Environmental Audit of
RBVRR WOMEN'S COLLEGE OF PHARMACY

3-4-343, Barkathpura, Hyderabad - 500027

2022-2023

Prepared by

M/s KIWIS ECO LABORATORIES PVT LTD.,
(Recognized by MoEF, GOI, New Delhi
Certified by ISO 9001:2015, ISO 14001:2015 & OHSAS 45001:2018)
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ACKNOWLEDGEMENT

RBVRR Women's College Of Pharmacy has been working at the forefront since its inception to bring about social change for national and international development by conducting workshops and other extension activities. RBVRR Women's College Of Pharmacy is aware of the needs of the green audit for the maintenance and future development of the campus. In its pursuit of excellence, RBVRR Women's College Of Pharmacy has recognized itself to improve the environmental quality and maintain its unique pristine ecosystem for the future generation of students and all the inhabitants of the campus. Although we have been taking a number of steps to conserve and protect our environment. This report of 2022-23 is the first formal effort to document the results of our investigation and interpret the information of all the required parameters of the Green audit process. RBVRR Women's College Of Pharmacy aims to take up the policy and efforts at every level to avert ecological catastrophe on a global scale by supporting the climate neutrality goals committed by the Government of India. As a part of this, efforts will take to continuously monitor the sustainability of the academic process by constituting the Environmental Audit Committee consisting of faculty members working in this arena to collect basic data of the environmental parameters within the campus so that the environmental issues are resolved within the campus. The Green Audit Committee has tried to identify the current / emerging environmental issues so as to monitor the environmental management practices adopted in the college along with subsequent impact of these on the campus environment.

The Green audit conducted is an external audit that aims towards creating awareness healthy and sustainable environment. Though nascent, the initiative will taken up to foster the concept of environmental sustainability. Hopefully, all stakeholders will pay attention to this report, allowing us to develop a bottom-up approach to addressing future challenges.

Y. J. Rao

Principal

Date

RBVRR WOMENS COLLEGE OF PHARMACY * HYDERABAD (TS), INDIA * RBVRR CC NO 1705

To WHOM SO EVER IT MAY CONCERN

This is to certify that the first Environmetal Audit Report 2022-23 of **RBVRR Women's College Of Pharmacy, Bharkatpura** is an original External audit work conducted by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi)** dated **24-02-2023** on behalf of the terms of agreement with the College. The Green Audit Committee to monitor the environmental management practices adopted in the **RBVRR Women's College Of Pharmacy,** which is in line with the terms of the International Standards of External Auditing.

After going through the report, it is obvious that adequate and appropriate audit procedures were followed for Environmental Quality Audit, Water Audit, Waste Management Audit, and and Carbon Footprint. The gathered evidences support the conclusions reached and contained in this report.

The suggestions and recommendations prescribed and the conclusions derived are quite genuine within the achievable limits, and I understand that RBVRR Women's College Of Pharmacy is competent to fulfil those to meet the Sustainable Development Goals.

I recommend and firmly believe that this report meets the requirement prescribed for development of a Green Campus.

Y.S-kanth

Principal

(Dr.-M. Sumakanth)
RBVRR Women's College Of Pharmacy

KIWIS

DECLARATION

Environmental Audit Report for **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** during **06th and 08th February 2023** and following Observations were presented below. The Management is proactive towards Green Initiative by Harvesting Solar Energy, Planting Trees, Better water conservation, Waste Management, Carbon Footprint, A continual improvement in Green Initiative is appreciated. We appreciate the efforts of the **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** in this regard. This Environmental Audit Report has been prepared by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi, ISO 9001:2015,14001:2015)** dated **23-02-2023** is for the use of the Customer with due consideration and skill as per our general terms and conditions of business and the terms of agreement with the customer.

Authorized Signatory

KIWIS ECO LABORATORIES PRIVATE LIMITED ★ Hyderabad

(Ch. Rajani Kumari)
Managing Director

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GREEN AUDIT ASSESSMENT TEAM

INTERNAL: RBVRR Women's College Of Pharmacy,

Dr. M. Sumakanth, Principal	Chairman	
Dr. A. Krishna Sailaja. IQAC	Member	
Ms. Zeenath Banu	Member	
Dr. Sudha Parimala	Member	
Dr. G. Uma Rani	Member	
Dr. J. Archana	Member	

EXTERNAL: KIWIS ECO LABORATORIES PRIVATE LIMITED

Dr. Ch. Rajani Kumari Managing Director,	Team Member	
Dr. D. Sivaramakrishna HOD-LAB	Team Member	
Dr. D. Sreekanth Quality Manager	Team Member	
Dr. Nalini Vijayalakshmi Manager-Laboratory	Team Member	
Dr. S. U. B Ramakrishna Sr Chemist	Team Member	

Environmental Audit

The Environmental Audit is carried out in view of assessing all necessary environmental components and their impact on the campus physically by visiting the premises with reference to following.

- Creating awareness among staff/Students for planting more tress in the campus, corridors and walking areas.
- A continual drive is created. Water Conservation/ Efficient Usage / Eliminate the water misuse or wastage , Rain Water Harvesting etc
- Waste Management which includes Bio Waste/ Non Bio Waste/ E Waste etc
- Carbon Foot Print – Transportation of Teaching Staff / Non Teaching Staff/ Students

About the College

RBVRR Women's College of Pharmacy was established in the year 2006 under "Hyderabad Mahila Vidya Sangham" to provide education to women students. The college was self-financed, approved by **PCI, AICTE** and is affiliated to **Osmania University**, accredited by **NBA** for B.Pharmacy Course with an objective to nurture the pharmacy education and to support the healthcare system through skilled Women Pharmacy graduates.

RBVRR Women's College of Pharmacy Institute is one of the leading institutions which have taken a leap forward in the quality professional education. This institution has emerged as a unique centre of academic excellence of higher learning in the field of pharmacy. All the efforts are focused to provide a congenial environment to educate and train girl students into competent professionals and mould them into confident women to succeed in their lives both personally and professionally which helps in fulfillment of

vision of the college. The college is footing with achievements like **"Recognition as Research Centre"** by Osmania University, has Certified **"Institute Innovation Council"** jointly by **AICTE** and **MHRD.**

From the past 14 years of standing period, the institute has created its own identity by adopting innovative practices The phenomenal academic achievements of our students have always added glory to the college.

The college has a tradition of excelling in Sports and extracurricular activities, in which our students continue to bring us laurels. The success in all spheres is the combined product of all our little efforts- the contribution of highly qualified, dynamic and multi-talented faculty, non-teaching staff and our students. Our teachers aim at providing high quality educational experience to the students in the form of debates, group discussions, workshops, symposia, seminars, Environmental activities, social activities (NSS) and cultural competitions. Eminent personalities are invited from all walks of life to address our students and expose them to new ideas and thoughts for our better society.

RBVRR Women's College of Pharmacy is centrally located in the city at Plot No 3-4-343, Barkatpura, Hyderabad District, Hyderabad -50002, and Telangana State. The site is located at the intersection of 17°23'36.64" (N) latitude and 78°29'40.92" (E) longitude. The site location of the buildings and facilities in RBVRR and some photographs given in (Fig 1). The total area of the Institute is 0.8 acres in which 0.2 acres of area is covered with green belt and 0.56 acres is covered with buildings and roads and the layout of the same is presented as above.

Figure.1 Site Location of the College

Environmental Audit

Water Conservation , Harvesting and Management

Water is an important natural resource and is available naturally depending on the climate and topographic features. All organisms are dependent on water for their living. Although water is available in nature, portable water is not available freely for human consumption. There have been many practices to conserve water so that it can be readily available for human use. It has been noticed that due to unsustainable use of water resources there is contamination and depletion of the ground water and also water which is available in various reservoirs like lakes, ponds, streams etc which is becoming more alarming. Therefore it becomes increasingly important to conserve protect and manage the water resources availability and usage so that it is sustainably used within the college campus. Water auditing is conducted to evaluate the quality, availability and usage of water; the facilities available and methods adopted to revitalize and use it so that the resources are intact without leading to deterioration.

Per capita water availability of many river basins in India is declining over the years due to sustained population pressure, agriculture and industrial expansion, besides changing climate scenarios.

- **Rainwater harvest**

  Rainwater harvesting is a technique used for collecting, storing and using rainwater for domestic, agricultural or any other uses. The rainwater is collected from various hard surfaces such as rooftops, runoff from catchments, from streams and water conservation through watershed management or other manmade aboveground hard surfaces. It is an age-old system of collection of rainwater for future use. The harvested water can be stored on surface through ponds and tanks or can be recharged to groundwater.

- **Protection of Water from Pollution**

  If the total fresh water available on the earth remains pollution free, it is sufficient to meet the drinking water needs of the existing population of the world, unfortunately a large portion of fresh water does not remain fit for use of the living world due to increasing economic activities, urbanization etc.

- **Rational Use of Groundwater:**

  Groundwater meets 25 per cent of total supply of water in the world, remaining 75 per cent supply is met by surface water sources of rivers, lakes etc. Demand for groundwater goes on increasing in proportion to its available quantity due to which quantity of groundwater goes on decreasing. After exploitation of groundwater, its re-infiltration takes a very long time to complete. Hence, Groundwater exploitation should be only in proportion to its recharging capacity.

- **Increasing Forest Cover:**

  According to hydrological movements, water is received through rainfall every year different quantities on the surface of the earth. This water flows on the surface and reaches the seas. Some part of rainwater is stored in stable water reservoirs (lakes and tanks), whereas some quantity of water infiltrates into the land and takes the form of groundwater.

WATER USES AND MANAGEMENT

A total of 20000 L of water is pumped every day for the College dwellers as well to meet the daily demands of the academic and administrative Departments (Table). The daily use of the water during 2022-23 was approx. 22450 L per day shown in Figure 2&3.

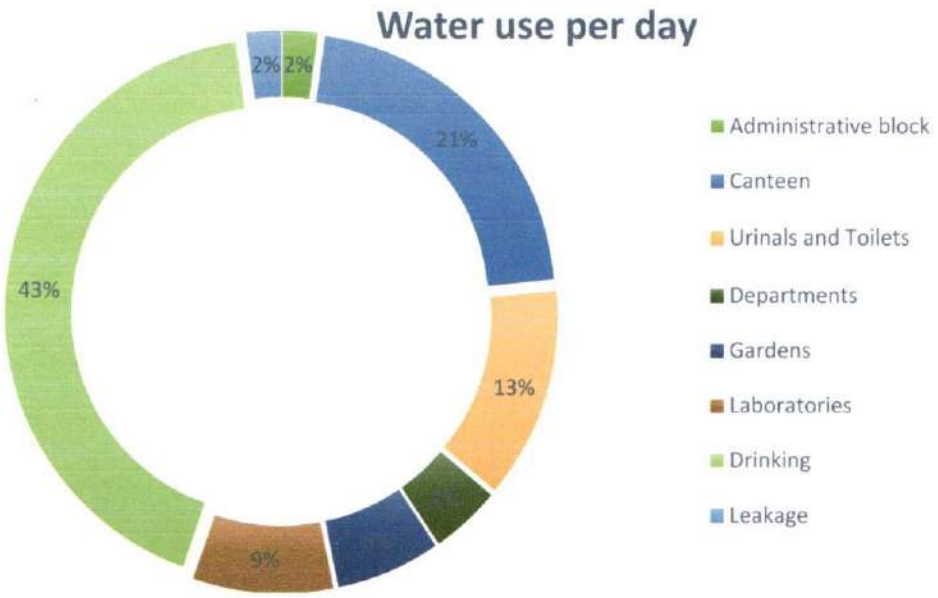


Figure. 2: Daily water Consumption and usage in RBVRRR

Table:1 Source and uses of water in the college campus Source of water

Source and uses of water in the College campus Source of water		
Sl. No	**Parameters**	**Information**
1	No of Wells	1
2	No of the motors used	2
3	Horsepower- motor	3 HP x 2
4	Depth of well- Total	600 m x 1
5	Capacity of Tank(Total)	250000 L
Quantity of water used in different sections of the Campus		
	Sections	**Water use (L/day)**
6	Administrative block	400
7	Canteen	6000
8	Urinals and Toilets	4000
9	Departments	800
10	Gardens	1200
11	Laboratories	1500
12	Drinking	8000
13	Leakage	500
14	Main purposes of water use in the campus	Drinking and cooking purpose Toilets and wash areas Laboratory use Gardening Construction
15	Nos. of water tap	320 nos
16	Water cooler and drinking water filtration facility	5 nos
17	Nos. of urinal and toilets	20
18	Nos. of waterless /bio-toilets	Nil
19	Any water wastage/why?	Yes, leakage from pipes and tanks, leaving of taps open at times
20	Water usage for gardening	1200 Ltr
21	Wastewater sources	leakage from pipes and tanks, Overflowing of tanks from residential qtrs., Toilets, laboratories, hostels
22	Use of wastewater	Nil
23	The fate of wastewater from labs	Discharged into soak pit in case of contamination and natural discharge
24	Any wastewater treatment for lab water	No
25	Whether any green chemistry	No

	method practiced in Labs	
26	Rainwater harvesting	Rain water harvesting is maintain by the water body within the premises which also helps in maintaining the ground water level and there is no reusable rain water which

The stake holders of the BVRRR specially propose to use of grey water which is obtained from the various domestic activities and they re-use the same water for gardening and vegetable fields etc. Also water recycling is done as per the direction of the competent authority in broader scale as and when required. During the rainy season water from the roof tops of the buildings directly fall into the lake through rain water outlets, RCC drains and recharges the ground water table throughout the year

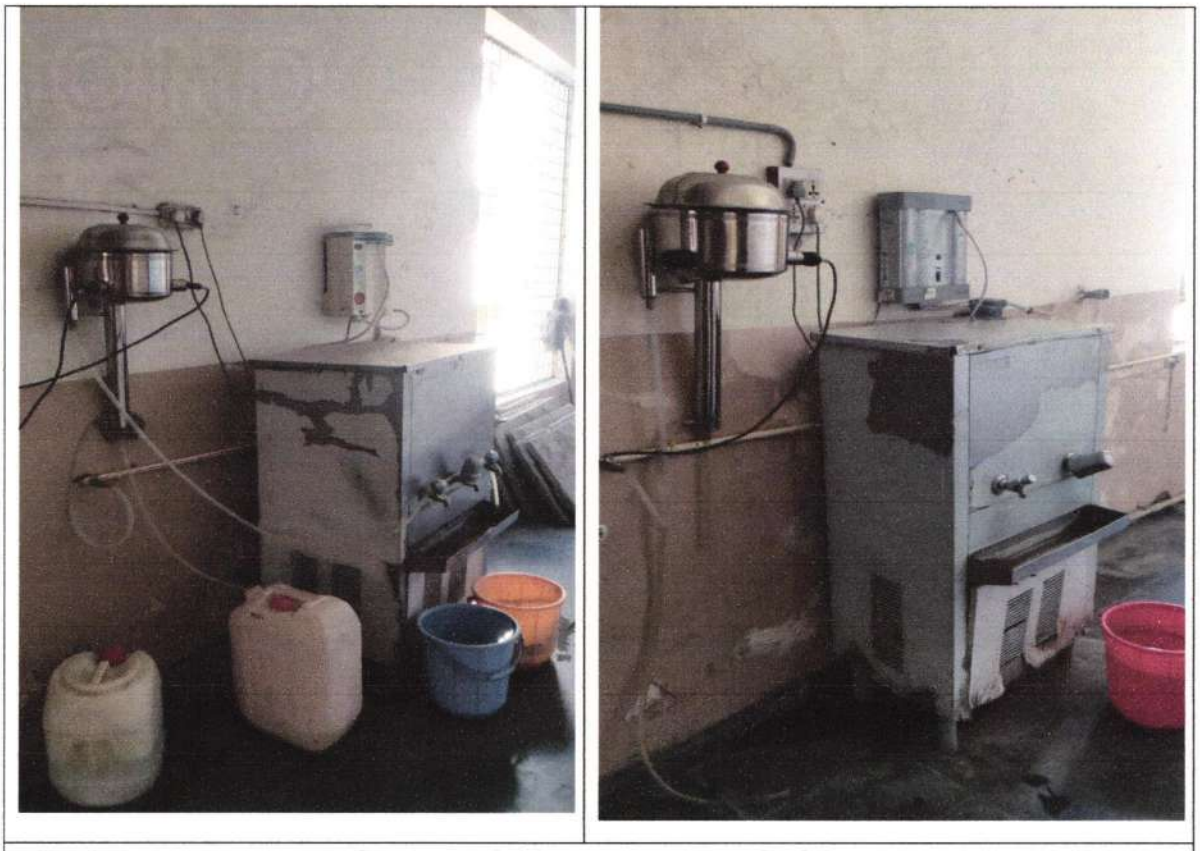


Figure.3 Drinking water in Each Floor

Present Status: Constructed Water harvesting Pits 2 No's across the campus and in the process of constructing water drains and interconnecting the same to water harvesting pits to recharge the ground water.

