hostel Corridor				150	18	45	4050	12	3600	14580	₹ 145,800	12393
6	LED bulb 9/13 watt	Lift shaft/misc.	22	80	20	122	12	60	5856	12	1800	10541	₹ 105,408	8960
7	LED road light 4"	Lift Car			15	15	6	20	210	24	8760	1840	₹ 18,396	1564
8	LED road light 7"	Academic blocks		50	100	150	15	45	4500	9	1800	8100	₹ 81,000	6885
9	LED PLL 4 pin	Academic blocks		75	100	175	18	54	6300	15	4500	28350	₹ 283,500	24098
<b>Total</b>												<b>248345</b>	<b>₹ 2,483,446</b>	<b>211093</b>



## Energy Audit

### Annexure-VII

Tabel-8: Solar generation of Roof top and ground tracker.

R-19													
Monthwise Solar Generation (Block Wise)													
S.No.	Block Name	Jan'19	Feb'19	Mar'19	Apr'19	May'19	Jun'19	Jul'19	Aug'19	Sept'19	Oct'19	Nov'19	Dec'19
1	A Block	13076	13644	15092	21450	19187	17012	15716	13268	14145	24466	11077	2574
2	C & D Block	11637	12069	13565	18899	17566	15177	13775	11210	12515	12939	9678	10835
3	B & C Block	7565	7630	8906	13071	12319	10654	9750	8027	8983	8714	6468	7219
4	E Block	8625	8644	9629	13237	12138	10406	9465	8072	9112	9212	6945	8032
5	SRC Block	12187	12654	13915	19505	18179	15881	14551	12732	13975	14131	10564	11439
6	Solar Ground Tracker1&2	41994	43050	46914	68807	63412	54924	46894	39472	44659	45382	31672	35518
7	Solar Ground Tracker3	20325	20926	22755	33418	30865	26839	22078	19184	21592	21707	15160	17790
		<b>115409</b>	<b>118618</b>	<b>130777</b>	<b>188387</b>	<b>173666</b>	<b>150892</b>	<b>132228</b>	<b>111965</b>	<b>124980</b>	<b>136551</b>	<b>91564</b>	<b>93407</b>
S.No.	Block Name	Jan'20	Feb'20	Mar'20	Apr'20	May'20	Jun'20	Jul'20	Aug'20	Sept'20	Oct'20	Nov'20	Dec'20
1	A Block	11103	14961	16941	18939	19083	17006	15425	12051	15105	16237	11969	11845
2	C & D Block	10482	12557	15198	14920	16331	14685	13653	10649	13629	13667	10692	10469
3	B & C Block	7035	8164	9442	11187	11002	9221	9304	7205	9396	9146	7108	6847
4	E Block	7707	9128	10598	11271	11679	10029	9211	7377	9519	9809	7753	7809
5	SRC Block	11211	13673	16139	17327	17711	15477	14175	11210	13990	14904	10883	10631
6	Solar Ground Tracker1&2	37438	44125	49726	60578	62870	52596	44878	33565	46969	49917	34183	37165
7	Solar Ground Tracker3	18108	20608	19677	21579	29282	25841	21989	17219	22758	23860	16512	17528
		<b>103084</b>	<b>123216</b>	<b>137721</b>	<b>155801</b>	<b>167957</b>	<b>144855</b>	<b>128635</b>	<b>99276</b>	<b>131367</b>	<b>137540</b>	<b>99099</b>	<b>102296</b>
S.No.	Block Name	Jan'21	Feb'21	Mar'21	Apr'21	May'21	Jun'21	Jul'21	Aug'21	Sept'21	Oct'21	Nov'21	Dec'21
1	A Block	12335	14161	16865	19204	16382	16610	14708	15447	12322	15883	12212	10163
2	C & D Block	10900	11988	15227	16646	14360	14270	12125	13329	10551	13389	10270	9081
3	B & C Block	6096	7647	10385	11752	10137	10283	8257	8744	7243	8991	6734	6020
4	E Block	7880	8645	10730	11608	9945	10085	8600	9201	7292	9572	7479	6714
5	SRC Block	11531	12995	15875	17668	14784	15018	13151	14253	11135	14689	11013	10112
6	Solar Ground Tracker1&2	38265	45244	48975	52136	43488	48675	44561	45393	33430	37637	34644	32170
7	Solar Ground Tracker3	18583	16217	25583	30698	25364	25838	21961	22246	16873	22553	17836	15346
		<b>105591</b>	<b>116897</b>	<b>143640</b>	<b>159712</b>	<b>134460</b>	<b>140779</b>	<b>123362</b>	<b>128614</b>	<b>98845</b>	<b>122714</b>	<b>100187</b>	<b>89606</b>

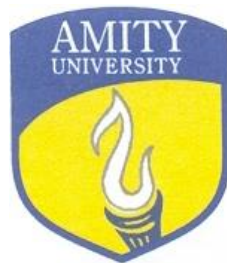
## Energy Audit

### Road Ahead

- As the university expands there will be an increase in the level of power consumption. The emphasis will thus be on optimum utilization of this resource and thus concentration will be towards LED fitment and maximal use of Solar Power. At the same time, it has to be seen that existing fitments are utilized completely. Hence changeover to LED, which will be the first step, will be done in a phased manner over the next 5 years. Upgradation of remaining LED light replacement.
- Adoption of E-vehicle in university transport.
- Central charging station for E-Vehicle.
- Adoption of Sensor based LED Lights.

  
Incube Sustainability Pvt. Ltd.

# GREEN & ENVIRONMENT AUDIT REPORT 2022



## AMITY UNIVERSITY RAJASTHAN

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## Introduction

Amity University, Rajasthan, is green & clean campus, located amidst the oldest mountain ranges of Aravali. The picturesque campus stretches across 152 acres with plantations of regional biodiversity. The university has taken various initiatives like planting Neem Forest with more than 350 trees, 50 palm trees on University streets, a 2 acres regional species bamboo plantation supported by the Ministry of Environment & Forestry, Government of India.

## Purpose

The green audit can be a useful tool to assess the practices adopted by the institution which reflects the direct impact on the environment. It includes water use, water conservation, waste disposal, environmental consciousness, clean energy, environmental pro electricity consumption. The green audit also comprises the motivation to adopt practices which in turn leads to a reduction in carbon footprints amongst its stakeholders.

## Objectives

- To adopt eco-friendly technologies to attain carbon neutrality.
- Intelligent and sustainable utilization of the natural resources on the campus.
- To contribute to regional ecological balance by adopting waste management practices.

  
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## Roof Top Solar and Ground Tracker

- Roof top Solar panels are installed on terraces of various buildings and a Solar Ground Tracker system is also installed. The total capacity of the plant is 990 KW (Figure-1).



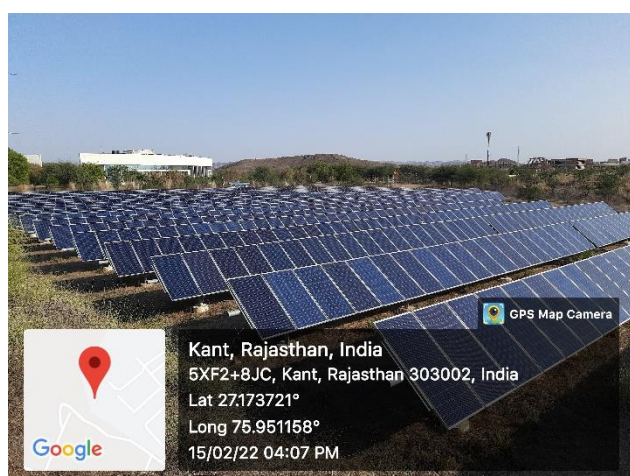
Figure-1: Solar Panel installed on roof top and ground tracker system.

*Shambhu*  
Incube Sustainability Pvt. Ltd.

## Sensor Based Energy Conservation

- Solar ground tracker system panels change angle as per direction of Sun. This increases their efficiency and results in more electricity generation (Figure-2).
- AMF Panel: A 1500-Kilowatt AMF (Automatic Main Failure) panel at substation-II which automatically starts when main supply cuts from JVVNL and switches off automatically when supply comes. It runs DG sets under synchronization as per load and results in savings in diesel consumption. The Geotagged photo of the panel is attached (Figure-2).

**Solar Park**



**AMF Panel**



*Figure-2: Sensor based Solar Panel and electricity regulation.*

*Shabdar*  
Incube Sustainability Pvt. Ltd.



## Adoption of LED Lights

The LED lights can be up to 80% more energy efficient than conventional bulbs, and waste far less energy than other styles of lighting. The LEDs require less power than regular forms of lighting, lesser energy consumption means a positive effect for the environment. Amity University Rajasthan has started changing over from conventional bulbs to LED lights (Table 1). The University also installed Road lights (LED) on NH-11 in a patch of almost one and half kilometer (Figure-3).

*Tabel-1: Pattern of LED's adoption phase wise with CO<sub>2</sub> reduction and total saving in Rupees.*

Amity University Jaipur, Rajasthan												20.10.2021		
S. No.	Name of Light	Location	2019	2020	Oct'2021	Total Lights Replaced	LED Wattage	Old light wattage	Wattage Saved	Hr usage/day	Hr usage/ annual	KWh Saved Annual	Total Annual Saving in Rs.	Total Co2 emission Reduced in Kg
1	LED Flood Light	Block terrace/outdoor			66	66	200	400	13200	10	3650	48180	₹ 481,800	40953
2	LED Flood Light	Block terrace/outdoor			19	19	100	400	5700	10	3650	20805	₹ 208,050	17684
3	LED Street Light	Outdoor			20	20	60	150	1800	10	3650	6570	₹ 65,700	5585
4	LED 4 ft. Tube Light	Academic block Corridor/Office	123	320	580	1023	18	45	27621	12	3960	109379	₹ 1,093,792	92972
5	LED 4 ft. Tube Light	Hostel Corridor				150	18	45	4050	12	3600	14580	₹ 145,800	12393
6	LED bulb 9/13 watt	Lift shaft/misc.	22	80	20	122	12	60	5856	12	1800	10541	₹ 105,408	8960
7	LED roud light 4"	Lift Car			15	15	6	20	210	24	8760	1840	₹ 18,396	1564
8	LED roud light 7"	Academic blocks		50	100	150	15	45	4500	9	1800	8100	₹ 81,000	6885
9	LED PLL 4 pin	Academic blocks		75	100	175	18	54	6300	15	4500	28350	₹ 283,500	24098
<b>Total</b>												<b>248345</b>	<b>₹ 2,483,446</b>	<b>211093</b>