THE WATER QUALITY IN INSTITUTE

One Bore water and one RO water samples were collected in the In the campus. The results are discussed below and given in Table.2

Observation of Ground Water:

- pH analysis results indicate the pH range 7.0-7.6 Observed with in the acceptable limit of 6.5 to 8.5.
- Total Dissolved Solids in the range of 15-655 mg/L. Observed that all values are in the study area are with in the acceptable limits.
- Calcium is in the range 3-75 mg/L. Observed that all the values are within the acceptable limits.
- Magnesium is in the range is 1.5-38 mg/L. Observed that all the values are within the acceptable limits.
- Chloride concentration in the range is 2.5-169 mg/L Obeserved that all values are in the study area are within the acceptable limits.
- Iron Concentrations below the <0.3 mg/L. Obeserved that all values are in the study area are with in the acceptable limits.

Table: 2: Status of water quality in the Hostels

Type of Sample		Results		IS 10500 (Acceptable Limits)	IS 10500 (Permissible Limits)
Parameters		Tap RO water at Ground water	Tap water at Ground Floor		
TDS	(ppm)	15	655	500	2000
pH Range		7.0	7.6	6.5-8.5	No relaxation
Turbidity	(NTU)	<1.0	<1.0	1	5
Iron	(ppm)	<0.3	<0.3	0.3	No relaxation
Calcium	(ppm)	3	75	75	200
Magnesium	(ppm)	1.5	38	30	100
Chlorides Cl-	(ppm)	2.5	169	250	1000

Water quality results indicate parameters are within the permissible limit, prescribed by IS: 10500 respectively. The results revealed that all the samples have satisfactory Physico-chemical characteristics. The Campus was well maintaining the reduce water wastage practices shows in Fig 3.

Waste Management:

The campus produces and disposes solid waste through its day-to-day operations. There can be difference between individuals, between certain day's activities, and between holidays and work days, as well as between seasons. An average figure per person per day is however worked out by observing their activities for a week by student volunteers at the disposal area through sample survey approach, quantifying the measured wastes and then averaging.

In India, through certain research studies on waste generation in academic campuses from time to time, environmentalists have arrived at some empirical coefficients for assessing GHG emissions from solid wastes. These will be use in evaluating the green auditing data on wastes in RBVRR institute. The wastes generated in the college is systematically collected and disposed off as scientifically as possible. Wet wastes are separated at source itself. For disposal, only competent agencies are approached and materials handed over. As seen in the table, most items are intended to be recycled, reused or processed. Adequate numbers of garbage bins are provided in every room and in every floor in every hostel as well as in the academic area and guest house, and the students are using them as and when required. The practice of burning the paper waste, which is the usual practice needs to be discontinued and better options tried. Using waste paper for creating decorative materials is one option. The present waste generation is represented as **Table.3 and Figure. 4-6**

The following waste is categorizes as:

- **Non Bio Waste** – Plastic Bottles / Waste Paper / Cardboards/ Batteries etc

Non- biodegradable waste, which cannot be decomposed by biological processes is called non- biodegradable waste.

These are of two types –

- **Recyclable:** waste having economic values but destined for disposal can be recovered and reused along with their energy value. e g. Plastic, paper, old cloth etc.
- **Non-recyclable:** waste which do not have economic value of recovery. e.g. Carbon paper, thermo coal, tetra packs etc.

Disposal of non-biodegradable waste is a major concern, not just plastic, a variety of waste being accumulated. There are a few ways to help non-biodegradable waste management. The impact of non biodegradable waste on the environment and also focus on its safe disposal for sustainable environment.

Table 3. Annual Waste Generation category wise

S. No.	Stake holders	Types of solid waste	Average waste generated Year (Kg)	% of waste
1	ACADEMIC DEPARTMENT	Paper waste	350	7.4
2		Plastic waste	180	3.8
3		Organic Waste	2600	54.9
4		E-waste	50	1.1
5		Bio Medical Waste	25	0.5
6	ADMINISTRATIVE OFFICE	Paper waste	120	2.5
7		Plastic waste	30	0.6
8		Organic Waste	85	1.8
9		E-waste	5	0.1
10	CANTEENS	Paper waste	300	6.3
11		Plastic waste	385	8.1
12		Organic Waste	600	12.7
13		E-waste	2	0.0
TOTAL			**4732 Kg /Year**	

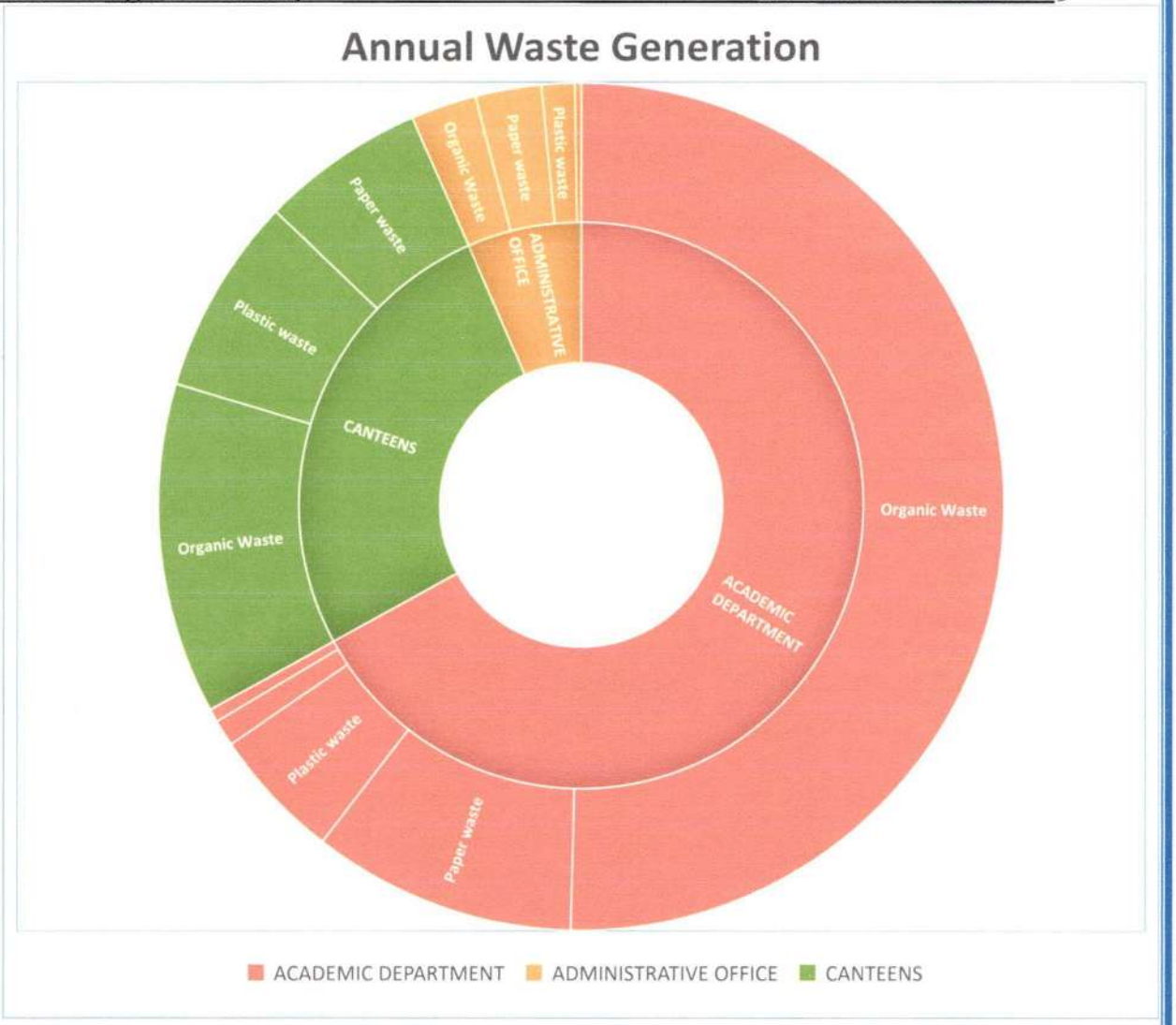


Figure.4 Annual Waste Generation In the RBVRR College of Pharmacy

- **Bio Medical waste:**

  Bio medical waste means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals, and including categories mentioned in Schedule I Category of Waste as **Table 4**

Table :4 Bio Medical waste category wise

Option	Waste Category	Treatment & Disposal
Category No-1	Human Anatomical Waste (human tissues, organs, body parts)	incineration/deep burial
Category No. 2	Animal Waste (animal tissues, organs, body parts carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals colleges, discharge from hospitals, animal houses)	incineration/deep burial
Category No. 3	Microbiology & Biotechnology Waste (wastes from laboratory cultures, stocks or specimens of micro- organisms live or attenuated vaccines, human and animal cell culture used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins, dishes and devices used for transfer of cultures)	local autoclaving/micro-waving/incineration
Category No. 4	Waste sharps (needles, syringes, scalpels, blades, glass, etc. that may cause puncture and cuts. This includes both used and unused sharps)	disinfection (chemical treatment/autoclavin g/microwaving and mutilation/shredding
Category No 5	Discarded Medicines and Cytotoxic drugs (wastes comprising of outdated, contaminated and discarded medicines)	incineration@/destructio n and drugs disposal in secured landfills
Category No 6	Soiled Waste (Items contaminated with blood, and body fluids including cotton, dressings, soiled plaster casts, lines, beddings, other material contaminated with blood)	Incineration/ autoclaving/microwaving
Category No. 7	Solid Waste (wastes generated from disposable items other than the waste sharps such as tubings, catheters, intravenous sets etc).	disinfection by chemical treatment/autoclaving/ microwaving and mutilation/ shredding
Category No. 8	Liquid Waste (waste generated from laboratory and washing, cleaning, house- keeping and disinfecting activities).	disinfection by chemical treatment and discharge into drains
Category No. 9	Incineration Ash (ash from incineration of any bio-medical waste)	disposal in municipal landfill
Category No. 10	Chemical Waste (chemicals used in production of biologicals, chemicals used in disinfection, as insecticides, etc.)	Chemical discharge into drains for liquids and secured landfill for solids

Rule 1998 schedule II

Color coding	Type of container	Waste categories
Yellow 	Plastic bags	Cat 1 human anatomical waste Cat 2 Animal Waste Cal 3 Microbiological Waste Cat 6 Solid Waste
Red 	Disinfected container plastic bags	Cat 3 Microbiological Cat. 6 Soiled Dressing
Blue/white 	Plastic bags, puncture proof containers	Cat. 4 Waste sharp Cat.7 Plastic disposable
Black 	Do	Cat. 5 Discarded medicine Cat. 9 Incineration ash Cat 10 Chemical Waste

Conditions in Transportation and Storage

• The waste may be temporarily stored at the storage area of the Institute, it may be sent in bulk to the site of final disposal once or twice a day depending upon the quantum of waste.

During transportation following points should be taken care of

• Ensure that waste bags/containers are properly sealed and labeled.

• Bags should not be filled completely, so that bags can be picked up by the neck again for further handling. Hand should not be put under the bag. At a time only one bag should be lifted.

• Manual handling of waste bags should be minimized to reduce the risk of needle prick injury and infection.

• BMW should be kept only in a specified storage area.

• After removal of the bag, clean the container including the lid with an appropriate disinfectant.

• Waste bags should be transported in a covered wheeled containers or large bins in covered trolleys.

• No untreated bio -medical waste shall be kept stored beyond a period of 48 hours

Bio medical waste storage

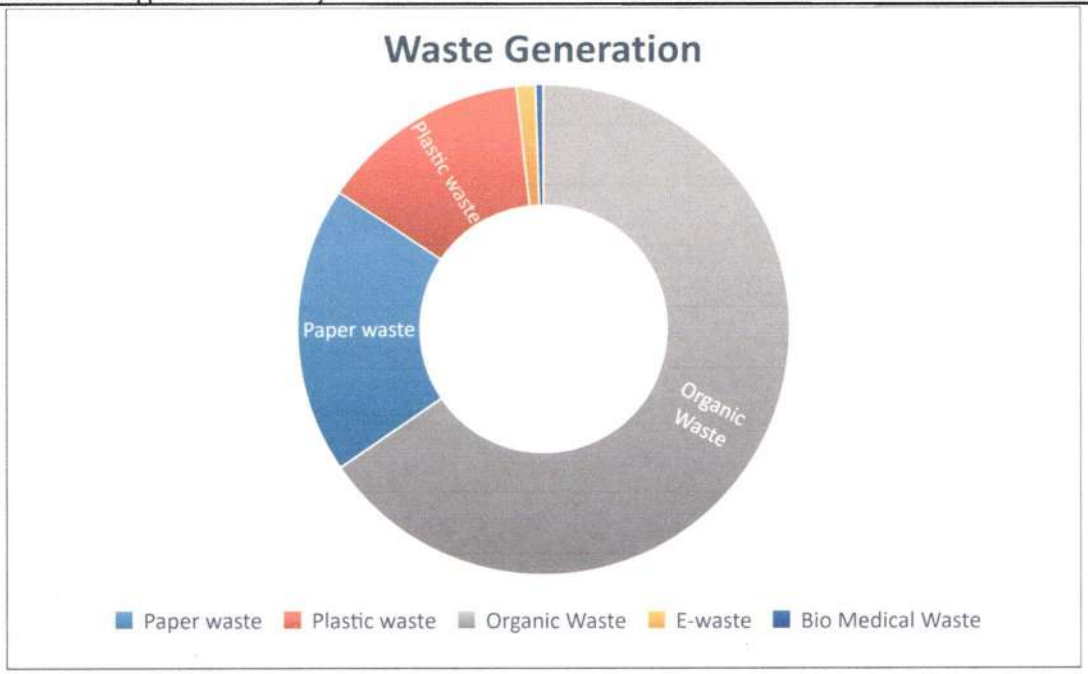
Garden waste

In Class room Carridor

Figure.5 Dust Collection Bins from Different waste at Institute

E Waste Management

Waste Electrical and Electronic Equipment (WEEE) or E-waste is one of the fastest growing waste streams in the world. In developed countries, it equals 1% of total solid waste on an average. In developing countries, it ranges from 0.01% to 1% of the total municipal solid waste generation. In countries like China and India, though annual generation per capita is less than 1 kg, it is growing at an exponential pace.



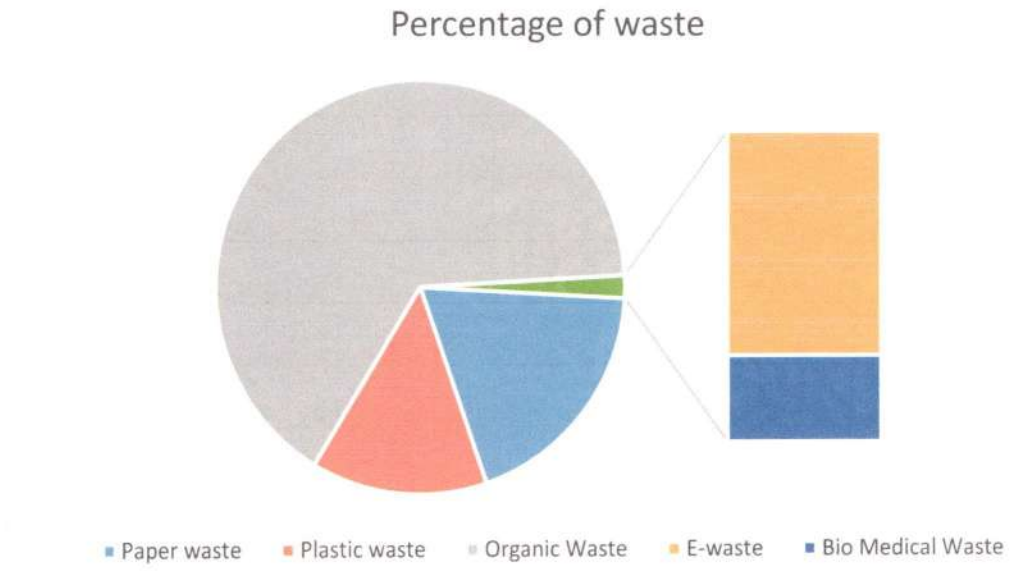


Figure.6 Types of Waste Generation In the RBVRR College of Pharmacy

Present Status: The College is having an MOU with M/s. Green Wave E-waste recycling Ltd, Nacharam to dispose the E Waste and the bio medical waste is dispose to M/s Sattva Global Services Pvt Ltd. Every year the agency will come and pick up the E waste and Bio medical waste dispose it in environmental friendly way.

Carbon Footprint

Carbon Footprint is the amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, optimization, or community. An acceptable definition for carbon foot print is: carbon footprints the total amount of greenhouse gases produced directly and indirectly for supporting human activities, usually expressed in equivalent tons of carbon dioxide (CO_2). The most common greenhouse gases (GHGs) in our environment are carbon dioxide, water vapour, methane nitrous oxide and ozone. The total carbon footprint college as calculated and represented as **Table.5** and International Standards of carbon footprint for various parameters represented as **Table. 6**

The RBVRR has total staff (Teaching + Non Teaching) of 70 members, the Co2 emission

Table:5 Carbon foot Print

Sl. No:	Source	Rate	Quantity x Days/year		Total Quantity	Annual Eqvt. CO_2
1	Electricity use (For India)	0.82 kg/kWh	--		40686KWh	33.3 T CO_2
2	Fossil fuel use	268 g CO2eq/kg	LPG	30	435kg /Year	0.116 T CO_2
3	Bus – students public transport	268 g CO2eq/L	670	250	3350 kg/year	897.8 T CO_2
4	Staff week public transport	268 g CO2eq/L	25	300	187.5 kg/Year	50.3 T CO_2
5	Non Teaching staff public transport	268 g CO2eq/L	45	300	337.5 kg/Year	90.5 T CO_2
6	Cars, Taxis all	230g CO2eq/L	2	300	30 kg/Year	8 .0 T CO_2
						1080.0T CO_2

The per capita carbon footprint for the RBVRR, is 1080 kg (or 0.108 T) of CO_2 equivalent 1080 T /1000 persons].

According to Economic Survey, Govt. of India 2009 - 10, the per capita emission for an Indian was 1.2 ton CO_2 eq. per annum. In the same report, it was projected that this will go up to 2.0 – 2.5 T of CO2 by 2022-23 and to 3.0 – 3.5 T of CO_2 by 2030. For the year 2022-23, the RBVRR, the Carbon Footprint per capita at 0.108 T CO_2 is even less than one-Fourth of the national average. The campus is thus **a Green Campus.**

Carbon Footprint Balance

The remediation gap between the assessed footprint and available remediation is 1080.0–0.6 =1079.4 T CO_2eq for 2022-23. On closer examination, major contributors to it are:- Daily bus journey by around 600 day scholars (897.8 T Co2).

Table: 6 International standard values of Carbon foot Print for various parameters

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
For homes and businesses				
Propane	12.70/gallon	5.76/gallon	139.05	63.07
Butane	14.80/gallon	6.71/gallon	143.20	64.95
Butane/Propane Mix	13.70/gallon	6.21/gallon	141.12	64.01
Home Heating and Diesel Fuel (Distillate)	22.40/gallon	10.16/gallon	161.30	73.16
Kerosene	21.50/gallon	9.75/gallon	159.40	72.30
Coal (All types)	4,631.50/short ton	2,100.82/short ton	210.20	95.35
Natural Gas	117.10/thousand cubic feet	53.12/thousand cubic feet	117.00	53.07
Gasoline	19.60/gallon	8.89/gallon	157.20	71.30
Residual Heating Fuel (Businesses only)	26.00/gallon	11.79/gallon	173.70	78.79
Other transportation fuels				

Jet Fuel	21.10/gallon	9.57/gallon	156.30	70.90
Aviation Gas	18.40/gallon	8.35/gallon	152.60	69.20
Industrial fuels and others not listed above				
Flared natural gas	120.70/thousand cubic feet	54.75/thousand cubic feet	120.60	54.70
Petroleum coke	32.40/gallon	14.70/gallon	225.10	102.10
Other petroleum & miscellaneous	22.09/gallon	10.02/gallon	160.10	72.62
Nonfuel uses				
Asphalt and Road Oil	26.34/gallon	11.95/gallon	166.70	75.61
Lubricants	23.62/gallon	10.72/gallon	163.60	74.21
Petrochemical Feedstocks	24.74/gallon	11.22/gallon	156.60	71.03

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
Special Naphthas (solvents)	20.05/gallon	9.10/gallon	160.50	72.80
Waxes	21.11/gallon	9.57/gallon	160.10	72.62
Coal by type				
Anthracite	5,685.00/short ton	2,578.68/short ton	228.60	103.70
Bituminous	4,931.30/short ton	2,236.80/short ton	205.70	93.30
Subbituminous	3,715.90/short ton	1,685.51/short ton	214.30	97.20
Lignite	2,791.60/short ton	1,266.25/short ton	215.40	97.70
Coke	6,239.68/short ton	2,830.27/short ton	251.60	114.12
Other fuels				
Geothermal (average all generation)	NA	NA	16.99	7.71
Municipal Solid Waste	5,771.00/short ton	2,617.68/short ton	91.90	41.69
Tire-derived fuel	6,160.00/short ton	2,794.13/short ton	189.54	85.97
Waste oil	924.0/barrel	419.12/barrel	210.00	95.25

Source: U.S. Energy Information Administration estimates.
Note: To convert to carbon equivalents multiply by 12/44. Coefficients may vary slightly with estimation method and across time.

Summary

Goals of the College

In the effort to Enhancing an environmentally literate campus where students can learn the idea of protection of environment and stay healthy. The college Management is proactively working on the several facets of "Green Campus" including Plantation of more trees, Water Conservation, Efficient water usage by eliminating leaking water taps, Installation of STP, Water Harvesting Pits and interconnecting them to Recharge the Ground Water table. Effective Waste Management which includes Food Waste, Plastic, Paper, Metal Work, Renewable Energy, carbon footprints etc .

STATEMENT OF ASSURANCE

The Environmental Audit conducted for the **February 2023** in the college. The Management had taken initiative to carryout the part of Green Audit externally. As mentioned above it is in the process of improving the awareness towards the renewable energy and sustainable development .The conclusions are based on a comparison of the situations as they existed at the time of the audit. The evidences presented are in support of the conclusions.

Audit Framework and detailed findings of the Audit

Objective	Observation/ Present status	Remarks / Recommendation
Water Conservation – Rain Water harvesting	Rain water Harvesting pits in place	They are functional
Eliminating Leaking Taps	A Dedicated Team working on the repairing the leaking taps across the campus	Most of the taps are repaired , It is recommended to install taps with reduced water flow like shower / Mist . Reward the personnel informing Leaky taps, Paste Labels where ever water is expected to be wasted.
Drinking water	RO Plant is installed for providing safe drinking water, which generates RO reject water, this water is used for Gardening.	It is recommended to Install a Aqua Conditioner to reduce the RO Reject.
Avoid Misuse/wastage of water	Encourage to reduce the water usage	Recommended to install Bio Toilets/Water Less Toilets like ECO Loo which reduces water usage and generates fertilizer from human waste and Natural liquid from the Urine which can be reused for gardening.
Waste Management Bio Waste	The Bio Waste – Food Waste generated in the canteen, Which is very less quantity	Process is initiated for used plant manure.
Non Bio Waste	Non Bio Waste – Plastic Bottles / Paper Waste Metals waste is being collected in the dust bins placed across the campus .A GWMC team is visiting the campus on weekly basis and collecting the	It is proposed to install plastic bottle crusher, which can be sold as a feed stock for the Plastic industry. To Install Sandy (Sanitary napkin crusher at ladies Toilet)

Objective	Observation/ Present status	Remarks / Recommendation
	same.	to avoid choking of toilets and wastage to water.
Bio Medical waste	Bio Waste –Animal waste is being collected in theseperate dust bins placed across the Labs. A Third party team is visiting the campus on weekly basis and collecting the same.	An agreement is in place with M/s Sattva Global Services Pvt Ltd to pick up the Biomedical waste every year.
E Waste	E Waste – All Electronic Junk is generated in the campus in the form of Used Computer key boards/ Mouses/ CPU's/ Damaged Printers etc	An agreement is in place with M/s Green Wave E-waste recycling, Nacharam to pick up the E waste every year.
Carbon Foot Print Transportation	Most staff and students commute in the Public Transport Buses and metro trains from City. Institute is centrally located and well-accessed public transport.	Adequate public buses are available for the Staff /students.

Annexures

E Waste management :

An agreement has been made with M/s. Green Wave E-waste recycling Ltd, Nacharam for disposal of the E Waste which are mentioned below (A detailed MOU is enclosed)

Electronic Waste (E-Waste) -The Term E-Waste will refer to the below mentioned electrical and electronic waste for the purpose of this Agreement which includes;

Computers & Peripherals (CPU, Keyboard, Mouse& Monitor)

Laptops

Servers

PCBs

Mobiles or Communication devices

Mother Boards (Computers &Laptops)

Security Devices

Telecom Equipment

Printers & Scanners

Military Electronic

Control Systems

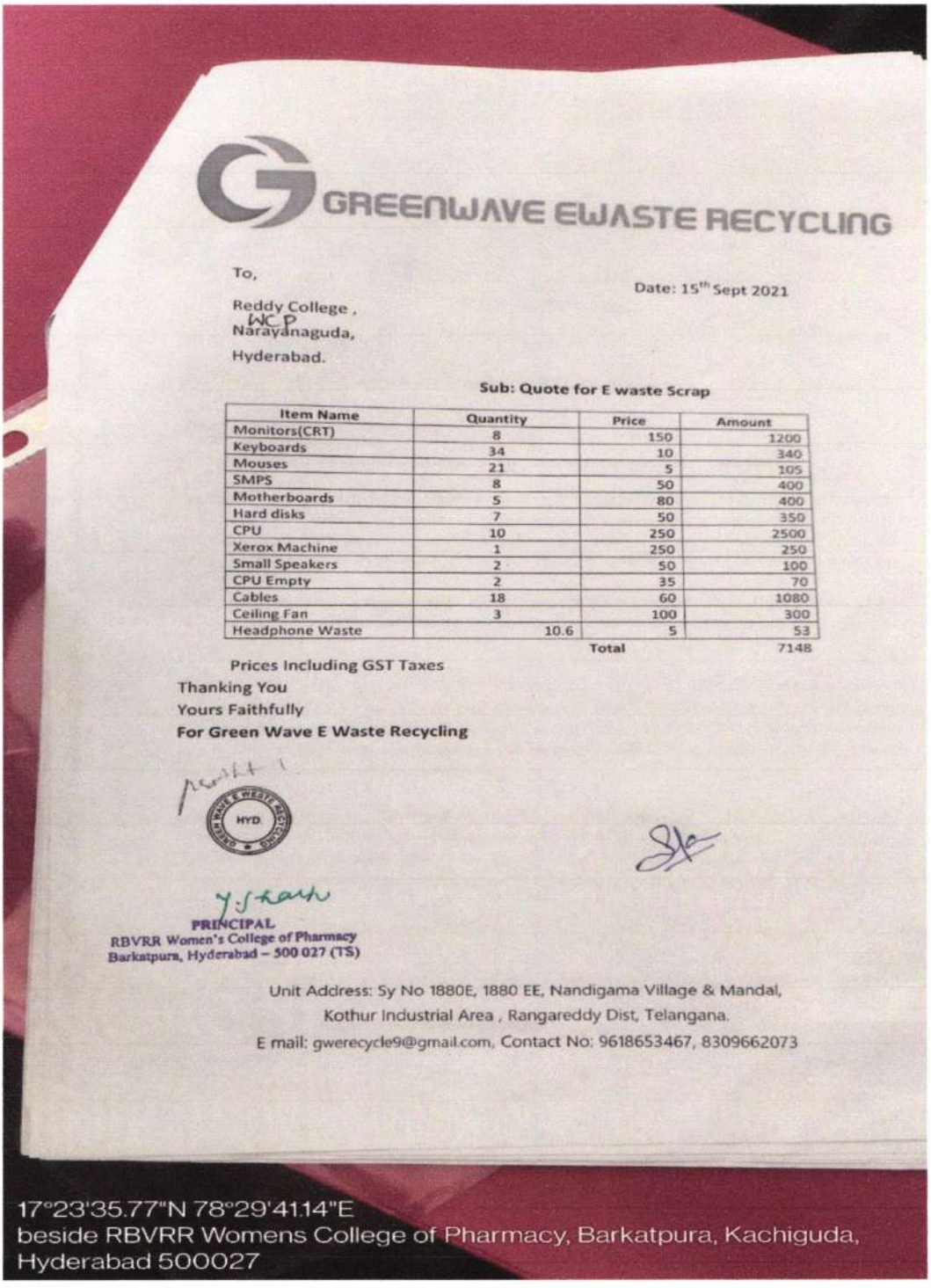
Data Cables and wires

Batteries

CD/DVD

Tube lights and CFL

MOU for E Waste Disposal



GREENWAVE EWASTE RECYCLING

To,

Reddy College ,
WCP
Narayanaguda,
Hyderabad.