  
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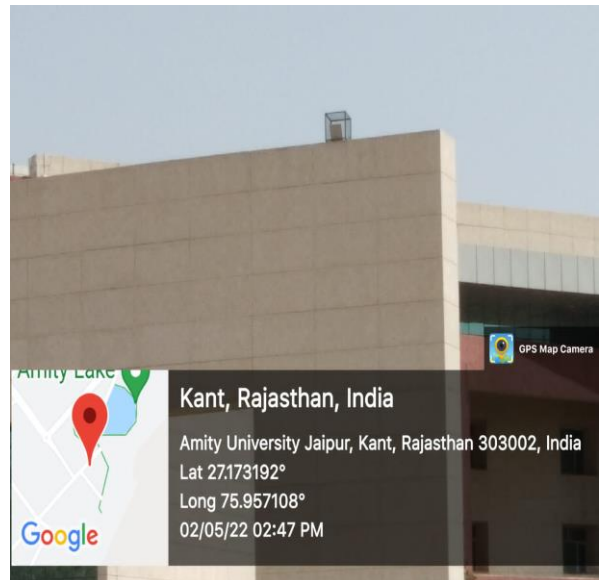
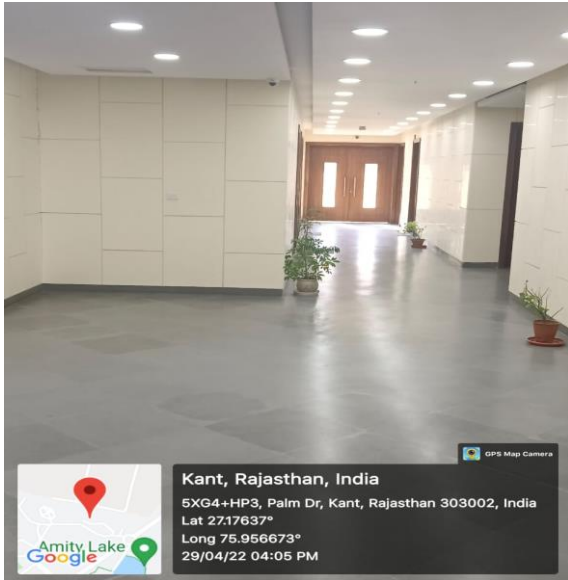


Figure-3: LED's light installation at various University blocks and National Highway adopted street site.

*Shambhu*  
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## Rainwater Harvesting Pits

Seven rainwater harvesting pits are available in different locations of the campus. The rainwater collected in these pits is from the roofs of buildings for ground water recharge (Figure-4).

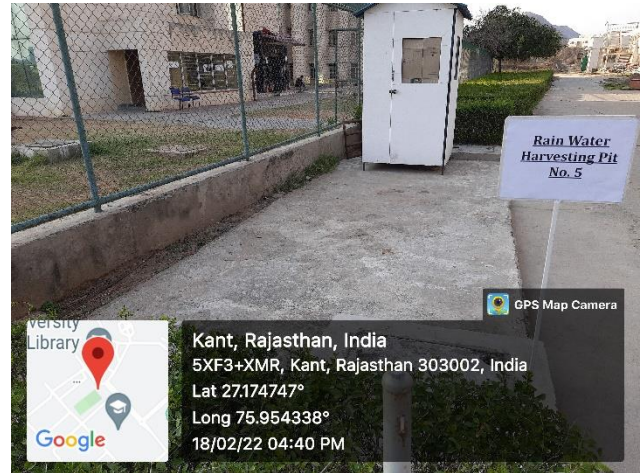
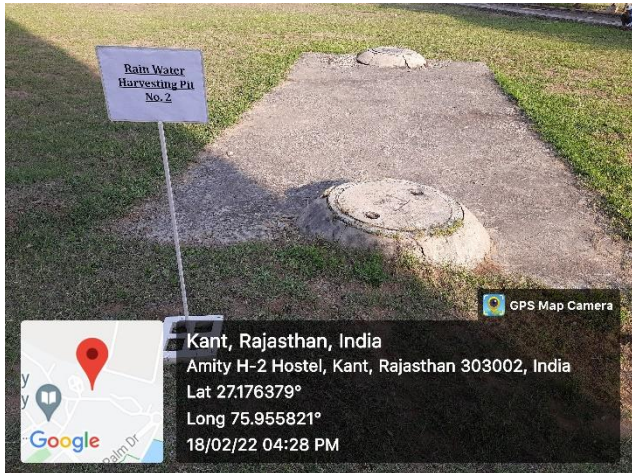


Figure-4: Rainwater harvesting pits developed by the University.

## Runoff/Wastewater Harvesting Lake

The artificial lake gets treated water from the Sewage Treatment Plant. Rainwater from terraces of buildings, and other low lying areas also flows to this lake. This water is used for horticulture, thus ensuring literally zero wastage of water (Figure-5).

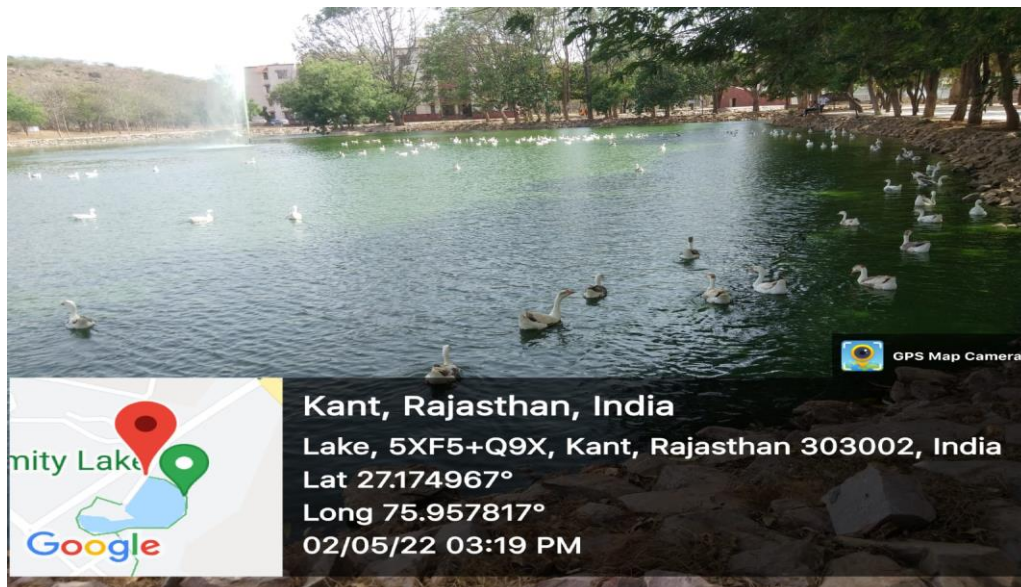


Figure-5: The artificial lake to collect rainwater runoff and treated wastewater.



## Borewell Recharge Pits

- Diverted rainwater from low lying areas to the borewell prevents unnecessary flooding.
- Channelize the water to a borewell through proper filtering, thus harvesting for future use (Figure-6).
- Helps to recharge of dry borewells to prevent digging of new ones (Figure-7)
- Conservation of water through eco-friendly means and sustainable method.
- Ensures proper utilization of rainwater which otherwise could stagnate and fester mosquitoes / harmful bacteria
- Maximize the use of available water conservation.

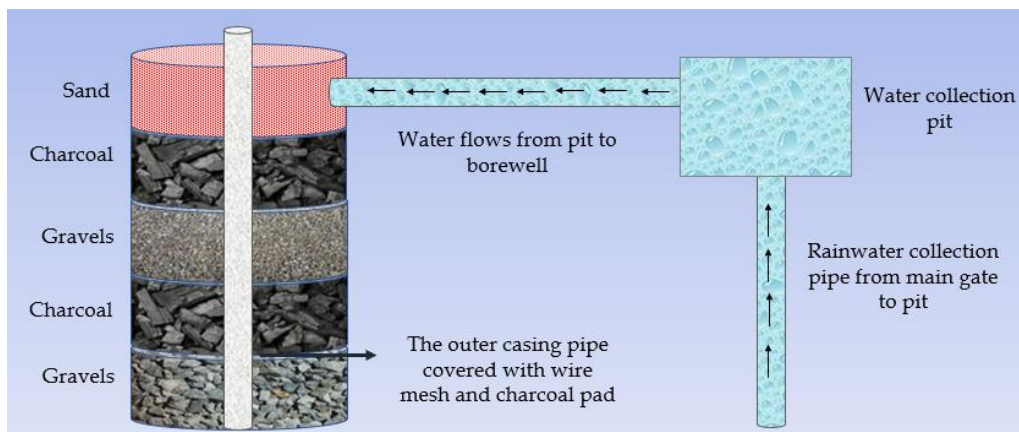


Figure-6: Design and mechanism of in-house borewell recharge pit for rainwater filtration.

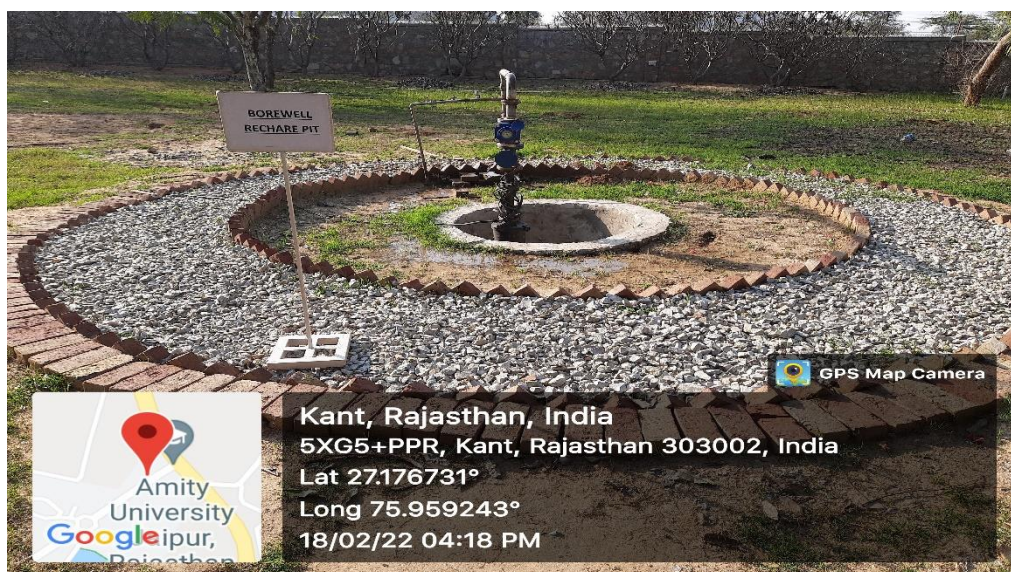


Figure-7: Functional borewell recharge pit at Main gate for pump no.1.

## Source of Water on Campus

- Source of fresh water is through ground water borewells. The University has five Academic Blocks, one Student Resource Centre, five Hostel blocks, Six faculty blocks and one Staff quarter block with more than 3500 residents.
- Water is supplied to various buildings through a network of underground sumps and overhead tanks. Water from the borewell is pumped to the underground tanks, from the underground tanks it is pumped to the overhead tanks. There are a total of 34 overhead tanks (both RCC and Sintex) and 08 underground tanks. Plumbers work in shifts to ensure adequate supply to each building.
- Water is stored in underground and overhead tanks. Domestic wastewater is channeled to STP plant (7.5 lakh liter capacity) and after treatment is utilized for flushing in Hostel-1, 2, 4 and 5, horticulture and in AC chiller plants. Water flow meter is fitted in all the borewells to track the daily usage of fresh water (Table-2). Periodic borewell water testing is carried out from state recognized testing laboratories (Figure-8).

### Daily Average Water Usage (2019 to 2021)

*Table 2: Daily usage of water extracted from borewells (year wise).*

<b>Daily Usage of Borewells in Litres</b>			
<b>Month</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>January</b>	647000	580968	305548
<b>February</b>	633750	580828	334071
<b>March</b>	621645	387935	439161
<b>April</b>	608633	455167	459000
<b>May</b>	775032	135742	379452
<b>June</b>	474533	345900	291067
<b>July</b>	551903	346129	340839
<b>August</b>	687806	332000	376742
<b>September</b>	691233	387567	349733
<b>October</b>	551935	350806	379129
<b>November</b>	644533	361133	473867
<b>December</b>	607258	251871	
<b>Average</b>	<b>624605</b>	<b>376337</b>	<b>375328</b>

  
 Incube Sustainability Pvt. Ltd.

# Water Testing Report

**SCS** SCS ENVIRO SERVICES PRIVATE LIMITED

7, KESAR VIHAR, OPPOSITE KHATU SHYAMJI TEMPLE,  
RAMNAGARIYA ROAD, JAGATPURA,  
JAIPUR-302017, RAJASTHAN (INDIA)  
CIN NO.:U74140RJ2013PTC042216



TC-6960  
NABL FACE RECOGNIZED LABORATORY  
with S.O. 2798(F) Dated 15.11.2018 valid upto 14.11.2023  
ISO 9001:2015 CERTIFIED LABORATORY  
ISO 14001:2015 CERTIFIED LABORATORY  
ISO 45001:2018 CERTIFIED LABORATORY

Sample ID No.: SCS/W/20210617/30	Date of Registration: 17.06.2021
Report No. SCS/AUJ/W/20210617/30(1/2)	Date of Report: 23.06.2021

## TEST REPORT

Name of Client : M/s. Amity University  
Address of Client : SP-1 Kant Kalwar, NH11C, RIICO Industrial Area, Jaipur, Rajasthan 303007  
Date of Sample Receipt : 17.06.2021  
Date of start of testing : 18.06.2021  
Date of end of testing : 23.06.2021  
Details of Sample : Borewell No. 1 Water  
Sample sent by : University Representative

Parameter	Results	IS - 10500:2012		Protocol
		Requirement (Acceptable Limit)	Permissible Limit in absence of alternate source	
<b>Table 1: Organoleptic and Physical Parameters</b>				
Color, Hazen Units	< 1	5	15	APHA (23rd Edition) 2120B
Odour	Agreeable	Agreeable	Agreeable	IS: 3025 Part 5 - 1983
pH	7.03	6.5 - 8.5	No Relaxation	APHA (23rd Edition) 4500 - H <sup>+</sup>
Taste	Agreeable	Agreeable	Agreeable	APHA (23rd Edition) 2160B
Turbidity, NTU	0.14	1	5	APHA (23rd Edition) 2130
Dissolved Solids	451.00 Mg / L	500 Mg / L	2,000 Mg / L	APHA (23rd Edition) 2540 C
<b>Table 2: General Parameters Concerning Substances Undesirable in Excess Amounts</b>				
Calcium as Ca	49.60 Mg / L	75 Mg / L	200 Mg / L	APHA (23rd Edition) 3500 Ca B
Chloride as Cl	41.99 Mg / L	250 Mg / L	1,000 Mg / L	APHA (23rd Edition) 4500 Cl B
Copper as Cu	< 0.01 Mg / L	0.05 Mg / L	1.5 Mg / L	APHA (23rd Edition) 3111 B
Fluoride as F	0.53 Mg / L	1.0 Mg / L	1.5 Mg / L	APHA (23rd Edition) 4500 F D
Free Residual Chlorine	< 0.1 Mg / L	0.2 Mg / L	1.0 Mg / L	APHA (23rd Edition) 4500 B
Iron as Fe	0.02 Mg / L	0.3 Mg / L	No Relaxation	APHA (23rd Edition) 3111 B
Magnesium as Mg	16.52 Mg / L	30 Mg / L	100 Mg / L	APHA (23rd Edition) 3500 Mg B
Manganese as Mn	< 0.01 Mg / L	0.1 Mg / L	0.3 Mg / L	APHA (23rd Edition) 3111 B
Nitrate as NO <sub>3</sub>	16.34 Mg / L	45 Mg / L	No relaxation	APHA (23rd Edition) 4500 B
Sulphate as SO <sub>4</sub>	8.97 Mg / L	200 Mg / L	400 Mg / L	APHA (23rd Edition) 4500 E
Total Alkalinity as CaCO <sub>3</sub>	264.00 Mg / L	200 Mg / L	600 Mg / L	APHA (23rd Edition) 2320
Total Hardness as CaCO <sub>3</sub>	192.00 Mg / L	200 Mg / L	600 Mg / L	APHA (23rd Edition) 2340 C

Per pro SCS Enviro Services Pvt. Ltd.,

  
Dr. D. S. Parihar  
(Technical Manager)  
Authorised Signatory



- The results refer only to the tested sample and applicable parameters.
- This report in full or in part, shall not be used for advertising or as evidence in any court of law.
- This report cannot be reproduced without the written permission of the director.
- The sample will be destroyed after 15 days from the date of issue of the test report.
- The liability of the laboratory is limited to the invoiced amount.
- All disputes are subjected to Jaipur jurisdiction.

Figure-8: Water testing report of borewell water by external state approved agency.

  
Incube Sustainability Pvt. Ltd.



## Restricted Entry of Automobiles

Vehicle transportation is the source carbon emission. Minimum use of vehicle inside the campus is encouraged. The University has provided outsourced vendor buses to staff, faculties and students who are commute from City to avoid the usage of personal vehicle and it always ensures that the buses should not be more than six years old. The PUC of all buses is carried out on time.

The pollution certificate of all other vehicles is being checked at entry gate. Two dedicated parking are assigned for outside vehicles, near the main gate and rear gate of the campus to minimize vehicles movements and reduction in noise pollution (Figure-9).

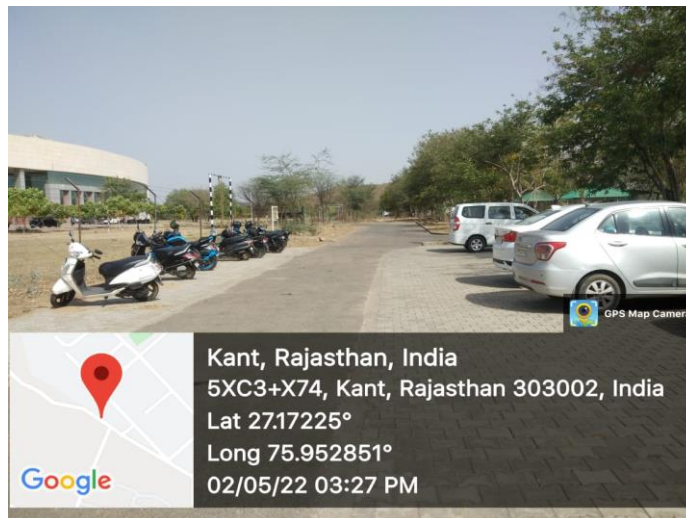


Figure-9: Designated Parking for staff and visitors at gate number 2.

## Use of Bicycles/Battery Powered Vehicles

The faculty, staff and students always encourage to use the E-vehicle and Bicycle to avoid unnecessary pollution. The Amity University has battery operated Golf carts and E-Riskha for local on campus transport (Figure-10).







Figure-10: Use of E-vehicle and Bicycle inside the campus.

## On-Campus Amenities to Avoid Usage of Vehicle Going Out

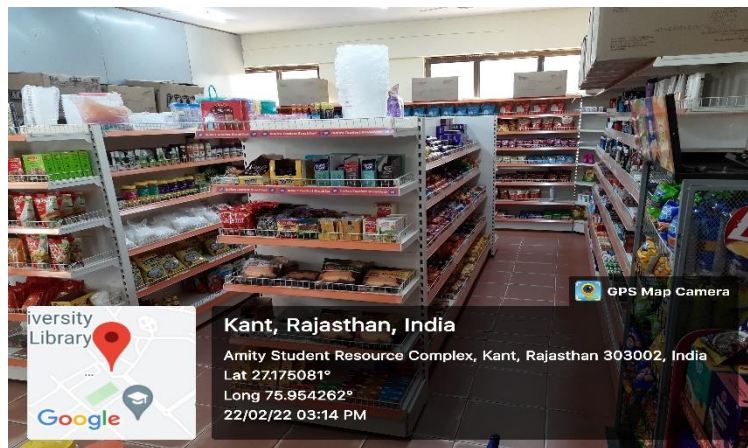
The University has an ATM run by AXIS bank which is used by students and staff regularly to withdraw money (Figure-11).



Figure-11: Axis bank ATM machine at cash deposit machine at Gate number 2.

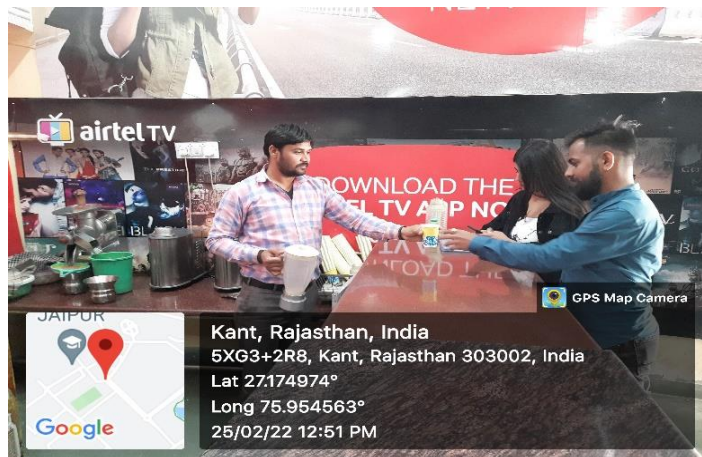
*Shalini*  
Incube Sustainability Pvt. Ltd.