Date: 15th Sept 2021

Sub: Quote for E waste Scrap

Item Name	Quantity	Price	Amount
Monitors(CRT)	8	150	1200
Keyboards	34	10	340
Mouses	21	5	105
SMPS	8	50	400
Motherboards	5	80	400
Hard disks	7	50	350
CPU	10	250	2500
Xerox Machine	1	250	250
Small Speakers	2	50	100
CPU Empty	2	35	70
Cables	18	60	1080
Ceiling Fan	3	100	300
Headphone Waste	10.6	5	53
		Total	7148

Prices Including GST Taxes

Thanking You

Yours Faithfully

For Green Wave E Waste Recycling

HYD.

PRINCIPAL
RBVRR Women's College of Pharmacy
Barkatpura, Hyderabad – 500 027 (TS)

Unit Address: Sy No 1880E, 1880 EE, Nandigama Village & Mandal,
Kothur Industrial Area , Rangareddy Dist, Telangana.
E mail: gwerecycle9@gmail.com, Contact No: 9618653467, 8309662073

17°23'35.77"N 78°29'41.14"E
beside RBVRR Womens College of Pharmacy, Barkatpura, Kachiguda, Hyderabad 500027

MOU for Bio Medical waste Disposal

sattva enviro
Bio-Medical Waste Management

A Unit of
M/s. Sattva Global Services Pvt. Lt
Office : H.No. 6-3-1089/G/10&11, First F
Opp Yes Bank, Raj Bhavan Road, Somajigu
Hyderabad - 500 082. Phone : +91 97012
E-mail : sattvaglobalservices12@gmail.co

Service Certificate

This is to certify that M/s. RBVRR WOMEN'S COLLEGE OF PHARMACY - DNO. 3-BARKATHPURA, HYDERABAD - 500027

Hospital / Clinic / Dental / R&D / Pharma / Others - is a member of M/s. Sattva Global Service Pvt. bearing Registration No. SG/ RD / 129 Sattva Enviro is providing Bio Medical Waste Manag Service to the institution from 01ST MARCH. 2022 for a total strength of - NIL- Beds/Dental C This certificate is Valid upto 28TH FEBRUARY. 2023 .

Water Test Reports

KIWIS
ECO LABORATORIES PVT. LTD
Recognized by MoEF & CC, GOI, New Delhi,
Certified by ISO 9001:2015,
ISO 14001:2015 & OHSMS 45001:2018.

Plot No. 19, ALEAP Industrial Estate,
SY. No's 342, Near Pragathi Nagar,
Quthbullapur Mandal and Municipality,
Ranga Reddy Dist. Telangana - 500 090.
Email: kiwislabhyd@gmail.com
Ph: 99666 61485 / 040-23816333

TEST REPORT

Report No: KIWIS/W/COM/23/115

Name and address of the client

M/s.RBVRR WOMEN'S COLLEGE OF PHARMACY
3-4-343, Baghlingmpally Cross Rd, Barkatpura,
Hyderabad, Telangana 500027

Date of report	*: 22-02-2023*	*Sample Collected by*	*: Kiwis Eco Laboratories Private Limited*
Date of sampling	*: 13-02-2023*	*Sample Collected in*	*: in Plastic cans*
Sample received on	*: 14-02-2023*	*Sampling Procedure*	*: KIWIS/SOP/ Lab - 258*
Analysis starting date	*: 14-02-2023*	*Sample registration no /Code*	*: W/COM/02/23/244*
Analysis completion date	*: 22-02-2023*	*Sample description*	*: Water Quality Monitoring*
Sub Contract Testing	*: NA*	*Name of the location*	*: Drinking water*

Samples are analyzed "as Received basis"

S.No	Parameter	Unit	Method	Result	IS 10500 (Acceptable Limits)	IS 10500 (Permissible Limits)
1	Color	Hazen	APHA 2120 C	<5.0	5	15
2	Turbidity	NTU	APHA 2130 B	<1.0	1	5
3	pH @ 25.0°C	-	APHA 4500H^+ B	7.3	6.5-8.5	No relaxation
4	Electrical Conductivity	µMho/Cm	APHA 2510 - B	26	Not Specified	Not Specified
5	Total Dissolved solids	mg/L	APHA 2540 C	15	500	2000
6	Alkalinity as $CaCO_3$	mg/L	APHA 2320 B	8.0	200	600
7	Hardness as $CaCO_3$	mg/L	APHA 2340 C	12	200	600
8	Calcium as Ca	mg/L	APHA 3500 Ca B	<5	75	200
9	Magnesium as Mg	mg/L	APHA 3500-Mg B	<2	30	100
10	Chlorides as Cl^-	mg/L	APHA 4500 Cl^- B	<5	250	1000
11	Sulphates as SO_4	mg/L	APHA 4500 SO_4 D	<5	200	400
12	Nitrate as NO_3	mg/L	APHA 4500 NO_3 B	<1.0	45	No relaxation
13	Sodium as Na	mg/L	APHA 3500 Na B	<1.0	Not Specified	Not Specified

Note : This report is subject to the terms and conditions mentioned overleaf

KIWIS
ECO LABORATORIES PVT. LTD
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ISO 14001:2015 & OHSMS 45001:2018.

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Ranga Reddy Dist. Telangana - 500 090.
Email: kiwislabhyd@gmail.com
Ph: 99666 61485 / 040-23816333

TEST REPORT

Report No: KIWIS/W/COM/23/115

Samples are analyzed "as Received basis"

S.No	Parameter	Unit	Method	Result	IS 10500 (Acceptable Limits)	IS 10500 (Permissible Limits)
14	Potassium as K	mg/L	APHA 3500 K B	<1.0	Not Specified	Not Specified
15	Fluoride as F	mg/L	APHA 4500F- D	< 0.5	1.0	1.5
16	Iron as Fe	mg/L	APHA 3500 Fe B	< 0.3	1.0	No relaxation
17	Zinc as Zn	mg/L	APHA 3111 B	<0.2	5	15
18	Cyanide as CN^-	mg/L	APHA 4500 CN^- C, E	<0.05	0.05	No relaxation
19	Phenolic Compounds as C_6H_5OH	mg/L	APHA 5530 D (Direct Photometric Method)	<0.001	0.001	0.002
20	Lead as Pb	mg/L	APHA 3111 B	<0.01	0.01	No relaxation
21	Mercury as Hg	mg/L	APHA-3112 Hg B	<0.001	0.001	0.001
22	Manganese as Mn	mg/L	APHA 3111 B	<0.1	0.1	0.3
23	Cadmium as Cd	mg/L	APHA 3111 B	<0.003	0.003	No relaxation
24	Chromium as Cr^{+6}	mg/L	APHA 3500 Cr B	<0.05	0.05	No relaxation
25	Copper as Cu	mg/L	APHA 3111 B	<0.05	0.05	1.5
26	Total Coliform	MPN/ 100ml	APHA 9221B	Absent	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample
27	E-Coli	MPN/ 100ml	APHA 9221G	Absent	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample

Methods follow: APHA 23rd Edition
NA: Not Applicable

Opinion and interpretation: Nil

- Reports pertained only to the submitted sample
- Test reports shall not be reproduced except in full, without written approval of the laboratory

Checked By

(O.Chowdeswararao)
Sr.Chemist

Authorized Signatory

(Dr.Nalini Vijayalaxmi)
Manager Laboratory

End of the Report

KIWIS
ECO LABORATORIES PVT. LTD
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Certified by ISO 9001:2015,
ISO 14001:2015 & OHSMS 45001:2018.

Plot No. 19, ALEAP Industrial Estate,
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Quthbullapur Mandal and Municipality,
Ranga Reddy Dist. Telangana - 500 090.
Email: kiwislabhyd@gmail.com
Ph: 99666 61485 / 040-23816333

TEST REPORT

Report No: KIWIS/W/COM/23/116

Name and address of the client

M/s.RBVRR WOMEN'S COLLEGE OF PHARMACY
3-4-343, Baghlingmpally Cross Rd, Barkatpura, Hyderabad, Telangana 500027

Date of report	*: 22-02-2023*	*Sample Collected by*	*: Kiwis Eco Laboratories Private Limited*
Date of sampling	*: 13-02-2023*	*Sample Collected in*	*: in Plastic cans*
Sample received on	*: 14-02-2023*	*Sampling Procedure*	*: KIWIS/SOP/ Lab - 258*
Analysis starting date	*: 14-02-2023*	*Sample registration no /Code*	*: W/COM/02/23/245*
Analysis completion date	*: 22-02-2023*	*Sample description*	*: Water Quality Monitoring*
Sub Contract Testing	*: NA*	*Name of the location*	*: Tap water*

Samples are analyzed "as Received basis"

S.No	Parameter	Unit	Method	Result	IS 10500 (Acceptable Limits)	IS 10500 (Permissible Limits)
1	Color	Hazen	APHA 2120 C	<5.0	5	15
2	Turbidity	NTU	APHA 2130 B	<1.0	1	5
3	pH @ 25.0°C	-	APHA 4500H^+ B	7.6	6.5-8.5	No relaxation
4	Electrical Conductivity	µMho/Cm	APHA 2510 - B	1085	Not Specified	Not Specified
5	Total Dissolved solids	mg/L	APHA 2540 C	655	500	2000
6	Total Solids	mg/L	APHA 2540 B	670	Not Specified	Not Specified
7	Alkalinity as $CaCO_3$	mg/L	APHA 2320 B	230	200	600
8	Hardness as $CaCO_3$	mg/L	APHA 2340 C	345	200	600
9	Calcium as Ca	mg/L	APHA 3500 Ca B	75	75	200
10	Magnesium as Mg	mg/L	APHA 3500-Mg B	38	30	100
11	Chlorides as Cl^-	mg/L	APHA 4500 Cl^- B	169	250	1000
12	Sulphates as SO_4	mg/L	APHA 4500 SO_4 D	68	200	400
13	Nitrate as NO_3	mg/L	APHA 4500 NO_3 B	4.6	45	No relaxation
14	Sodium as Na	mg/L	APHA 3500 Na B	105	Not Specified	Not Specified

Note : This report is subject to the terms and conditions mentioned overleaf

KIWIS
ECO LABORATORIES PVT. LTD
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Certified by ISO 9001:2015,
ISO 14001:2015 & OHSMS 45001:2018.

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Email: kiwislabhyd@gmail.com
Ph: 99666 61485 / 040-23816333

TEST REPORT

Report No: KIWIS/W/COM/23/116

Samples are analyzed "as Received basis"

S.No	Parameter	Unit	Method	Result	IS 10500 (Acceptable Limits)	IS 10500 (Permissible Limits)
15	Potassium as K	mg/L	APHA 3500 K B	8.0	Not Specified	Not Specified
16	Fluoride as F	mg/L	APHA 4500F- D	< 0.5	1.0	1.5
17	Iron as Fe	mg/L	APHA 3500 Fe B	< 0.3	1.0	No relaxation
18	Zinc as Zn	mg/L	APHA 3111 B	<0.2	5	15
19	Cyanide as CN-	mg/L	APHA 4500 CN- C, E	<0.05	0.05	No relaxation
20	Phenolic Compounds as C_6H_5OH	mg/L	APHA 5530 D (Direct Photometric Method)	<0.001	0.001	0.002
21	Lead as Pb	mg/L	APHA 3111 B	<0.01	0.01	No relaxation
22	Mercury as Hg	mg/L	APHA-3112 Hg B	<0.001	0.001	0.001
23	Manganese as Mn	mg/L	APHA 3111 B	<0.1	0.1	0.3
24	Cadmium as Cd	mg/L	APHA 3111 B	<0.003	0.003	No relaxation
25	Chromium as Cr^{+6}	mg/L	APHA 3500 Cr B	<0.05	0.05	No relaxation
26	Copper as Cu	mg/L	APHA 3111 B	<0.05	0.05	1.5
27	Total Coliform	MPN/ 100ml	APHA 9221B	Absent	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample
28	E-Coli	MPN/ 100ml	APHA 9221G	Absent	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample

Methods follow: APHA 23rd Edition
NA: Not Applicable

Opinion and interpretation: Nil

- Reports pertained only to the submitted sample
- Test reports shall not be reproduced except in full, without written approval of the laboratory

Checked By
(O.Chowdeswararao)
Sr.Chemist

Authorized Signatory
(Dr.Nalini Vijayalaxmi)
Manager Laboratory

End of the Report

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

KIWIS ECO LABORATORIES PRIVATE LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NO.19, ALEAP INDUSTRIAL ESTATE,SY NO. 342, GAJULARAMARAM VILLAGE, QUTBULLAPURMANDAL & MUNICIPALITY, HYDERABAD, RANGA REDDY, TELANGANA, INDIA

in the field of

TESTING

Certificate Number: TC-8699

Issue Date: 15/12/2022 **Valid Until:** 14/12/2024

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : KIWIS ECO LABORATORIES PRIVATE LIMITED

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

सत्यमेव जयते

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT AND FORESTS

No.Q.15018/27/2013-CPW

Dated: 10 -9-2014

To

M/s Kiwis Eco Laboratories Pvt. Ltd.
Plot No. 19, Sy. No. 342,
ALEAP Industrial Estate,
Gajularamaram Village,
Quthbullpur,
Rangareddy District
Andhra Pradesh

Sub: Recognition of Environmental Laboratory under the Environment (Protection) Act, 1986 of M/s Kiwis Eco Laboratories Pvt. Ltd., Rangareddy District, Andhra Pradesh.

Please refer to your application seeking recognition of your environmental laboratory under the Environment (Protection) Act, 1986. As approved by the competent authority, it has been decided to accord recognition to your laboratory under Environment (Protection) Act 1986. The terms & conditions as given in the Annexure – III, IV & V have already been agreed by you.

2. It is desired that the period of recognition of the laboratory under E(P)A 1986, as Gazette notified may also be mentioned wherever "MoEF recognized Lab" is written. A copy of the Gazette notification is enclosed.

3. The laboratory shall compulsorily participate in the Analytical Quality Control (AQC) exercise conducted by the Central Pollution Control Board, atleast once a year, to ascertain the capability of the laboratory and analysts from time to time.

4. The laboratory has to submit quarterly reports to the Ministry in the enclosed format regarding its activities and the number of samples analysed during the reporting period.

5. It may also be noted that periodic surveillance of recognized environmental laboratory under the Environment (Protection) Act, 1986 will be undertaken by the Central Govt. to assess its proper functioning, systematic operation and reliability of data generated at the laboratory.

6. It is also mandatory for the Lab to renew ISO 9001 and OHSAS 18001 from time to time.

(Dr. M. Raina)
Director

Encl: as above

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies a Quality Management System in accordance with

ISO 9001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

Q-210210	23 February 2021
Certificate Number	Date of Last Issue
03 February 2017	22 February 2024*
Date of Initial Registration	Date of Expiry

Global MCS

IAS ACCREDITED Management Systems Certification Body MSCB-122

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

* Subjected to Sucessfully Completion of Yearly Surveillance Audits

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
www.mcsglobal.in, E.mail:info@mcsglobal.in

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies an Environmental Management System in accordance with

ISO 14001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

180206R-E Certificate Number	06 February 2021 Date of Last Issue
08 February 2018 Date of Initial Registration	05 February 2024* Date of Expiry

Global MCS

QAC

* Subjected to Sucessfully Completion of Yearly Surveillance Audits

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
www.mcsglobal.in, E.mail:info@mcsglobal.in

Environmental Audit of
RBVRR WOMEN'S COLLEGE OF PHARMACY

3-4-343, Barkathpura, Hyderabad - 500027

2021-2022

Prepared by

M/s KIWIS ECO LABORATORIES PVT LTD.,
(Recognized by MoEF, GOI, New Delhi
Certified by ISO 9001:2015, ISO 14001:2015 & OHSAS 45001:2018)
Plot No. 19, ALEAP Industrial Estate, Sy.No.342
Near Pragathi Nagar, Quthbullapur Mandal
Rangareddy Dist, Hyderabad, Telangana – 500090
Tel: +91- 9966661485

ACKNOWLEDGEMENT

RBVRR Women's College Of Pharmacy has been working at the forefront since its inception to bring about social change for national and international development by conducting workshops and other extension activities. RBVRR Women's College Of Pharmacy is aware of the needs of the green audit for the maintenance and future development of the campus. In its pursuit of excellence, RBVRR Women's College Of Pharmacy has recognized itself to improve the environmental quality and maintain its unique pristine ecosystem for the future generation of students and all the inhabitants of the campus. Although we have been taking a number of steps to conserve and protect our environment. This report of 2021-22 is the first formal effort to document the results of our investigation and interpret the information of all the required parameters of the Green audit process. RBVRR Women's College Of Pharmacy aims to take up the policy and efforts at every level to avert ecological catastrophe on a global scale by supporting the climate neutrality goals committed by the Government of India. As a part of this, efforts will take to continuously monitor the sustainability of the academic process by constituting the Green Audit Committee consisting of faculty members working in this arena to collect basic data of the environmental parameters within the campus so that the environmental issues are resolved within the campus. The Green Audit Committee has tried to identify the current / emerging environmental issues so as to monitor the environmental management practices adopted in the college along with subsequent impact of these on the campus environment.

The Green audit conducted is an external audit that aims towards creating awareness healthy and sustainable environment. Though nascent, the initiative will taken up to foster the concept of environmental sustainability. Hopefully, all stakeholders will pay attention to this report, allowing us to develop a bottom-up approach to addressing future challenges.

Y.S-kanth

Principal

Date

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the first Environmental Audit Report 2021-22 of **RBVRR Women's College Of Pharmacy, Bharkatpura** is an original External audit work conducted by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi)** dated **25-02-2022** on behalf of the terms of agreement with the College. The Green Audit Committee to monitor the environmental management practices adopted in the **RBVRR Women's College Of Pharmacy,** which is in line with the terms of the International Standards of External Auditing. After going through the report, it is obvious that adequate and appropriate audit procedures were followed for Environmental Quality Audit, Water Audit, Waste Management Audit, and Energy Audit and Carbon Footprint. The gathered evidences support the conclusions reached and contained in this report.
The suggestions and recommendations prescribed and the conclusions derived are quite genuine within the achievable limits, and I understand that RBVRR Women's College Of Pharmacy is competent to fulfil those to meet the Sustainable Development Goals. I recommend and firmly believe that this report meets the requirement prescribed for development of a Green Campus.

Principal
(Dr.M. Sumakanth)
RBVRR Women's College Of Pharmacy

KIWIS

DECLARATION

Environmental Audit Report for **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** during **09th and 10th February 2022** and following Observations were presented below. The Management is proactive towards Green Initiative by Harvesting Solar Energy, Planting Trees, Better water conservation, Waste Management, Carbon Footprint, A continual improvement in Green Initiative is appreciated. We appreciate the efforts of the **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** in this regard. This Environmental Audit Report has been prepared by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi, ISO 9001:2015,14001:2015)** dated **21-02-2022** is for the use of the Customer with due consideration and skill as per our general terms and conditions of business and the terms of agreement with the customer.

Authorized Signatory

KIWIS ECO LABORATORIES PRIVATE LIMITED ★ Hyderabad

(Ch. Rajani Kumari)
Managing Director

KIWIS ECO LABORATORIES PRIVATE LIMITED
(NABL, MoEF and ISO Certified Laboratory)
Plot No. 19, ALEAP Industrial Estate, SY. No's 342, Gajularamaram Village, Quthbullpur Mandal and Municipality, Hyderabad, Ranga Reddy Dist 500 090. Email: kiwislabhyd@gmail.com I Website: www.ssmntgroup.com/kiwis-eco-labs. 040 - 23816333.
CIN NO : U85110TG2013PTC087604

GREEN AUDIT ASSESSMENT TEAM

INTERNAL: RBVRR Women's College Of Pharmacy,

Dr. M. Sumakanth, Principal	Chairman	
Dr. A. Krishna Sailaja. IQAC	Member	
Ms. Zeenath Banu	Member	
Dr. Sudha Parimala	Member	
Dr. G. Uma Rani	Member	
Dr. J. Archana	Member	

EXTERNAL: KIWIS ECO LABORATORIES PRIVATE LIMITED

Dr. Ch. Rajani Kumari Managing Director,	Team Member	
Dr. D. Sivaramakrishna HOD-LAB	Team Member	
Dr. D. Sreekanth Quality Manager	Team Member	
Dr. Nalini Vijayalakshmi Manager-Laboratory	Team Member	
Dr. S. U. B Ramakrishna Sr Chemist	Team Member	

Environmental Audit scope of work

The Green Audit is carried out in view of assessing all necessary environmental components and their impact on the campus physically by visiting the premises with reference to following.

- Identifying the Green Area in total area of the campus and increase the process of planting tress sothat Heat /Global warming is mitigated.
- A continual drive is created. Water Conservation/ Efficient Usage / Eliminate the water misuse or wastage , Rain Water Harvesting etc
- Waste Management which includes Bio Waste/ Non Bio Waste/ E Waste etc
- Carbon Foot Print – Transportation of Teaching Staff / Non Teaching Staff/ Students

ABOUT THE COLLEGE

RBVRR Women's College of Pharmacy was established in the year 2006 under "Hyderabad Mahila Vidya Sangham" to provide education to women students. The college was self-financed, approved by **PCI, AICTE** and is affiliated to **Osmania University**, accredited by **NBA** for B.Pharmacy Course with an objective to nurture the pharmacy education and to support the healthcare system through skilled Women Pharmacy graduates.

RBVRR Women's College of Pharmacy Institute is one of the leading institutions which have taken a leap forward in the quality professional education. This institution has emerged as a unique centre of academic excellence of higher learning in the field of pharmacy. All the efforts are focused to provide a congenial environment to educate and train girl students into competent professionals and mould them into confident women to succeed in their lives both personally and professionally which helps in fulfillment of vision of the college. The college is footing with achievements like **"Recognition as Research Centre"** by Osmania University, has Certified **"Institute Innovation Council"**

jointly by **AICTE** and **MHRD**.

From the past 14 years of standing period, the institute has created its own identity by adopting innovative practices The phenomenal academic achievements of our students have always added glory to the college.

The college has a tradition of excelling in Sports and extracurricular activities, in which our students continue to bring us laurels. The success in all spheres is the combined product of all our little efforts- the contribution of highly qualified, dynamic and multi-talented faculty, non-teaching staff and our students. Our teachers aim at providing high quality educational experience to the students in the form of debates, group discussions, workshops, symposia, seminars, Environmental activities, social activities (NSS) and cultural competitions. Eminent personalities are invited from all walks of life to address our students and expose them to new ideas and thoughts for our better society.

RBVRR Women's College of Pharmacy is centrally located in the city at Plot No 3-4-343, Barkatpura, Hyderabad District, Hyderabad -50002, and Telangana State. The site is located at the intersection of 17°23'36.64" (N) latitude and 78°29'40.92" (E) longitude. The site location of the buildings and facilities in RBVRR and some photographs given in (Fig 1). The total area of the Institute is 0.8 acres in which 0.2 acres of area is covered with green belt and 0.56 acres is covered with buildings and roads and the layout of the same is presented as above.

Figure.1 Site Location of the College

ENVIRONMENTAL AUDIT

Water Conservation , Harvesting and Management

Water is an important natural resource and is available naturally depending on the climate and topographic features. All organisms are dependent on water for their living. Although water is available in nature, portable water is not available freely for human consumption. There have been many practices to conserve water so that it can be readily available for human use. It has been noticed that due to unsustainable use of water resources there is contamination and depletion of the ground water and also water which is available in various reservoirs like lakes, ponds, streams etc which is becoming more alarming. Therefore it becomes increasingly important to conserve protect and manage the water resources availability and usage so that it is sustainably used within the college campus. Water auditing is conducted to evaluate the quality, availability and usage of water; the facilities available and methods adopted to revitalize and use it so that the resources are intact without leading to deterioration.

Per capita water availability of many river basins in India is declining over the years due to sustained population pressure, agriculture and industrial expansion, besides changing climate scenarios.

- **Rainwater harvest**

  Rainwater harvesting is a technique used for collecting, storing and using rainwater for domestic, agricultural or any other uses. The rainwater is collected from various hard surfaces such as rooftops, runoff from catchments, from streams and water conservation through watershed management or other manmade aboveground hard surfaces. It is an age-old system of collection of rainwater for future use. The harvested water can be stored on surface through ponds and tanks or can be recharged to groundwater.

- **Protection of Water from Pollution**

  If the total fresh water available on the earth remains pollution free, it is sufficient to meet the drinking water needs of the existing population of the world, unfortunately a large portion of fresh water does not remain fit for use of the living world due to increasing economic activities, urbanization etc.

- **Rational Use of Groundwater:**

  Groundwater meets 25 per cent of total supply of water in the world, remaining 75 per cent supply is met by surface water sources of rivers, lakes etc. Demand for groundwater goes on increasing in proportion to its available quantity due to which quantity of groundwater goes on decreasing. After exploitation of groundwater, its re-infiltration takes a very long time to complete. Hence, Groundwater exploitation should be only in proportion to its recharging capacity.

- **Increasing Forest Cover:**

  According to hydrological movements, water is received through rainfall every year different quantities on the surface of the earth. This water flows on the surface and reaches the seas. Some part of rainwater is stored in stable water reservoirs (lakes and tanks), whereas some quantity of water infiltrates into the land and takes the form of groundwater.

WATER USES AND MANAGEMENT

A total of 18000 L of water is pumped every day for the College dwellers as well to meet the daily demands of the academic and administrative Departments (Table 3). The daily use of the water during 2021-22 was approx. 8600 L per day shown in Figure 6&7.

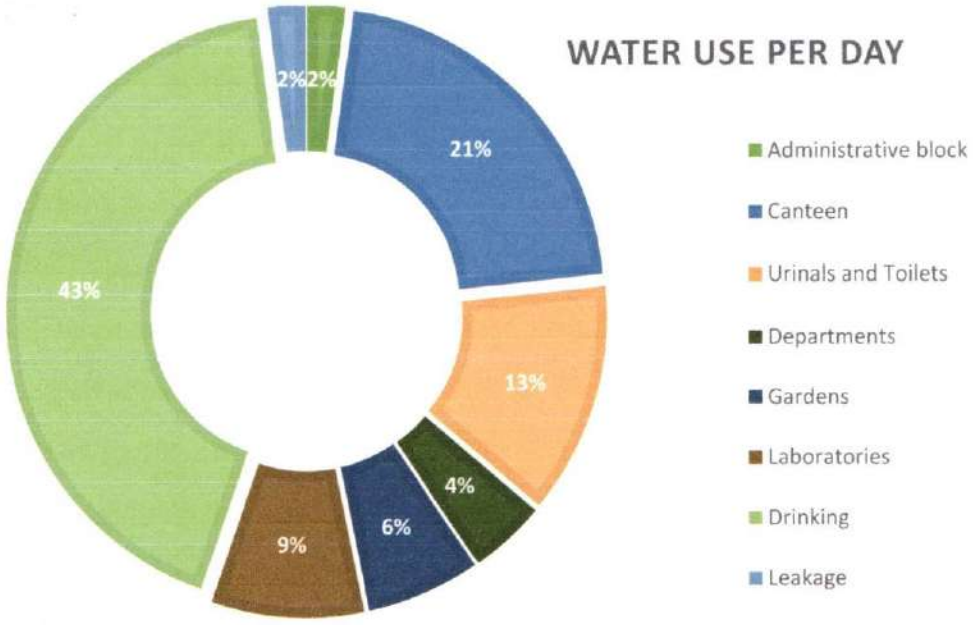


Figure. 2: Daily water Consumption and usage in RBVRRR

Table:1 Source and uses of water in the college campus Source of water

Source and uses of water in the College campus Source of water		
Sl. No	**Parameters**	**Information**
1	No of Wells	1
2	No of the motors used	2
3	Horsepower- motor	3 HP x 2
4	Depth of well- Total	600 m x 1
5	Capacity of Tank(Total)	250000 L
Quantity of water used in different sections of the Campus		
	Sections	**Water use (L/day)**
6	Administrative block	400
7	Canteen	2000
8	Urinals and Toilets	2000
9	Departments	500
10	Gardens	1000
11	Laboratories	1500
12	Drinking	2000
13	Leakage	500
14	Main purposes of water use in the campus	Drinking and cooking purpose Toilets and wash areas Laboratory use Gardening Construction
15	Nos. of water tap	320 nos
16	Water cooler and drinking water filtration facility	5 nos
17	Nos. of urinal and toilets	20
18	Nos. of waterless /bio-toilets	Nil
19	Any water wastage/why?	Yes, leakage from pipes and tanks, leaving of taps open at times
20	Water usage for gardening	1000 Ltr
21	Wastewater sources	leakage from pipes and tanks, Overflowing of tanks from residential qtrs., Toilets, laboratories, hostels
22	Use of wastewater	Nil
23	The fate of wastewater from labs	Discharged into soak pit in case of contamination and natural discharge
24	Any wastewater treatment for lab water	No
25	Whether any green chemistry method practiced in Labs	No