Amity offers on-campus **Departmental Store** for daily necessities (*Figure-12*).



*Figure-12: Departmental Store in Student Resource Building.*

**Vegetable and Fruit Centre** cater to the needs of the hotel students, day scholars, resident teachers and their family members. It also offers fresh juice and shakes at a very nominal charge (*Figure-13*).



*Figure-13: Vegetable and Juice Centre in Student Resource Building.*

*Shambhu*  
Incube Sustainability Pvt. Ltd.



Amity University Rajasthan offers **Mess** facilities for its students, faculty members, and staff members in which breakfast, lunch, evening snacks, and dinner is served at a very reasonable price. Food is cooked hygienically (Figure-14).



Figure-14: Student Mess in Student Resource Building.

The food court located in the campus of Amity University Rajasthan caters to the needs of those students, faculty members, and staff members of the University who wants to break their monotonous food routine. The food court offers dishes ranging from continental, south Indian, to north Indian food (Figure-15).

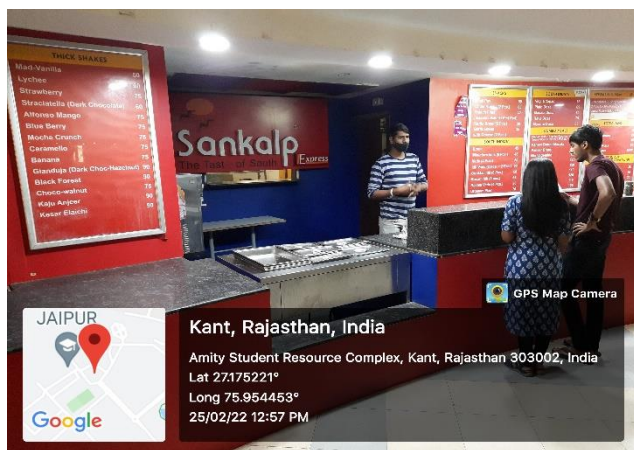


Figure-15: Different food vendors available on campus.

*Shambhu*  
Incube Sustainability Pvt. Ltd.

The University has in house **laundry** facilities with a number of Washers and dryers to provide most hygienic cleaning of clothes. The washed and ironed linen is made available within 24 hours. This is a free facility for all students and available to the University staff on subsidized cost. It also chanalize efficient water and detergent use on campus (Figure-16).



Figure-16: University Laundry facility for resident students and staff.

*Shalini*  
Incube Sustainability Pvt. Ltd.



# Ban on Single use Plastic/ Non-degradable Polymers

Amity University always concerned about the nature and therefor the Polythene and other plastic packaging is totally ban in the campus (Figure-17).



AMITY UNIVERSITY  
RAJASTHAN

Kant Kalwar, NH-11-C,  
Jaipur (Rajasthan) 303002  
Tel: 01426 - 406678,  
Fax: 01426 - 405679

No. : AUR/REG/May/2016/01

Date : 17/05/2016

## Notice

### (Banning of Polythene Bags and other plastic packings)

Environmental issues do need the attention and concern of all of us. Polythene bags and other plastic disposable plates/cups etc. are non-biodegradable and pose a serious threat to the environment. Advisories against use of such items in the AUR, Campus have earlier been issued and awareness programmes to make campus polythene/ plastic free were undertaken. However, it has been observed that off late few vendors have agains started use of plastic cups/ plates/polythene bags, despite earlier advice against use of such hazardous items.

In a bid to make AUR campus an environmental friendly campus, all employees, Students and Vendors are hereby informed that use of plastic cups/ plates/polythene bags etc. within the university campus shall be banned from 23/05/2016 onwards. It is requested to make alternative arrangements and be involved in active awareness campaign.

All Deans/Directors/Hols are requested to ensure wide publicity and motivate members of faculty/staff and students to make AUR a Polythene Free Campus.

Brig. S. K. Sareen (Retd.)  
Registrar



Copy for kind information to:

1. Office of the Vice Chancellor
2. Office of the Pro Vice Chancellor
3. Dy. Pro VC (Students/Faculty affairs)
4. OSD to Chancellor
5. All Deans/Directors/Dy. Directors/Hols
6. Dean Students' Welfare & Campus Life -

7. Director - Administration -

To instruct all vendors in the SRC and elsewhere on AUR Campus to comply with the decision and make arrangements.

8. Director - Hostels -

Placards/ boards advertising against the use of plastic/polythene bag may be designed and put up at prominent places of campus, in consultation with Dean Students' Welfare.

9. Dy. Director - Security -

To instruct all wardens to keep watch and accordingly counsel the students against the use of polythene bags.

10. Record File

It is requested to instruct the security guards at main gate to ensure that no material/goods are brought inside the campus in polythene bags.

Amity City Office: Amity House, 14, Gopalbari, Ajmer Road, Jaipur - 302 001, Telefax- 0141-2372489, 2374111

Figure-17: University Notice to Ban Plastic on campus.

  
Incube Sustainability Pvt. Ltd.

## Landscaping with Trees and Plants

Amity University is a clean green campus, situated amidst the oldest mountain ranges of the Aravali. The picturesque campus stretches across 152 acres with lot many trees and plantation. A conserved Neem Forest with 250 trees (in approx. 2 Acre), a beautiful palm drive with 50 trees and many other trees. Around 200 geese add to the eco system (*Figure-18*).



*Figure-18: Different Landscaping initiatives for conserving regional birds, animals and plants.*



## Trees Plantation Drive in the Campus

Regular tree plantation drives organized in the campus. Total number of trees inside the campus is approximately 15000 (Figure-19).



Figure-19: Tree plantation drives at the campus.



## Tree Plantation Drive Beyond the Campus

Tree plantation drives are organized by NSS and Unnat Bharat in the campus and nearby villages to keep the environment green and healthy (Figure-20).



Figure-20: Tree plantation drives nearby villages and schools.



# Inside and Beyond the Campus Environmental Promotional Activity (Figure-21)

## स्वयंसेवकों ने लगाए 200 पौधे

चन्द्रबाजी @ पत्रिका, जयपुर दिल्ली राजमार्ग पर स्थित एमिटी यूनिवर्सिटी परिसर में शुक्रवार को राष्ट्रीय सेवा योजना इकाइयों द्वारा पौधरोपण कार्यक्रम के तहत करीब 200 पौधे लगाए गए।

यूनिवर्सिटी के विशेष अधिकारी विनोदसिंह जोहर राठी ने बताया कि पर्यावरण संरक्षण के लिए परिसर में राष्ट्रीय सेवा योजना की इकाई के छात्र-छात्राओं एवं स्टाफ ने परिसर में गुलमोहर के करीब 200 पौधे लगाकर सुरक्षा की जिम्मेदारी ली है। यूनिवर्सिटी के कुलपति प्रोफेसर एसके दुबे, एनएसएस प्रभारी डॉ. विनोद सिंह गौड़ और छात्र-छात्राएं उपस्थित रहे। (निस)

## जागरूकता की शपथ चंद्रबाजी

निजी विश्वविद्यालय में एनएसएस इकाइयों की ओर से कोविड 19 की गाइडलाइन्स का उचित रूप से पालन करने के लिए वर्चुअल मॉड पर प्रतिज्ञा समारोह आयोजित किया। अध्यापकों और कर्मचारियों के साथ एनएसएस स्वयंसेवकों ने नियमों का पालन करने और मास्क पहनने, सोशल डिस्टेंसिंग की पालना करने, स्वच्छता बनाए रखने के लिए संकल्प लिया। रजिस्ट्रार डॉ नितिन भारद्वाज ने स्वयंसेवकों को निर्धारित नियमों का पालन करने के लिए प्रेरित किया।

## एमिटी विश्वविद्यालय ने उन्नत भारत अभियान योजना के तहत कांट गांव में किया तुलसी पौधा वितरण



जयपुर, जयपुर। एमिटी विश्वविद्यालय ने उन्नत भारत अभियान योजना के तहत कांट गांव में किया तुलसी पौधा वितरण।

## एनएसएस शिविर का समापन रैली से जैविक खेती के लिए किया जागरूक

चन्द्रबाजी, जयपुर दिल्ली रोड स्थित एमिटी विश्वविद्यालय राजस्थान में राष्ट्रीय सेवा योजना इकाई के तत्वावधान में चल रहे एनएसएस शिविर का शुक्रवार को समापन हो गया। कार्यक्रम प्रभारी व समन्वयक डॉ. विनोद सिंह गौड़ ने बताया कि शिविर में 22 से 26 अप्रैल तक स्वयंसेवकों ने कॉलेज प्राण में सफाई कर श्रमदान किया। डॉ. मनोज कुमार ने युवाओं से नशे से दूर रहने की अपील की तथा नशामुक्ति के तरीके बताए। वहीं राष्ट्रीय आयुर्वेद संस्थान जयपुर के डॉ. हरिश भाकुनी ने संक्रामक बीमारियों के बचाव पर विस्तृत व्याख्यान दिया। उन्होंने जीवा

रैली में बदलाव करके स्वस्थ रहने के तरीकों की जानकारी दी। शुक्रवार को विद्यार्थियों ने रैली निकाल कर जैविक खेती के बढ़ावा व खेती में रसायनों के प्रयोग को रोकने का संदेश दिया। इस दौरान छात्र अधिष्ठाता एसएस भाल, डॉ. मनोज कुमार, डॉ. प्रशांत मिश्रा, मंगल सिंह सिसोदिया, अंजनी कुमार शुक्ला, डॉ. नरेंद्र पाल तांबा व बिल्कु सिंह का विशेष सहयोग रहा। (निस)



दैनिक भास्कर जयपुर 23-08-2020

### पौधरोपण किया



जयपुर। दिल्ली रोड स्थित एमिटी विश्वविद्यालय की एनएसएस इकाइयों द्वारा पौधरोपण किया गया। प्रो प्रेजिडेंट प्रोफेसर डॉ अमित जैन ने पौधरोपण कर कार्यक्रम की शुरुआत की। विवि के रजिस्ट्रार डॉ नितिन भारद्वाज, प्रोवोस्ट प्रोफेसर डॉ जीके असेरी, प्रोग्राम कोऑर्डिनेटर डॉ. मनोज कुमार मौजूद रहे।

**पत्रिका** Sat, 27 April 2019  
epaper.patrika.com/c/38910846

Figure-22: Amity University Rajasthan initiatives coverage in local media/newspapers.

## Regional Plants Diversity on Campus

Table 03: Different type of regional plants available on campus.