26	Rainwater harvesting	Rain water harvesting is maintain by the water body within the premises which also helps in maintaining the ground water level and there is no reusable rain water which

The stake holders of the BVRRR specially propose to use of grey water which is obtained from the various domestic activities and they re-use the same water for gardening and vegetable fields etc. Also water recycling is done as per the direction of the competent authority in broader scale as and when required. During the rainy season water from the roof tops of the buildings directly fall into the lake through rain water outlets, RCC drains and recharges the ground water table throughout the year

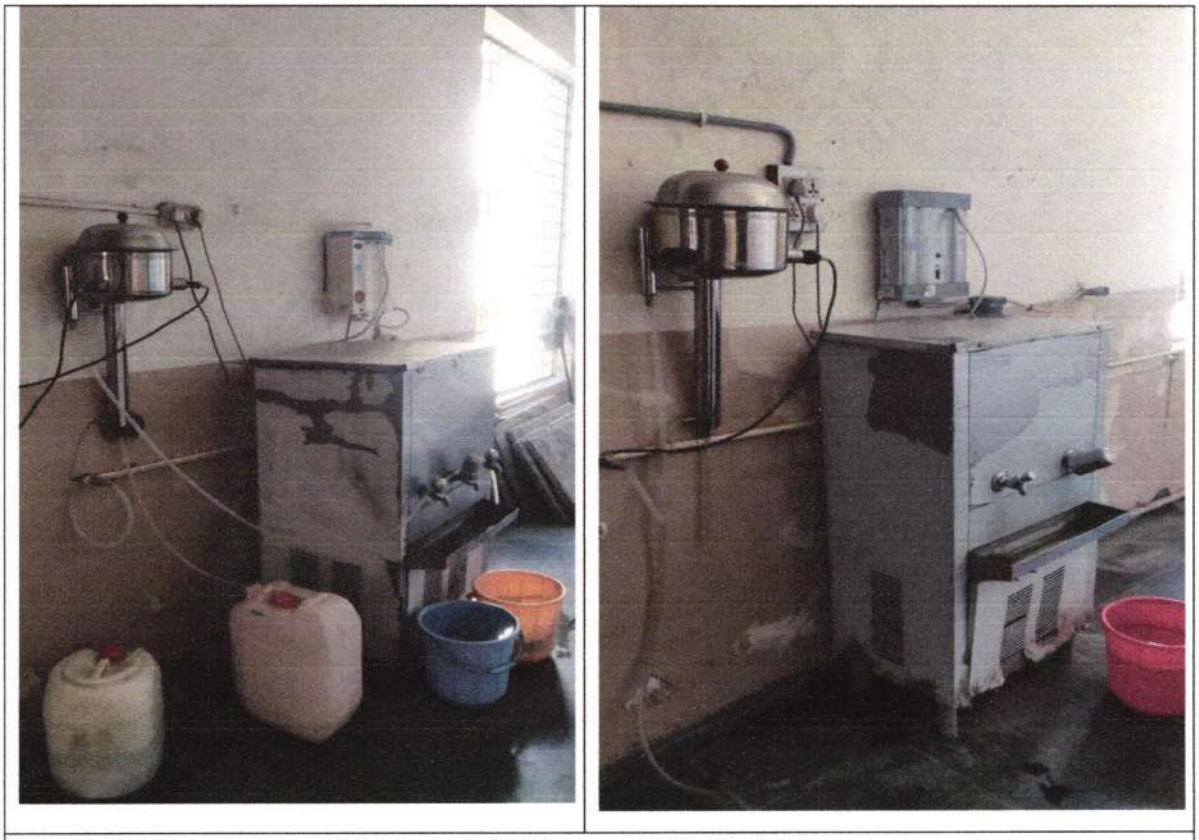


Figure.3 Drinking water in Each Floor

Present Status: Constructed Water harvesting Pits 2 No's across the campus and in the process of constructing water drains and interconnecting the same to water harvesting pits to recharge the ground water.

Waste Management:

The campus produces and disposes solid waste through its day-to-day operations. There can be difference between individuals, between certain day's activities, and between holidays and work days, as well as between seasons. An average figure per person per day is however worked out by observing their activities for a week by student volunteers at the disposal area through sample survey approach, quantifying the measured wastes and then averaging.

In India, through certain research studies on waste generation in academic campuses from time to time, environmentalists have arrived at some empirical coefficients for assessing GHG emissions from solid wastes. These will be use in evaluating the green auditing data on wastes in RBVRR institute. The wastes generated in the college is systematically collected and disposed off as scientifically as possible. Wet wastes are separated at source itself. For disposal, only competent agencies are approached and materials handed over. As seen in the table, most items are intended to be recycled, reused or processed. Adequate numbers of garbage bins are provided in every room and in every floor in every hostel as well as in the academic area and guest house, and the students are using them as and when required. The practice of burning the paper waste, which is the usual practice needs to be discontinued and better options tried. Using waste paper for creating decorative materials is one option. The present waste generation is represented as **Table.2 and Figure.4-5**

The following waste is categorizes as:

- **Non Bio Waste** – Plastic Bottles / Waste Paper / Cardboards/ Batteries etc

Non- biodegradable waste, which cannot be decomposed by biological processes is called non- biodegradable waste.

These are of two types –

- **Recyclable**: waste having economic values but destined for disposal can be recovered and reused along with their energy value. e g. Plastic, paper, old cloth etc.
- **Non-recyclable**: waste which do not have economic value of recovery. e.g. Carbon paper, thermo coal, tetra packs etc.

Disposal of non-biodegradable waste is a major concern, not just plastic, a variety of waste being accumulated. There are a few ways to help non-biodegradable waste management. The impact of non biodegradable waste on the environment and also focus on its safe disposal for sustainable environment.

Table2. Annual Waste Generation category wise

S. No.	Stake holders	Types of solid waste	Average waste generated Year (Kg)	% of waste
1	ACADEMIC DEPARTMENT	Paper waste	150	8.3
2		Plastic waste	100	5.5
3		Organic Waste	1000	55.3
4		E-waste	10	0.6
5		Bio Medical Waste	20	1.1
6	ADMINISTRATIVE OFFICE	Paper waste	50	2.8
7		Plastic waste	20	1.1
8		Organic Waste	30	1.7
9		E-waste	2	0.1
10	CANTEENS	Paper waste	100	5.5
11		Plastic waste	25	1.4
12		Organic Waste	300	16.6
13		E-waste	2	0.1
TOTAL			**1809 Kg /Year**	

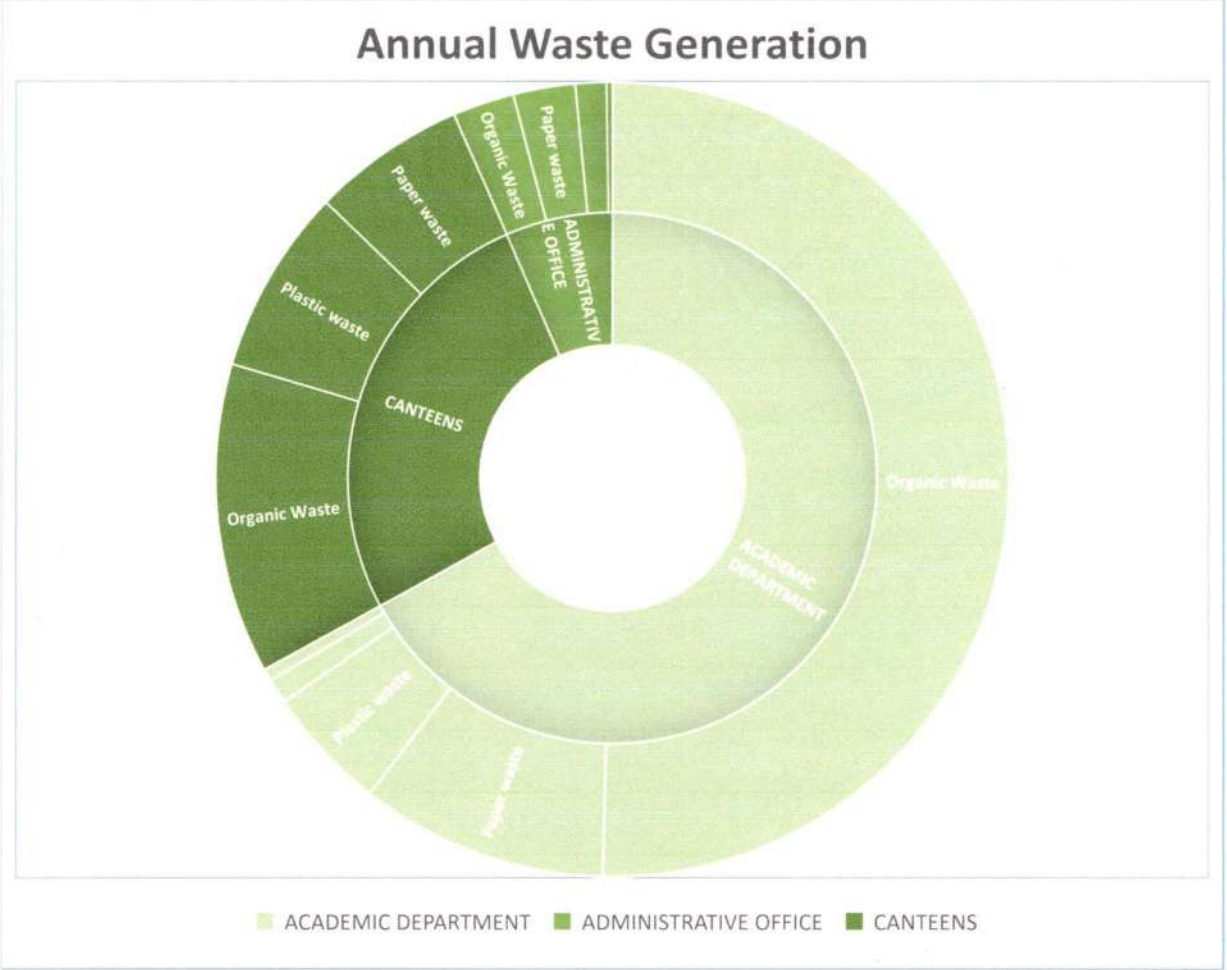


Figure.4 Annual Waste Generation In the RBVRR College of Pharmacy

- **Bio Medical waste:**

  Bio medical waste means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals, and including categories mentioned in Schedule I Category of Waste as **Table 3**

Table :3 Bio Medical waste category wise

Option	Waste Category	Treatment & Disposal
Category No-1	Human Anatomical Waste (human tissues, organs, body parts)	incineration/deep burial
Category No. 2	Animal Waste (animal tissues, organs, body parts carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals colleges, discharge from hospitals, animal houses)	incineration/deep burial
Category No. 3	Microbiology & Biotechnology Waste (wastes from laboratory cultures, stocks or specimens of micro- organisms live or attenuated vaccines, human and animal cell culture used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins, dishes and devices used for transfer of cultures)	local autoclaving/micro-waving/incineration
Category No. 4	Waste sharps (needles, syringes, scalpels, blades, glass, etc. that may cause puncture and cuts. This includes both used and unused sharps)	disinfection (chemical treatment/autoclavin g/microwaving and mutilation/shredding
Category No 5	Discarded Medicines and Cytotoxic drugs (wastes comprising of outdated, contaminated and discarded medicines)	incineration@/destructio n and drugs disposal in secured landfills
Category No 6	Soiled Waste (Items contaminated with blood, and body fluids including cotton, dressings, soiled plaster casts, lines, beddings, other material contaminated with blood)	Incineration/ autoclaving/microwaving
Category No. 7	Solid Waste (wastes generated from disposable items other than the waste sharps such as tubings, catheters, intravenous sets etc).	disinfection by chemical treatment/autoclaving/ microwaving and mutilation/ shredding
Category No. 8	Liquid Waste (waste generated from laboratory and washing, cleaning, house- keeping and disinfecting activities).	disinfection by chemical treatment and discharge into drains
Category No. 9	Incineration Ash (ash from incineration of any bio-medical waste)	disposal in municipal landfill
Category No. 10	Chemical Waste (chemicals used in production of biologicals, chemicals used in disinfection, as insecticides, etc.)	Chemical discharge into drains for liquids and secured landfill for solids

Rule 1998 schedule II

Color coding	Type of container	Waste categories
Yellow 	Plastic bags	Cat 1 human anatomical waste Cat 2 Animal Waste Cal 3 Microbiological Waste Cat 6 Solid Waste
Red 	Disinfected container plastic bags	Cat 3 Microbiological Cat. 6 Soiled Dressing
Blue/white 	Plastic bags, puncture proof containers	Cat. 4 Waste sharp Cat.7 Plastic disposable
Black 	Do	Cat. 5 Discarded medicine Cat. 9 Incineration ash Cat 10 Chemical Waste

Conditions in Transportation and Storage

• The waste may be temporarily stored at the storage area of the Institute, it may be sent in bulk to the site of final disposal once or twice a day depending upon the quantum of waste.

During transportation following points should be taken care of

• Ensure that waste bags/containers are properly sealed and labeled.

• Bags should not be filled completely, so that bags can be picked up by the neck again for further handling. Hand should not be put under the bag. At a time only one bag should be lifted.

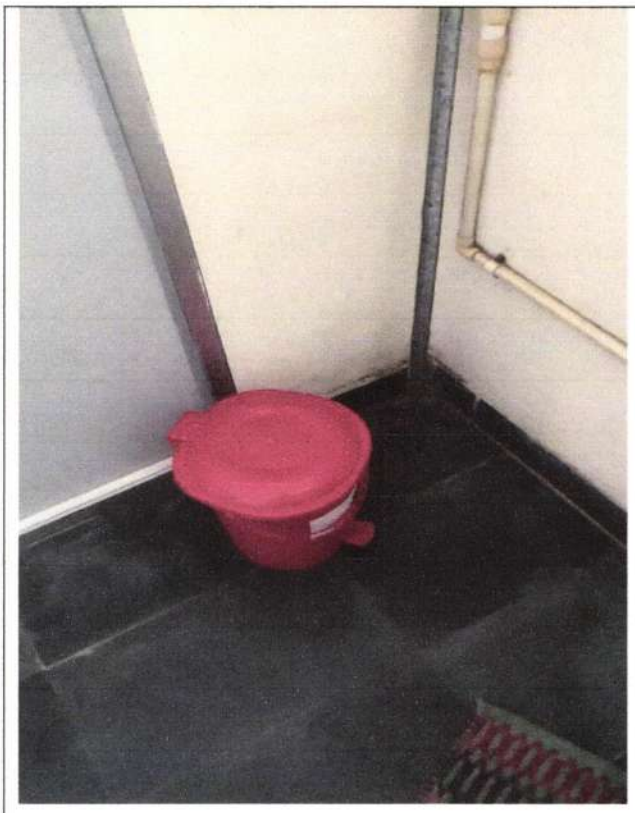
• Manual handling of waste bags should be minimized to reduce the risk of needle prick injury and infection.