Hindi Name	Common Name	Botanical Name
छितवन	Blackboard Tree	<i>Alstonia scholaris</i>
अमलतास	Golden Shower Tree	<i>Cassia fistula</i>
अलनुस	Alnus	<i>Alnus glutinosa</i>
नीम	Margosa	<i>Azadirachta indica</i>
आँवला	Indian Gooseberry	<i>Phyllanthus emblica</i>
चम्पा	Champak	<i>Mangolia champaca</i>
कदम	Burn-flower Tree	<i>Neolamarckia cadamba</i>
सागवान	Teak	<i>Tectona grandis</i>
गुलमोहर	Delonix Regia	<i>Royal poinciana</i>
कचनार	Mountain Ebony	<i>Bauthinia variegata</i>
शिरीष	Lebback	<i>Albizia lebbeca</i>
जत्रोफा	Nettlepurges	<i>Physic nut</i>
शीशम	Indian Rosewood	<i>Dalbergia sissoo</i>
खेजड़ी	Ghaf	<i>Prosopis cineraria</i>
सफेदा	White Tree	<i>Eucalyptusa</i>
आम	Mango	<i>Mangifera indica</i>
बिल्व	Stone Apple	<i>Aefle marmelosa</i>
हरसिंगार	Night Jasmine	<i>Nyctcanthes arbor-tristis</i>
रात की रानी	Night Blooming Jessamine	<i>Cestrum nocturnum</i>
मीठा नीम	Curry Tree	<i>Murraya koenigiia</i>
अशोक	Ashoka Tree	<i>Saraca asoca</i>
निम्बू	Lemon	<i>Citrus limon</i>
बबूल	Gum Arabic Tree	<i>Vachellia nilotica</i>
शहतूत	Mulberry	<i>Morus alba</i>
खजूर	Date Palm	<i>Phoenix dactylifera</i>
पीपल	Sacred Figa	<i>Ficus religiosa</i>
हिना	Heena	<i>Lawsonia inermis</i>
बाँस	Bamboo	<i>Bambusoideae</i>
क्रिसमस वृक्ष	Christmas Tree	<i>Araucaria colimmaris</i>

*Shabir*  
Incube Sustainability Pvt. Ltd.



## Regional Plants

### *Prosopis Cineraria (Khejari)*

Leguminous Prosopis trees play a great role in feeding human in dry area to prevent protein and mineral deficiency especially during famine period (Figure-21).



### *Acacia Nilotica (Babool)*

As per studies This plant has anti-microbial, anti-plasmodial and antioxidant activity and used for treatment of human immunodeficiency virus, hepatitis C virus and cancer.



*Shankar*  
Incube Sustainability Pvt. Ltd.

### *Phoenix Dactylifera (Khajur)*

Khajur is also easily be grown in semidesert and desert area. It is rich in fiber and carbs; hence it is one of the healthiest dry fruits.



### *Commiphora Wightii (Guggul)*

As per research, guggul may help treat certain anti-inflammatory conditions, such as acne, eczema, psoriasis, and arthritis.



*Shambhu*  
Incube Sustainability Pvt. Ltd.



## Ziziphus (Ber)

This tree can grow in the warm-temperate and subtropical regions.



*Figure-23: Regional Plants available on campus.*

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## Conserved Land & Plantation

### Bamboo Forest

The Ministry of Environment and Forest Tree gave a project to Amity University Rajasthan for plantation of Bamboo trees. The campus has bamboo forest in approx. 2 acres land. The land is conserved for bamboo trees (Figure-24).

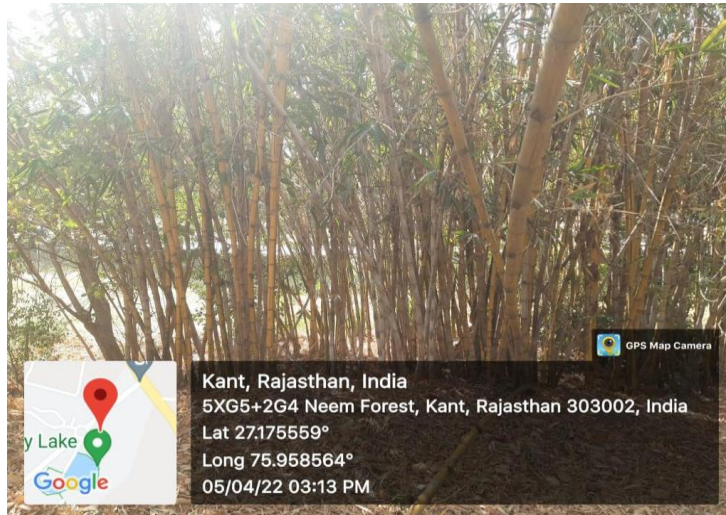


Figure-24: Bamboo Plantation under MOEF project (Conserved area).

### Neem Forest

Amity University Rajasthan has a conserved land where approx. 350 Neem trees have been planted in approx. 2 Acre land (Figure-25).

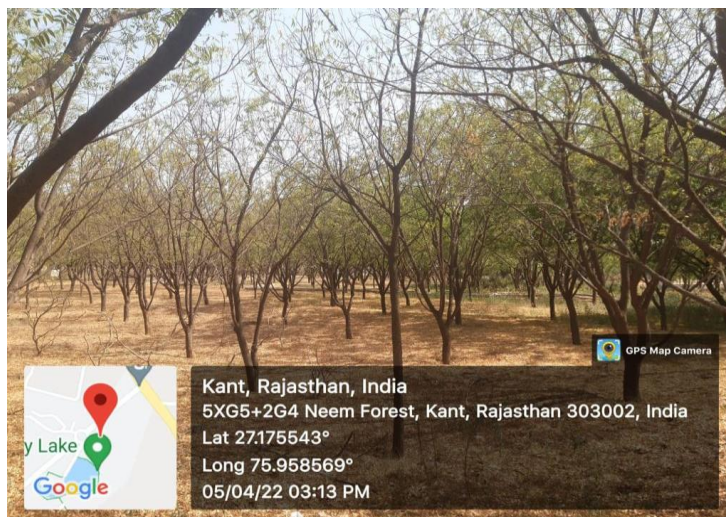


Figure-25: Conserved Neem Forest in 2 Acre land.

*Rhachudra*  
Incube Sustainability Pvt. Ltd.

## Conserved land for wild forest

The University has approx. 5 Acre land which's conserved for wild forest (Figure-26).



Figure-26: Conserved non-disturbed wild forest.

*Shambhu*  
Incube Sustainability Pvt. Ltd.



# MOU with NH-11 C for Median Greenery

Amity University has also signed a MOU with NH-11C (Figure-27) for greenery maintenance of 6 kms patch as an initiative of keep our society clean and green (Figure-28).

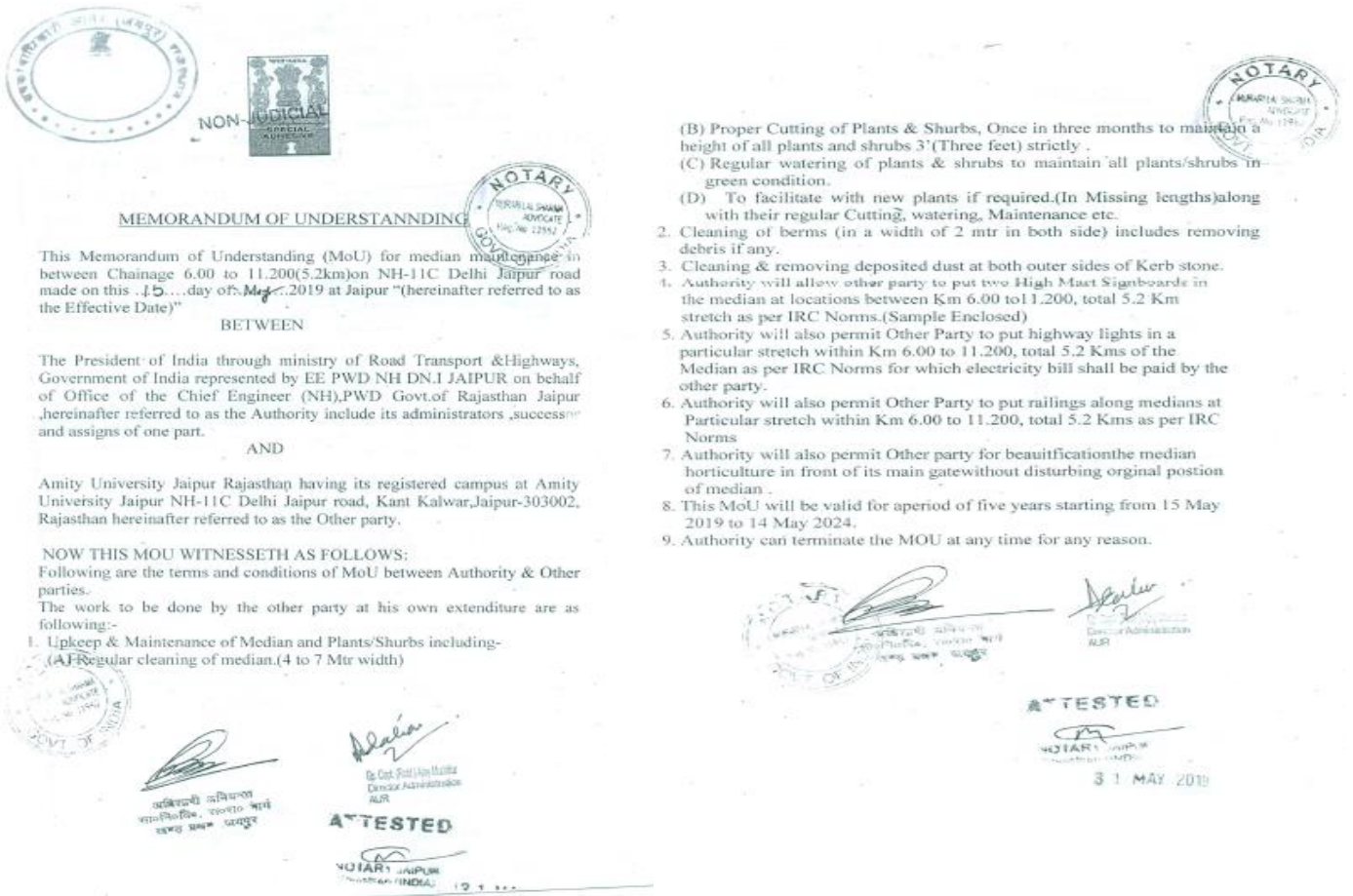


Figure-27: MOU with NHA for highway median greenery.



Figure-28: Highway median greenery maintenance by AUR.



## LEED Certification

Amity University Rajasthan got gold rating from Leadership in Energy & Environment Design (LEED), a United States Green Building Council in 2017 for efforts in achieving sustainability and low impact on environment (Figure-29).



Figure-29: Acknowledgements of green initiatives by external agencies.

## Waste Management on Campus

Amity University believes in “Green Campus and Healthy Living” and regional balance of diversity. The University is very conscious of generating least waste and recycling it by passing it through a system that enables material to be reused ensuring that minimum natural resources are consumed. Environmental initiatives like use of Rainwater Harvesting, Sewage Treatment Plants, Zero Water Discharge, Garbage Disposal System, amongst others, have been implemented. Environment consciousness is embodied in the heart of all departments of the University by tree plantations from NSS.

The waste management practices are divided into four parts:

- (a) Solid Waste Management
- (b) Liquid Waste Management
- (c) Hazardous Waste
- (d) E-Waste Management

### Solid Waste Management

- Two garbage houses, one each in two different locations of the campus, are available for dry waste. The dry waste and plastic is disposed through a vendor who collects and takes it to the Municipal Dump yard (*Figure-30*).



Figure-30:

*the campus.*

*Garbage house on*

*Shankar*  
Incube Sustainability Pvt. Ltd.

- Leaf litter is allowed to decompose systematically over a period in a compost pit, to be used as manure for the horticulture and lawns in the institute (Figure-31).



Figure-31: Compost pit for leaf litter decomposition.

- The Mess residential food waste originated per day from canteens is taken by a piggery's vendor.
- Sanitary Pads Incinerators have been installed in the girls' hostels to facilitate disposal of sanitary napkins in an environment-friendly way (Figure-32).



Figure-32: Sanitary Pads Incinerators available in Girls hostel (H-4).

- The campus is a No Polyethene Zone. All vendors inside the campus have been instructed not to use polyethene material carry bags.

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- There is no biomedical waste as only a basic medical room for first aid is available on the campus. Injection needles are disposed by syringe and needle destroyer (Figure-33).



Figure-33: Injection needles destroyer in medical facility room.

## Liquid Waste Management

- The liquid waste generated in the campus is from sewage of labs, residential and canteen facilities, hostels and laundry. The above waste is treated through a Sewage Treatment Plant (STP) and Effluent Treatment Plant (ETP) of 7.5 lakh LPD available in the campus.
- Water after treatment, is sent to a treated water lake, from where it is used for horticulture through an auto irrigation system. Fountains in the lake ensure proper aeration and as the process of use is dynamic, stagnation does not occur negating bad odor (Figure-34)

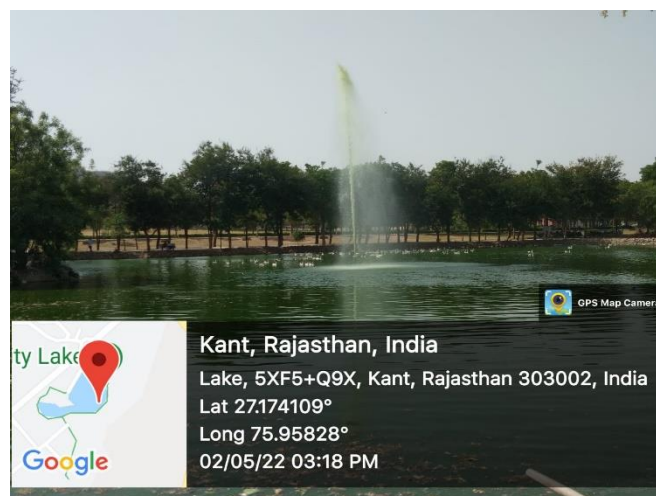


Figure-34: Fountain in the lake for manual aeration.



- Carp fish are there in the lake which prevent any algae blooms by consuming the same, thus keeping the lake Un-eutrophicated.
- Treated water is also used for the cooling tower of chiller plants and for the flush system of four hostels (Hostel-1, 2, 4 & 5).
- The sludge settled in STP is removed and is dried on drying beds and used as manure for the gardens. Therefore, the entire wastewater generated in the campus is treated and reused.
- An average data of treated water through STP and ETP from 2019 to 2021 is mentioned (Table-04).

Table 04: Efficient utilization of treated STP year wise.

Amity University STP & ETP 2019 to 2021												
Treated Water Lake (Ltr.) Per Day Treated Water Chiller (Ltr.) Per Day Treated Water Flushing for Hostel (Ltr.) Per Day ETP Water for Lake (Ltr.) Per Day												
2019				2020				2021				
Lake	Chiller	Flushing	ETP to Lake	Lake	Chiller	Flushing	ETP to Lake	Lake	Chiller	Flushing	ETP to Lake	
572354	0	0	17064	395806	0	65225	10935	134193	0	14709	741	
587964	0	0	18428	374775	0	70285	11821	171071	0	12857	3750	
488967	0		17032	938580	0	33354	5032	295806	8612	29032	8709	
436200	39935		17066	620066		14833	933	22366	10133	45966	4700	
439129	54433	24033	13548	57612	0	12741	0	140645	0	18838	0	
240533	48935	50064	10400	121400	11400	14133	0	44333	0	18033	0	
299935	37900	39200	8967	63774	0	12516	0	128612	0	14419	0	
237033	33161	200129	10700	103322	3290	10838	1290	29354	0	14354	0	
339258	38433	154266	10193	37933	0	22900	1300	101000	0	2110	0	
194709	20129	119516	8870	140032	0	37580	1548	99258	8774	15290	8548	
106233	1700	134833	5161	139333	0	16233	3433	78333	0	22800	5733	
419677	0	80064	5548	135741	0	14709	1161					
<b>Average</b>	465141			292151				140451				

  
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- Parameters of the treated water has been validated by third party external test periodically (Figure-35).



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[qdelhi@gmail.com](mailto:qdelhi@gmail.com)

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ISO 14001:2015 Certified  
CRISIL Rated  
NABL Accredited  
CIN : U85195OL2003PTC121385  
19 Years of Analytical Expertise

**Certificate of Analysis**

Quality Standard		Parameters as desired					
Issued to	-	Green Wastetech, Sushant Lok-1, Gurgaon					
Kind attn.	-	Mr.					
Analysis no.	-	21082801					
Nature of Sample	-	Waste Water Sample marked Flaxing					
Sample received on	-	28 <sup>th</sup> August 2021					
Report Date	-	2 <sup>nd</sup> September 2021					
Analysis Dates	-	28 <sup>th</sup> August 2021 to 2 <sup>nd</sup> September 2021					
Sample Receipt	-	By Client					
Sample Packing	-	Pet Bottle					
Sampling Method	-	Grab Sampling					
PARAMETER	UNITS	RESULTS	TEST METHOD	LIMIT			
				INLAND SURFACE	PUBLIC SEWER	LAND FOR IRRIGATION	
Organics	Chemical Oxygen Demand	mg/l	29.8	IS 3025 PART 58	250	—	—
	BOD for 03 days at 27°C	mg/l	10	IS 3025 PART 44	30	350	100
Physical	pH	Unitless	7.63	IS 3025 PART 11	5.5-9.0	5.5-9.0	5.5-9.0
	Total Suspended Solids	mg/l	21	IS 3025 PART 17	100	600	200
	Total Dissolved Solids	mg/l	594	IS 3025 PART 15	2100	2100	2100
Chemical	Oil & Grease	mg/l	0.20	IS 3025 PART 39	10	20	10
Remarks: The no. of parameters tested is 06 only. The report is issued subject to the terms & conditions as mentioned over leaf.							
Chemist				Authorized Signatory			



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Exclusive representatives in South Asia for Green Seal, Inc., 1001, Connecticut Avenue, NW, Suite, 827, Washington, DC, USA

Exclusive representatives in India for Sens Aqua, Naeringsghagen No. 7340, OPPDAL, Norway



Figure 35: Test report of waste/treated water by external agency.

*Shabir*  
Incube Sustainability Pvt. Ltd.

## Hazardous Waste

- Oil waste disposed through M/s Maheshwari Petro Chemicals, a Rajasthan State Pollution Control board approved vendor (Figure-36).

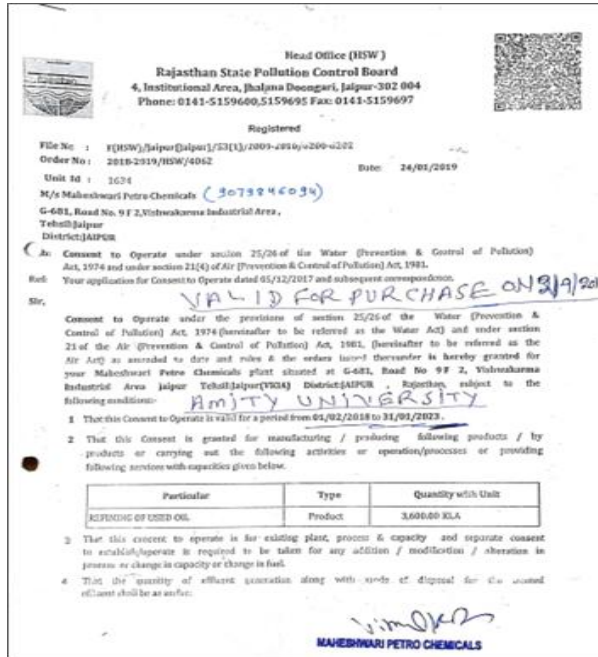


Figure-36: Certificate from external agency.

- Sanitary Pads Incinerators have been installed in the girls' hostels to facilitate disposal of sanitary napkins in an environment-friendly way (Figure-37).



Figure-37: Sanitary Pads Incinerators available in Girls hostel (H-4).

*[Signature]*  
 Incube Sustainability Pvt. Ltd.



- There is no biomedical waste as only a basic medical room for first aid is available on the campus. Injection needles are disposed by burning in a needle incinerator.
- Research laboratories are disposing their waste as per the nature of the material after disinfection/autoclave.

## E-Waste

Electronic waste is disposed through Government Certified companies with who has ISO certification (Figure-38).