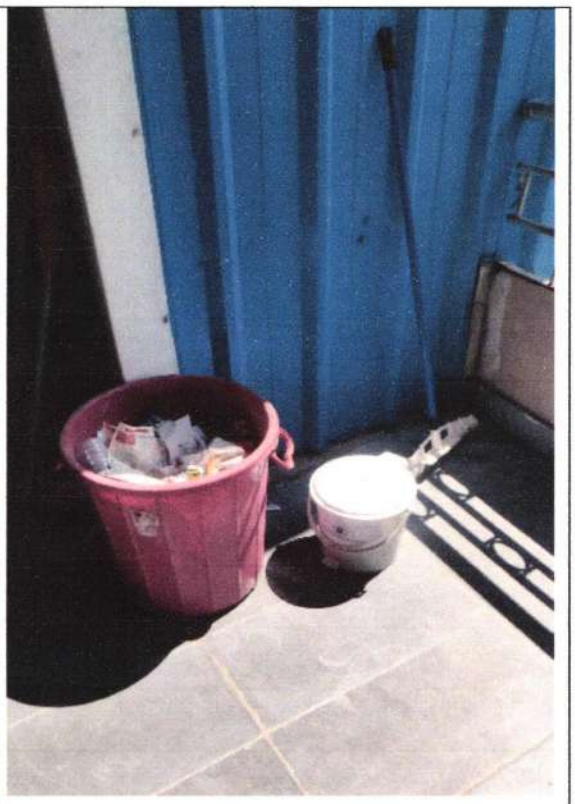
• BMW should be kept only in a specified storage area.

• After removal of the bag, clean the container including the lid with an appropriate disinfectant.

• Waste bags should be transported in a covered wheeled containers or large bins in covered trolleys.

• No untreated bio -medical waste shall be kept stored beyond a period of 48 hours





Bio medical waste storage	In Class room Carridor

Figure.5 Dust Collection Bins from Different waste at Institute

E Waste Management

Waste Electrical and Electronic Equipment (WEEE) or E-waste is one of the fastest growing waste streams in the world. In developed countries, it equals 1% of total solid waste on an average. In developing countries, it ranges from 0.01% to 1% of the total municipal solid waste generation. In countries like China and India, though annual generation per capita is less than 1 kg, it is growing at an exponential pace.

Present Status: The College is having an MOU with M/s. Green Wave E-waste recycling Ltd, Nacharam to dispose the E Waste and the bio medical waste is dispose to M/s Sattva Global Services Pvt Ltd. Every year the agency will come and pick up the E waste and Bio medical waste dispose it in environmental friendly way.

Carbon Footprint

Carbon Footprint is the amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, optimization, or community. An acceptable definition for carbon foot print is: carbon footprints the total amount of greenhouse gases produced directly and indirectly for supporting human activities, usually expressed in equivalent tons of carbon dioxide (CO_2). The most common greenhouse gases (GHGs) in our environment are carbon dioxide, water vapour, methane nitrous oxide and ozone. The total carbon footprint college as calculated and represented as **Table.4** and International Standards of carbon footprint for various parameters represented as **Table. 5**

The RBVRR has total staff (Teaching + Non Teaching) of 70 members, the Co2 emission

Table:3 Carbon foot Print

Sl. No:	Source	Rate	Quantity x Days/year		Total Quantity	Annual Eqvt. CO_2
1	Electricity use (For India)	0.82 kg/kWh	--		40686KWh	33.3 T CO_2
2	Fossil fuel use	268 g CO2eq/kg	LPG	10	435kg /Year	0.116 T CO_2
3	Bus – students public transport	268 g CO2eq/L	520	160	3350 kg/year	897.8 T CO_2
4	Staff week public transport	268 g CO2eq/L	25	250	187.5 kg/Year	50.3 T CO_2
5	Non Teaching staff public transport	268 g CO2eq/L	45	200	337.5 kg/Year	90.5 T CO_2
6	Cars, Taxis all	230g CO2eq/L	2	150	30 kg/Year	8 .0 T CO_2
						1080.0T CO_2

The per capita carbon footprint for the RBVRR, is 1080 kg (or 0.108 T) of CO_2 equivalent 1080 T /1000 persons].

According to Economic Survey, Govt. of India 2009 - 10, the per capita emission for an Indian was 1.2 ton CO_2 eq. per annum. In the same report, it was projected that this will go up to 2.0 – 2.5 T of CO2 by 2021-22 and to 3.0 – 3.5 T of CO_2 by 2030. For the year 2021-22, the RBVRR, the Carbon Footprint per capita at 0.108 T CO_2 is even less than one-Fourth of the national average. The campus is thus **a Green Campus.**

Carbon Footprint Balance

The remediation gap between the assessed footprint and available remediation is 1080.0–0.6 =1079.4 T CO_2eq for 2021-22. On closer examination, major contributors to it are:- Daily bus journey by around 600 day scholars (897.8 T Co2).

Table: 4 International standard values of Carbon foot Print for various parameters

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
For homes and businesses				
Propane	12.70/gallon	5.76/gallon	139.05	63.07
Butane	14.80/gallon	6.71/gallon	143.20	64.95
Butane/Propane Mix	13.70/gallon	6.21/gallon	141.12	64.01
Home Heating and Diesel Fuel (Distillate)	22.40/gallon	10.16/gallon	161.30	73.16
Kerosene	21.50/gallon	9.75/gallon	159.40	72.30
Coal (All types)	4,631.50/short ton	2,100.82/short ton	210.20	95.35
Natural Gas	117.10/thousand cubic feet	53.12/thousand cubic feet	117.00	53.07
Gasoline	19.60/gallon	8.89/gallon	157.20	71.30
Residual Heating Fuel (Businesses only)	26.00/gallon	11.79/gallon	173.70	78.79
Other transportation fuels				
Jet Fuel	21.10/gallon	9.57/gallon	156.30	70.90
Aviation Gas	18.40/gallon	8.35/gallon	152.60	69.20

Industrial fuels and others not listed above				
Flared natural gas	120.70/thousand cubic feet	54.75/thousand cubic feet	120.60	54.70
Petroleum coke	32.40/gallon	14.70/gallon	225.10	102.10
Other petroleum & miscellaneous	22.09/gallon	10.02/gallon	160.10	72.62
Nonfuel uses				
Asphalt and Road Oil	26.34/gallon	11.95/gallon	166.70	75.61
Lubricants	23.62/gallon	10.72/gallon	163.60	74.21
Petrochemical Feedstocks	24.74/gallon	11.22/gallon	156.60	71.03

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
Special Naphthas (solvents)	20.05/gallon	9.10/gallon	160.50	72.80
Waxes	21.11/gallon	9.57/gallon	160.10	72.62
Coal by type				
Anthracite	5,685.00/short ton	2,578.68/short ton	228.60	103.70
Bituminous	4,931.30/short ton	2,236.80/short ton	205.70	93.30
Subbituminous	3,715.90/short ton	1,685.51/short ton	214.30	97.20
Lignite	2,791.60/short ton	1,266.25/short ton	215.40	97.70
Coke	6,239.68/short ton	2,830.27/short ton	251.60	114.12
Other fuels				
Geothermal (average all generation)	NA	NA	16.99	7.71
Municipal Solid Waste	5,771.00/short ton	2,617.68/short ton	91.90	41.69
Tire-derived fuel	6,160.00/short ton	2,794.13/short ton	189.54	85.97
Waste oil	924.0/barrel	419.12/barrel	210.00	95.25

Source: U.S. Energy Information Administration estimates.
Note: To convert to carbon equivalents multiply by 12/44. Coefficients may vary slightly with estimation method and across time.

Summary

Goals of the College

In the effort to Enhancing an environmentally literate campus where students can learn the idea of protection of environment and stay healthy. The college Management is proactively working on the several facets of "Green Campus" including Plantation of more trees, Water Conservation, Efficient water usage by eliminating leaking water taps, Installation of STP, Water Harvesting Pits and interconnecting them to Recharge the Ground Water table. Effective Waste Management which includes Food Waste, Plastic, Paper, Metal Work, Renewable Energy, carbon footprints etc .

STATEMENT OF ASSURANCE

The Green Audit conducted for the **February 2022** in the college. The Management had taken initiative to carryout the Green Audit externally. As mentioned above it is in the process of improving the awareness towards the renewable energy and sustainable development .The conclusions are based on a comparison of the situations as they existed at the time of the audit. The evidences presented are in support of the conclusions.

Audit Framework and detailed findings of the Audit

Objective	Observation/ Present status	Remarks / Recommendation
Water Conservation – Rain Water harvesting	Rain water Harvesting pits in place	They are functional
Eliminating Leaking Taps	A Dedicated Team working on the repairing the leaking taps across the campus	Most of the taps are repaired , It is recommended to install taps with reduced water flow like shower / Mist . Reward the personnel informing Leaky taps, Paste Labels where ever water is expected to be wasted.
Drinking water	RO Plant is installed for providing safe drinking water, which generates RO reject water, this water is used for Gardening.	It is recommended to Install a Aqua Conditioner to reduce the RO Reject.
Avoid Misuse/wastage of water	Encourage to reduce the water usage	Recommended to install Bio Toilets/Water Less Toilets like ECO Loo which reduces water usage and generates fertilizer from human waste and Natural liquid from the Urine which can be reused for gardening.
Waste Management Bio Waste	The Bio Waste – Food Waste generated in the canteen, Which is very less quantity	Process is initiated for used plant manure.
Non Bio Waste	Non Bio Waste – Plastic Bottles / Paper Waste Metals waste is being collected in the dust bins placed across the campus .A GWMC team is visiting the campus on weekly basis and collecting the	It is proposed to install plastic bottle crusher, which can be sold as a feed stock for the Plastic industry. To Install Sandy (Sanitary napkin crusher at ladies Toilet)

Objective	Observation/ Present status	Remarks / Recommendation
	same.	to avoid choking of toilets and wastage to water.
Bio Medical waste	Bio Waste –Animal waste is being collected in theseperate dust bins placed across the Labs. A Third party team is visiting the campus on weekly basis and collecting the same.	An agreement is in place with M/s Sattva Global Services Pvt Ltd to pick up the Biomedical waste every year.
E Waste	E Waste – All Electronic Junk is generated in the campus in the form of Used Computer key boards/ Mouses/ CPU's/ Damaged Printers etc	An agreement is in place with M/s Green Wave E-waste recycling, Nacharam to pick up the E waste every year.
Carbon Foot Print		
Transportation	Most staff and students commute in the Public Transport Buses and metro trains from City. Institute is centrally located and well-accessed public transport.	Adequate public buses are available for the Staff /students.

Annexures

E Waste management :

An agreement has been made with M/s. Green Wave E-waste recycling Ltd, Nacharam for disposal of the E Waste which are mentioned below (A detailed MOU is enclosed)

Electronic Waste (E-Waste) -The Term E-Waste will refer to the below mentioned electrical and electronic waste for the purpose of this Agreement which includes;

Computers & Peripherals (CPU, Keyboard, Mouse& Monitor)

Laptops

Servers

PCBs

Mobiles or Communication devices

Mother Boards (Computers &Laptops)

Security Devices

Telecom Equipment

Printers & Scanners

Military Electronic

Control Systems

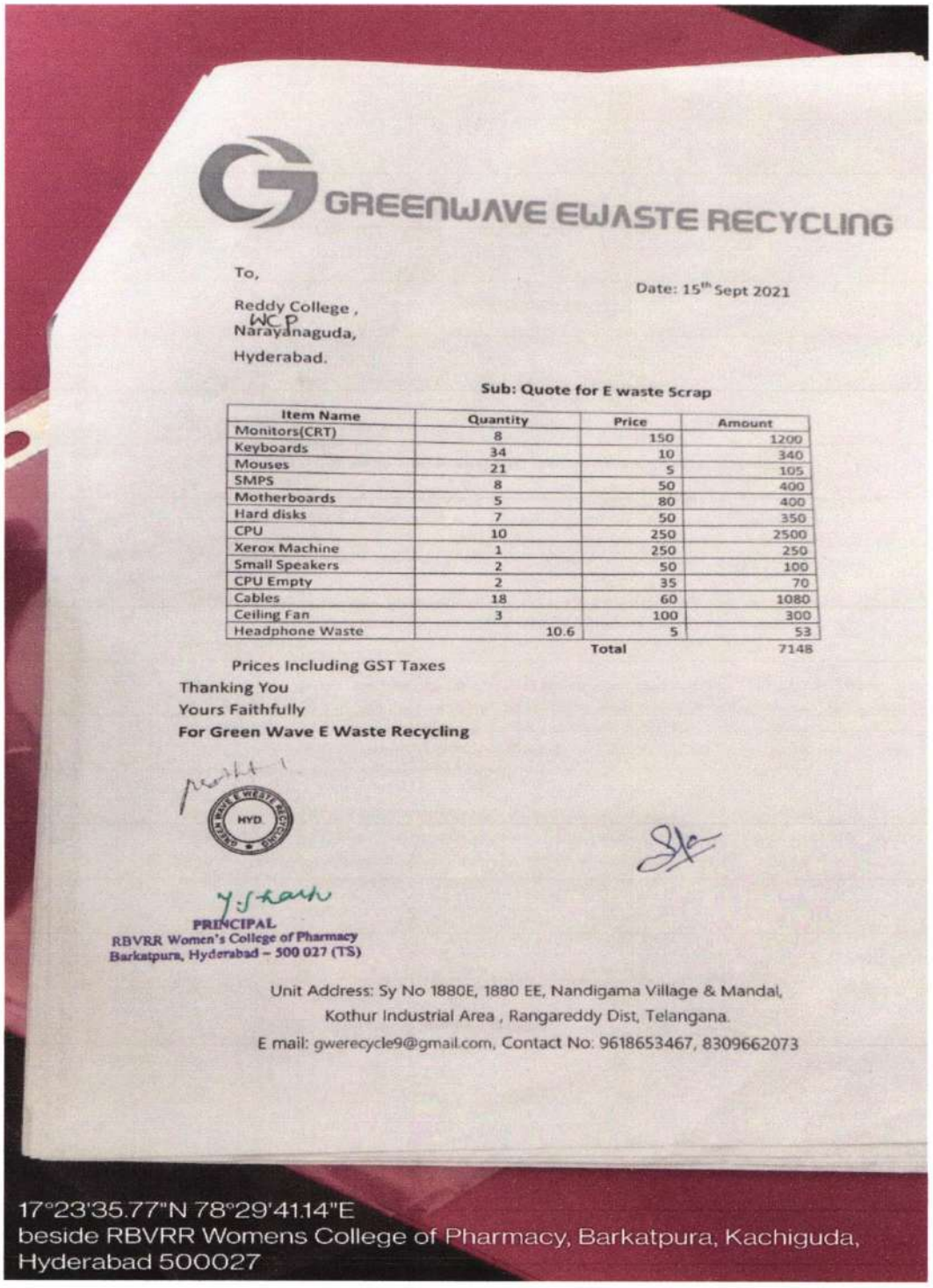
Data Cables and wires

Batteries

CD/DVD

Tube lights and CFL

MOU for E Waste Disposal



GREENWAVE EWASTE RECYCLING

To,

Reddy College ,
WCP
Narayanaguda,
Hyderabad.