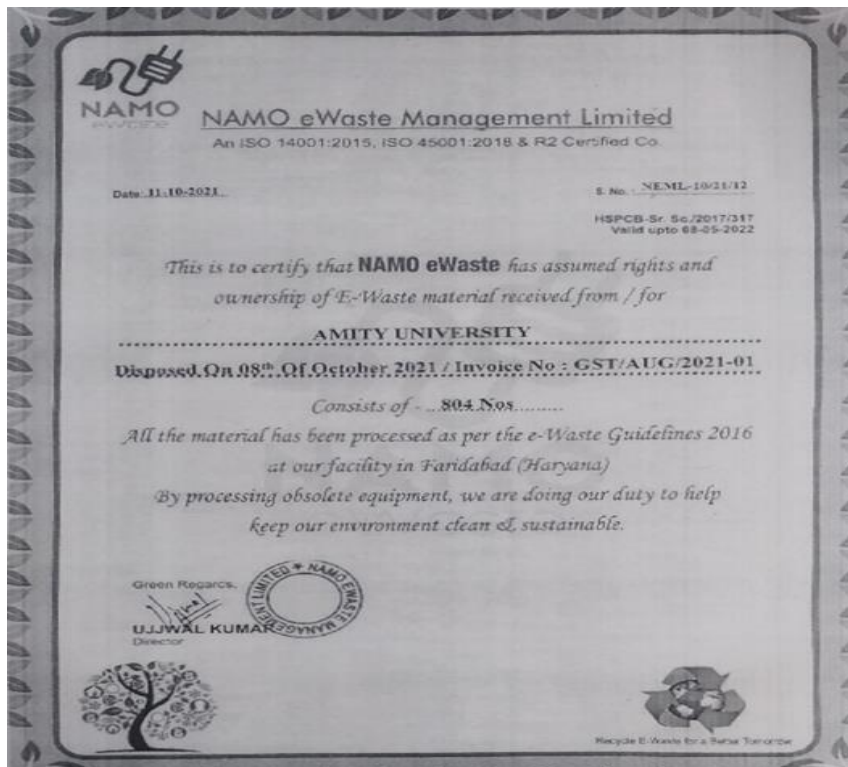



Figure-38: E-waste management by the University.

*Shalini*  
Incube Sustainability Pvt. Ltd.

## Ground Water Abstraction NOC



भारत सरकार  
जल शक्ति मंत्रालय  
जल संवर्धन, नदी विकास  
और गंगा संरक्षण विभाग  
केन्द्रीय भूजल प्राधिकरण  
Government of India  
Ministry of Jal Shakti  
Department of Water Resources,  
River Development & Ganga Rejuvenation  
Central Ground Water Authority

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

**NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION**

Project Name:	Amity University		
Project Address:	Sp-1, RICO Industrial Area, Kant Kalwar		
Village:	Kant	Block:	Amber
District:	Jaipur	State:	Rajasthan
Pin Code:			
Communication Address:	Amity University, Sp-1, RICO Industrial Area, Kant Kalwar, Amber, Jaipur, Rajasthan - 302012		
Address of CGWB Regional Office :	Central Ground Water Board Western Region, 6-a, Jhalana Doongri, Jaipur, Rajasthan - 302004		

1. NOC No.:	CGWA/NOC/INF/ORIG/2022/15348						
2. Application No.:	21-4/3655/RJ/INF/2017	3. Category: (GWRE 2020)	Over Exploited				
4. Project Status:	Existing Project	5. NOC Type:	New				
6. Valid from:	04/05/2022	7. Valid up to:	03/05/2024				
8. Ground Water Abstraction Permitted:							
Fresh Water		Saline Water		Dewatering		Total	
m <sup>3</sup> /day	m <sup>3</sup> /year	m <sup>3</sup> /day	m <sup>3</sup> /year	m <sup>3</sup> /day	m <sup>3</sup> /year	m <sup>3</sup> /day	m <sup>3</sup> /year
694.00	173500.00						
9. Details of ground water abstraction /Dewatering structures							
Total Existing No.:13				Total Proposed No.:0			
Abstraction Structure*	DW	DCB	BW	TW	MP	MPu	
	0	0	13	0	0	0	0
*DW - Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps							
10. Ground Water Abstraction/Restoration Charges paid (Rs.):				1735000.00			
11. Number of Piezometers(Observation wells) to be constructed/ monitored & Monitoring mechanism.				Monitoring Mechanism			
				Manual		DWLR**	
				DWLR With Telemetry			
**DWLR - Digital Water Level Recorder				2		0	
				1		1	

(Compliance Conditions given overleaf)

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Phone: (011) 23383561 Fax: 23382051, 23386743  
Website: cgwa-noc.gov.in

पानी बचाये - जीवन बचाये  
SAVE WATER - SAVE LIFE

Figure-39: Ground Water Abstraction NOC by Government of India, Ministry of Jal Shakti Department of Water Resources, River Development & Ganga Rejuvenation Central Ground Water Authority.


**AUR Awarded The Times Higher Education Impact Ranking  
in the Area of Environment Sustainability 2022.**



Figure-40: The Times Higher Education Impact Rankings 2022 has recognized the efforts of



## Fire NOC

 कार्यालय मुख्य अग्निशमन अधिकारी बनीपार्क नगर निगम हैरिटेज, जयपुर  
क्रमांक: अग्निशमन./न.नि.ज.हैरिटेज/21-22/926 दिनांक 11/2/22

त्रिगेडियर एस के सारेण,  
पुत्र श्री वेद प्रकाश सारेण,  
बी ब्लॉक फॅकल्टी क्वाटर,  
एमिटी यूनिवर्सिटी इण्ड ऐरिया,  
कांट कालवाड़ एन एच 11, जयपुर।

विषय :- अग्निशमन यंत्र /उपकरण का निरीक्षण एवं अग्निशमन की दृष्टि से अभिषंशा नवीनीकरण पत्र जारी किये जाने बाबत।

आवेदक विषयान्तर्गत आवेदित स्थल एमिटी यूनिवर्सिटी इण्ड ऐरिया कांट कालवाड़ एन एच 11, जयपुर में निर्मित एमिटी यूनिवर्सिटी का का वार्षिक नवीनीकरण किये जाने हेतु अग्निशमन सुरक्षा की दृष्टि से मौका निरीक्षण देवेन्द्र कुमार मीना मुख्य अग्निशमन अधिकारी द्वारा किया गया। निरीक्षण के दौरान आवेदित स्थल पर स्थापित किये गये अग्निशमन यन्त्र/उपकरण सही व कार्यशील अवस्था में पाये गये। इकाई परिसर में स्थापित किये गये अग्निशमन यन्त्र/उपकरण व अन्य व्यवस्थाओं को सदैव कार्यशील अवस्था में रखे जाने हेतु मौके पर उपस्थित अधिकारी व कर्मचारियों को निर्देशित किया गया व फायर के प्रशिक्षित कर्मचारी रखे जाने हेतु भी निर्देशित किया गया। भविष्य में आवेदित स्थल पर रूफटोप रेस्टोरेन्ट का निर्माण कर उपयोग नहीं किया जावेगा। अगर अन्य किसी फर्म को बेचान या लीज पर दिये जावे तो उक्त की पालना सुनिश्चित किये जाने के पश्चात् की अग्रिम कार्यवाही की जावे। अन्यथा अनापत्ति स्वतः ही निरस्त मानी जावेगी। अग्निशमन यन्त्रों को चलाये जाने हेतु एक फायर का प्रशिक्षित कर्मचारी हर समय रखा जाना आवश्यक होगा। इस विभाग द्वारा पूर्व जारी दिनांक क्रमांक एफ.9 ( ) आ.फा./न.नि.ज./19/166 दिनांक 18.04.2019 में अंकित शर्तें यथावत रहेगी।

यह अभिषंशा पत्र पूर्व में जारी किये गए अभिषंशा पत्र की तिथि से दिनांक 01.03.2023 तक नवीनीकृत किया जाता है।


  
देवेन्द्र कुमार मीना)  
मुख्य अग्निशमन अधिकारी।  
नगर निगम हैरिटेज, जयपुर

Figure-41: No Objection Certificate of Fire Department, Govt. of Rajasthan.

## Consent Letter of Rajasthan State Pollution Control Board




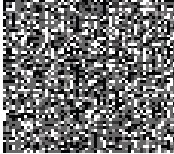
	<b>Head Office (MUID )</b> <b>Rajasthan State Pollution Control Board</b> <b>4, Institutional Area, Jhalana Deongari, Jaipur-302 004</b> <b>Phone: 0141-5159600,5159695 Fax: 0141-5159697</b>										
	<b>Registered</b>										
<b>File No :</b> F(MUID)/Jaipur(Amber)/17(1)/2015-2016/1391-1393 <b>Order No :</b> 2019-2020/MUID/S203 <b>Unit Id :</b> 56628 <b>M/s Ritmand Balved Education Foundation</b> <b>E-27, Defence Colony, New Delhi-110024 .</b>	<b>Date:</b> 08/07/2019										
<b>Sub:</b> Consent to Operate under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21(4) of Air (Prevention & Control of Pollution) Act, 1981. <b>Ref:</b> Your application for Consent to Operate dated 13/03/2018 and subsequent correspondence.											
<b>Sir,</b> <p>Consent to Operate under the provisions of section 25/26 of the Water (Prevention &amp; Control of Pollution) Act, 1974 (hereinafter to be referred as the Water Act) and under section 21 of the Air (Prevention &amp; Control of Pollution) Act, 1981, (hereinafter to be referred as the Air Act) as amended to date and rules &amp; the orders issued thereunder is hereby granted for your Amity University plant situated at Plot No SP- 1, Kant Kalwad, BICO Industrial Area, Jaipur Tehsil-Amber District(JAIPUR), Rajasthan, subject to the following conditions:-</p> <ol style="list-style-type: none"> <li>1 That this Consent to Operate is valid for a period from 13/03/2018 to 29/02/2028.</li> <li>2 That this Consent is granted for manufacturing / producing following products / by products or carrying out the following activities or operation/processes or providing following services with capacities given below.</li> </ol> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Particular</th> <th>Type</th> <th>Quantity with Unit</th> </tr> </thead> <tbody> <tr> <td>GROSS BUILT UP AREA</td> <td>Activity</td> <td>144,075.99 SQ. METER</td> </tr> <tr> <td>PLOT AREA</td> <td>Activity</td> <td>615,117.48 SQ. METER</td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3 That this consent to operate is for existing plant, process &amp; capacity and separate consent to establish/operate is required to be taken for any addition / modification / alteration in process or change in capacity or change in fuel.</li> <li>4 That the quantity of effluent generation along with mode of disposal for the treated effluent shall be as under:</li> </ol>			Particular	Type	Quantity with Unit	GROSS BUILT UP AREA	Activity	144,075.99 SQ. METER	PLOT AREA	Activity	615,117.48 SQ. METER
Particular	Type	Quantity with Unit									
GROSS BUILT UP AREA	Activity	144,075.99 SQ. METER									
PLOT AREA	Activity	615,117.48 SQ. METER									
<p>Page 1 of 5</p> <div style="text-align: center;"> <p><b>Validity unknown</b></p>  <p>Digitally signed by Anupam Mehta  Date: 2019.07.08 12:05:38 IST  Reason: Software  Location:</p> </div> 											

Figure-42



**Head Office (MUID )**  
**Rajasthan State Pollution Control Board**  
 4, Institutional Area, Jhalana Doongari, Jaipur-302 004  
 Phone: 0141-5159-600,5159-695 Fax: 0141-5159-697

**Registered**

File No : F(MUID)/Jaipur(Amber)/17(1)/2015-2016/1391-1393

Order No : 2019-2020/MUID/5203

Date: 08/07/2019

Unit Id : 56628

Type of effluent	Max. effluent generation (KLD)	Recycled Qty of Effluent (KLD)	Disposed Qty of effluent (KLD) and mode of disposal
Domestic Sewage	675.000	615.000	60.000 Sludge & Evaporation Loss

5. That the sources of air emissions along with pollution control measures and the emission standards for the prescribed parameters shall be as under:

Sources of Air Emissions	Pollution Control Measures	Prescribed	
		Parameter	Standard
DG Set (1 Nos.)( 320KVA)	ACOUSTIC ENCLOSURE , WITH ADEQUATE STACK HEIGHT	-	-
DG Set (1 Nos.)( 400KVA)	ACOUSTIC ENCLOSURE , WITH ADEQUATE STACK HEIGHT	-	-
DG Set (1 Nos.)( 82.5KVA)	ACOUSTIC ENCLOSURE , WITH ADEQUATE STACK HEIGHT	-	-
DG Set (2 Nos.)( 750KVA)	ACOUSTIC ENCLOSURE , WITH ADEQUATE STACK HEIGHT	-	-
DG Set (4 Nos.)( 600KVA)	ACOUSTIC ENCLOSURE , WITH ADEQUATE STACK HEIGHT	-	-

Page 2 of 6

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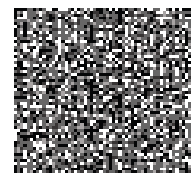


Figure-43

*Anwar Mehta*  
 Incube Sustainability Pvt. Ltd.





**Head Office (MUID )**  
**Rajasthan State Pollution Control Board**  
 4, Institutional Area, Jhalana Doongari, Jaipur-302 004  
 Phone: 0141-5159600,5159695 Fax: 0141-5159697

**Registered**

File No : F(MUID)/Jaipur(Amber)/17(1)/2015-2016/1391-1393

Order No : 2019-2020/MUID/S203

Date: 08/07/2019

Unit Id : 56628

- 6 That the domestic sewage shall be treated before disposal so as to conform to the standards prescribed under the Environment (Protection) Act-1986for disposal into Inland Surface Water. The main parameters for regular monitoring shall be as under.

Parameters	Standards
Total Suspended Solids	Not to exceed 100 mg/l
pH Value	Between 5.5 to 9.0
Oil and Grease	Not to exceed 10 mg/l
Biochemical Oxygen Demand (3 days at 17°C)	Not to exceed 30 mg/l
Chemical Oxygen Demand	Not to exceed 150 mg/l

- 7 That the unit shall obtain all necessary permission from concern authority & district administration, Jaipur related to Operation of this institute.
- 8 That the unit shall not abstract ground water more than 694 KLD without prior permission of CGWA.
- 9 That the industry shall comply with all the guidelines issued from CGWA for ground water abstraction.
- 10 That the industry shall comply with the standards as prescribed vide MOEF notification no. GSR 026(E) dated 16th November, 2009 with respect to National Ambient Air Quality.
- 11 That the P.F. shall install and commission the STP of 750 KLD and ETP of 50 KLD to treat the waste water (675 KLD) generated from all the utilities.
- 12 That the total water consumption for the complete project shall not exceed-1309 KLD (Fresh-694 KLD+ recycled-615 KLD), after full occupancy.
- 13 That the water flow meters shall be provided at all suitable points to measure quantity of daily water consumption, waste water generation, waste water treated and treated waste water recycled and utilized for plantation/gardening purposes. Daily record of the same shall be maintained and to be submitted to the Board.
- 14 That the entire treated sewage shall be utilized within the premises for flushing,landscaping & general washing etc and Zero discharge status shall be maintained outside the premises.
- 15 That the unit shall dispose the sludge of STP in scientific manner.
- 16 That the unit shall ensure compliance of ambient air quality standard in respect of noise as prescribed under Environment (Protection) Act & Rules made therein.

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Figure-44

*Shashank*  
 Incube Sustainability Pvt. Ltd.



Head Office (MUID )  
Rajasthan State Pollution Control Board  
4, Institutional Area, Jhalana Doongari, Jaipur-302 004  
Phone: 0141-5159600,5159695 Fax: 0141-5159697

**Registered**

File No : F(MUID)/Jaipur(Amber)/17(1)/2015-2016/1391-1393

Order No: 2019-2020/MUID/5203

Date: 08/07/2019

Unit id : 56628

- 17 That this consent to operate is being issued for Proposed project- "Amity University" with plot Area - 615117.40 Sq. meter and Gross Built-up Area - 144075.99 Sq. meter only. For any change in capacity of the services & area, the unit has to seek fresh consent to establish.
- 18 That the treated sewage (615 KLD) shall be recycled within premises for flushing 150 KLD, Landscaping & General Washing-335 KLD and cooling tower-130 KLD within the premises.
- 19 That the unit shall maintain adequate height of stack (minimum 30 meters with each) along with acoustic enclosures on one D.G. set of 320 KVA, one D.G. set of 400 KVA, four D.G. sets of 600 KVA, two D.G. sets of 750 KVA & one D.G. set of 82.5 KVA.
- 20 That unit shall not allow to install any other air pollution source i.e. Boiler/Hot Water generator etc without prior consent to establish from the Board under the Air Act 1981.
- 21 That unit shall not discharge treated waste water to any natural water flow to any water body and completely utilize within the project.
- 22 That the P.F. shall ensure proper reuse of domestic waste water after adequate treatment.
- 23 That the project cost shall not exceed to Rs. 277.76 Crores. In case of any change in project cost, the project proponent shall have to deposit additional consent fee as per applicable fee notification.
- 24 That the unit shall not allow making any obstacles to any natural water flow i.e. natural nallah/stream carrying rain water to any water body.
- 25 That the unit shall install adequately designed rain water harvesting structure for prevention and recharge of ground water in and around the area.
- 26 That the solid waste generated should be properly collected & segregated. Wet garbage should be composted and dry/inert solid waste should be disposed off to approved sites for land filling after recovering recyclable material.
- 27 That energy conservation measures like installation of CFLs/FLs for lighting the areas outside the project should be integral part of the project design and should be in place before project commissioning.
- 28 That used CFLs/FLs should be properly collected and disposed off/sent for re-cycling as per the prevailing rules/guidelines issued by the regulatory authority. Use of solar panels also may be done to the extent possible.
- 29 That adequate measures should be taken to prevent odour problem from STP.
- 30 That this consent to Operate shall be subject to compliance of any direction or order passed by Court of Law in the matter.

Page 4 of 6

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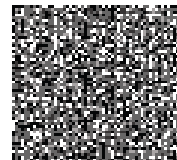


Figure-45

Incube Sustainability Pvt. Ltd.



Head Office (MUID )  
Rajasthan State Pollution Control Board  
4, Institutional Area, Jhalana Doongari, Jaipur-302 004  
Phone: 0141-5159-600,5159-695 Fax: 0141-5159-697

**Registered**

File No : F(MUID)/Jaipur(Amber)/17(1)/2015-2016/1391-1393

Order No : 2019-2020/MUID/S203

Date: 08/07/2019

Unit Id : 56628

- 31 That the P.P. shall provide and maintain the Oil & Grease trap in good condition, so that oil & grease coming with waste water from kitchen/laundry will retained in the trap.
- 32 That the PP shall submit yearly Environmental Audit Statement on or before September of every year.
- 33 The industry shall not use pet coke and F.O. or any other such fuel which is banned by Hon'ble Supreme Court of India or any other Court of Law or Government of Rajasthan.
- 34 That, not withstanding anything provided hereinabove, the State Board shall have power and reserves its right, as contained under section 27(2) of the Water Act and under section 21(4) of the Air Act to review anyone or all the conditions imposed here in above and to make such variation as it deemed fit for the purpose of Air Act & Water Act.
- 35 That the grant of this Consent to Operate is issued from the environmental angle only, and does not absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument in force. The sole and complete responsibility to comply with the conditions laid down in all other laws for the time-being in force, rests with the industry/ unit/ project proponent.
- 36 That the grant of this Consent to Operate shall not, in any way, adversely affect or jeopardize the legal proceeding, if any, instituted in the past or that could be instituted against you by the State Board for violation of the provisions of the Act or the Rules made thereunder.

This Consent to Operate shall also be subject, besides the aforesaid specific conditions, to the general conditions given in the enclosed Annexure. The project proponent will comply with the provisions of the Water Act and Air Act and to such other conditions as may, from time to time , be specified, by the State Board under the provisions of the aforesaid Act(s). Please note that, non compliance of any of the above stated conditions would tantamount to revocation of Consent to Operate and project proponent / occupier shall be liable for legal action under the relevant provisions of the said Act(s).

This bears the approval of the competent authority.

Yours Sincerely

Group Incharge[ MUID ]

Page 5 of 6

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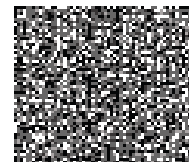



Figure-46



	<b>Head Office (MUID )</b> <b>Rajasthan State Pollution Control Board</b> <b>4, Institutional Area, Jhalana Doongari, Jaipur-302 004</b> <b>Phone: 0141-5159600,5159695 Fax: 0141-5159697</b>	
	<b>Registered</b>	
<b>File No :</b> F(MUID)/Jaipur(Amber)/17(1)/2015-2016/1391-1393	<b>Order No :</b> 2019-2020/MUID/S203	<b>Date:</b> 08/07/2019
<b>Unit Id :</b> 56628		
<b>Copy To:-</b>		
1 Regional Officer, Regional Office, Rajasthan State Pollution Control Board,Jaipur (N) with requested to inspect the institute and verify the compliance of CTO and forward the detailed inspection report to HO for further action within 6 months		
2 Master File.		
	<b>Group Incharge(MUID)</b>	

Page 6 of 8

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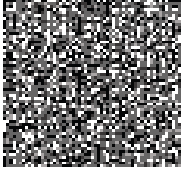


Figure-47

  
Incube Sustainability Pvt. Ltd.

## Future Plans

- Upgradation of new LED's light in next five years in phase wise manner.
- Borewell recharge pits for every functional pump.
- Adoption of sensor-based technologies for efficient water/light and energy utilization.
- Adoption of e-vehicle in university transport.

  
Incube Sustainability Pvt. Ltd.