Date: 15th Sept 2021

Sub: Quote for E waste Scrap

Item Name	Quantity	Price	Amount
Monitors(CRT)	8	150	1200
Keyboards	34	10	340
Mouses	21	5	105
SMPS	8	50	400
Motherboards	5	80	400
Hard disks	7	50	350
CPU	10	250	2500
Xerox Machine	1	250	250
Small Speakers	2	50	100
CPU Empty	2	35	70
Cables	18	60	1080
Ceiling Fan	3	100	300
Headphone Waste	10.6	5	53
		Total	7148

Prices Including GST Taxes

Thanking You

Yours Faithfully

For Green Wave E Waste Recycling

HYD

PRINCIPAL
RBVRR Women's College of Pharmacy
Barkatpura, Hyderabad – 500 027 (TS)

Unit Address: Sy No 1880E, 1880 EE, Nandigama Village & Mandal,
Kothur Industrial Area , Rangareddy Dist, Telangana.
E mail: gwerecycle9@gmail.com, Contact No: 9618653467, 8309662073

17°23'35.77"N 78°29'41.14"E
beside RBVRR Womens College of Pharmacy, Barkatpura, Kachiguda, Hyderabad 500027

MOU for Bio Medical waste Disposal

Bio-Medical Waste Management

A Unit of
M/s. Sattva Global Services Pvt. L
Office : H.No. 6-3-1089/4/4, Ground Flo
Opp Yes Bank, Raj Bhavan Road, Somajig
Hyderabad - 5000 82. Phone : +91 9701
E-mail : sattvaglobalservices12@gmail.c

Service Certificate

This is to certify that M/s. RBVRR WOMEN'S COLLEGE OF PHARMACY D.NO 3-3-34, BARKATPURA, HYDERABAD - 500027

Hospital / Clinic / Dental / R&D / Pharma / Others ✓ is a member of M/s. Sattva Global Service Pvt

bearing Registration No. SG/ RD / 129 Sattva Enviro is providing Bio Medical Waste Manag

Service to the institution from 01st MARCH, 2021 for a total strength of — Beds/Dental C

this certificate is Valid upto 28th FEBRUARY, 2022

Test Reports for Water

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

KIWIS ECO LABORATORIES PRIVATE LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NO.19, ALEAP INDUSTRIAL ESTATE,SY NO. 342, GAJULARAMARAM VILLAGE, QUTBULLAPUR MANDAL & MUNICIPALITY, HYDERABAD, RANGA REDDY, TELANGANA, INDIA

in the field of

TESTING

Certificate Number: TC-8699

Issue Date: 24/10/2019 **Valid Until:** 23/10/2021*

*The validity is extended for one year up to 23.10.2022

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : KIWIS ECO LABORATORIES PRIVATE LIMITED

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

सत्यमेव जयते

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT AND FORESTS

No.Q.15018/27/2013-CPW

Dated: 10 -9-2014

To

M/s Kiwis Eco Laboratories Pvt. Ltd.
Plot No. 19, Sy. No. 342,
ALEAP Industrial Estate,
Gajularamaram Village,
Quthbullpur,
Rangareddy District
Andhra Pradesh

Sub: Recognition of Environmental Laboratory under the Environment (Protection) Act, 1986 of M/s Kiwis Eco Laboratories Pvt. Ltd., Rangareddy District, Andhra Pradesh.

Please refer to your application seeking recognition of your environmental laboratory under the Environment (Protection) Act, 1986. As approved by the competent authority, it has been decided to accord recognition to your laboratory under Environment (Protection) Act 1986. The terms & conditions as given in the Annexure – III, IV & V have already been agreed by you.

2. It is desired that the period of recognition of the laboratory under E(P)A 1986, as Gazette notified may also be mentioned wherever "MoEF recognized Lab" is written. A copy of the Gazette notification is enclosed.

3. The laboratory shall compulsorily participate in the Analytical Quality Control (AQC) exercise conducted by the Central Pollution Control Board, atleast once a year, to ascertain the capability of the laboratory and analysts from time to time.

4. The laboratory has to submit quarterly reports to the Ministry in the enclosed format regarding its activities and the number of samples analysed during the reporting period.

5. It may also be noted that periodic surveillance of recognized environmental laboratory under the Environment (Protection) Act, 1986 will be undertaken by the Central Govt. to assess its proper functioning, systematic operation and reliability of data generated at the laboratory.

6. It is also mandatory for the Lab to renew ISO 9001 and OHSAS 18001 from time to time.

(Dr. M. Raina)
Director

Encl: as above

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies a Quality Management System in accordance with

ISO 9001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

Q-210210 Certificate Number	23 February 2021 Date of Last Issue
03 February 2017 Date of Initial Registration	22 February 2024* Date of Expiry

Global MCS

IAS ACCREDITED™ Management Systems Certification Body MSCB-122

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

* Subjected to Sucessfully Completion of Yearly Surveillance Audits

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
www.mcsglobal.in, E.mail:info@mcsglobal.in

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies an Environmental Management System in accordance with

ISO 14001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

180206R-E Certificate Number	06 February 2021 Date of Last Issue
08 February 2018 Date of Initial Registration	05 February 2024* Date of Expiry

Global MCS

QAC

* Subjected to Sucessfully Completion of Yearly Surveillance Audits

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
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Environmental Audit of
RBVRR WOMEN'S COLLEGE OF PHARMACY

3-4-343, Barkathpura, Hyderabad - 500027

2020-2021

Prepared by

M/s KIWIS ECO LABORATORIES PVT LTD.,
(Recognized by MoEF, GOI, New Delhi
Certified by ISO 9001:2015, ISO 14001:2015 & OHSAS 45001:2018)
Plot No. 19, ALEAP Industrial Estate, Sy.No.342
Near Pragathi Nagar, Quthbullapur Mandal
Rangareddy Dist, Hyderabad, Telangana – 500090
Tel: +91- 9966661485

ACKNOWLEDGEMENT

RBVRR Women's College Of Pharmacy has been working at the forefront since its inception to bring about social change for national and international development by conducting workshops and other extension activities. RBVRR Women's College Of Pharmacy is aware of the needs of the green audit for the maintenance and future development of the campus. In its pursuit of excellence, RBVRR Women's College Of Pharmacy has recognized itself to improve the environmental quality and maintain its unique pristine ecosystem for the future generation of students and all the inhabitants of the campus. Although we have been taking a number of steps to conserve and protect our environment. This report of 2020-21 is the first formal effort to document the results of our investigation and interpret the information of all the required parameters of the Green audit process. RBVRR Women's College Of Pharmacy aims to take up the policy and efforts at every level to avert ecological catastrophe on a global scale by supporting the climate neutrality goals committed by the Government of India. As a part of this, efforts will take to continuously monitor the sustainability of the academic process by constituting the Green Audit Committee consisting of faculty members working in this arena to collect basic data of the environmental parameters within the campus so that the environmental issues are resolved within the campus. The Green Audit Committee has tried to identify the current / emerging environmental issues so as to monitor the environmental management practices adopted in the college along with subsequent impact of these on the campus environment.

The Green audit conducted is an external audit that aims towards creating awareness healthy and sustainable environment. Though nascent, the initiative will taken up to foster the concept of environmental sustainability. Hopefully, all stakeholders will pay attention to this report, allowing us to develop a bottom-up approach to addressing future challenges.

Y.J Kanth

Principal

Date

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the first Environmental Audit Report 2020-21 of **RBVRR Women's College Of Pharmacy, Bharkatpura** is an original External audit work conducted by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi)** dated **22-02-2021** on behalf of the terms of agreement with the College. The Green Audit Committee to monitor the environmental management practices adopted in the **RBVRR Women's College Of Pharmacy,** which is in line with the terms of the International Standards of External Auditing.

After going through the report, it is obvious that adequate and appropriate audit procedures were followed for Environmental Quality Audit, Water Audit, Waste Management Audit, and Energy Audit and Carbon Footprint. The gathered evidences support the conclusions reached and contained in this report.

The suggestions and recommendations prescribed and the conclusions derived are quite genuine within the achievable limits, and I understand that RBVRR Women's College Of Pharmacy is competent to fulfil those to meet the Sustainable Development Goals.

I recommend and firmly believe that this report meets the requirement prescribed for development of a Green Campus.

M.S-Kanth

Principal

(Dr.-M. Sumakanth)
RBVRR Women's College Of Pharmacy

KIWIS

DECLARATION

Environmental Audit Report for **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** during **09th and 10th February 2021** and following Observations were presented below. The Management is proactive towards Green Initiative by Harvesting Solar Energy, Planting Trees, Better water conservation, Waste Management, Carbon Footprint, A continual improvement in Green Initiative is appreciated. We appreciate the efforts of the **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** in this regard. This Environmental Audit Report has been prepared by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi, ISO 9001:2015,14001:2015)** dated **21-02-2021** is for the use of the Customer with due consideration and skill as per our general terms and conditions of business and the terms of agreement with the customer.

Authorized Signatory

KIWIS ECO LABORATORIES PRIVATE LIMITED ★ Hyderabad

(Ch. Rajani Kumari)
Managing Director

KIWIS ECO LABORATORIES PRIVATE LIMITED
(NABL, MoEF and ISO Certified Laboratory)
Plot No. 19, ALEAP Industrial Estate, SY. No's 342, Gajularamaram Village, Quthbullpur Mandal and Municipality, Hyderabad, Ranga Reddy Dist 500 090. Email: kiwislabhyd@gmail.com I Website: www.ssmntgroup.com/kiwis-eco-labs. 040 - 23816333.
CIN NO : U85110TG2013PTC087604

GREEN AUDIT ASSESSMENT TEAM

INTERNAL: RBVRR Women's College Of Pharmacy,

Dr. M. Sumakanth, Principal	Chairman	
Dr. Tripura Sundari. IQAC	Member	
Dr. A. Krishna Sailaja	Member	
Ms. Zeenath Banu	Member	
Dr. Sudha Parimala	Member	
Dr. G. Uma Rani	Member	
Dr. J. Archana	Member	

EXTERNAL: KIWIS ECO LABORATORIES PRIVATE LIMITED

Dr. Ch. Rajani Kumari Managing Director,	Team Member	
Dr. D. Sivaramakrishna HOD-LAB	Team Member	
Dr. D. Sreekanth Quality Manager	Team Member	
Dr. Nalini Vijayalaxmi Manager-Laboratory	Team Member	
Dr. S. U. B Ramakrishna Sr Chemist	Team Member	

Environmental Audit scope of work

The Green Audit is carried out in view of assessing all necessary environmental components and their impact on the campus physically by visiting the premises with reference to following.

- Identifying the Green Area in total area of the campus and increase the process of planting tress sothat Heat /Global warming is mitigated.
- A continual drive is created. Water Conservation/ Efficient Usage / Eliminate the water misuse or wastage , Rain Water Harvesting etc
- Waste Management which includes Bio Waste/ Non Bio Waste/ E Waste etc
- Carbon Foot Print – Transportation of Teaching Staff / Non Teaching Staff/ Students

ABOUT THE COLLEGE

RBVRR Women's College of Pharmacy was established in the year 2006 under "Hyderabad Mahila Vidya Sangham" to provide education to women students. The college was self-financed, approved by **PCI, AICTE** and is affiliated to **Osmania University**, accredited by **NBA** for B.Pharmacy Course with an objective to nurture the pharmacy education and to support the healthcare system through skilled Women Pharmacy graduates.

RBVRR Women's College of Pharmacy Institute is one of the leading institutions which have taken a leap forward in the quality professional education. This institution has emerged as a unique centre of academic excellence of higher learning in the field of pharmacy. All the efforts are focused to provide a congenial environment to educate and train girl students into competent professionals and mould them into confident women to succeed in their lives both personally and professionally which helps in fulfillment of vision of the college. The college is footing with achievements like **"Recognition as**

Research Centre" by Osmania University, has Certified **"Institute Innovation Council"** jointly by **AICTE** and **MHRD.**

From the past 14 years of standing period, the institute has created its own identity by adopting innovative practices The phenomenal academic achievements of our students have always added glory to the college.

The college has a tradition of excelling in Sports and extracurricular activities, in which our students continue to bring us laurels. The success in all spheres is the combined product of all our little efforts- the contribution of highly qualified, dynamic and multi-talented faculty, non-teaching staff and our students. Our teachers aim at providing high quality educational experience to the students in the form of debates, group discussions, workshops, symposia, seminars, Environmental activities, social activities (NSS) and cultural competitions. Eminent personalities are invited from all walks of life to address our students and expose them to new ideas and thoughts for our better society.

RBVRR Women's College of Pharmacy is centrally located in the city at Plot No 3-4-343, Barkatpura, Hyderabad District, Hyderabad -50002, and Telangana State. The site is located at the intersection of 17°23'36.64" (N) latitude and 78°29'40.92" (E) longitude. The site location of the buildings and facilities in RBVRR and some photographs given in (Fig 1). The total area of the Institute is 0.8 acres in which 0.2 acres of area is covered with green belt and 0.56 acres is covered with buildings and roads and the layout of the same is presented as above.

Figure.1 Site Location of the College

Water Conservation , Harvesting and Management

Water is an important natural resource and is available naturally depending on the climate and topographic features. All organisms are dependent on water for their living. Although water is available in nature, portable water is not available freely for human consumption. There have been many practices to conserve water so that it can be readily available for human use. It has been noticed that due to unsustainable use of water resources there is contamination and depletion of the ground water and also water which is available in various reservoirs like lakes, ponds, streams etc which is becoming more alarming. Therefore it becomes increasingly important to conserve protect and manage the water resources availability and usage so that it is sustainably used within the college campus. Water auditing is conducted to evaluate the quality, availability and usage of water; the facilities available and methods adopted to revitalize and use it so that the resources are intact without leading to deterioration.

Per capita water availability of many river basins in India is declining over the years due to sustained population pressure, agriculture and industrial expansion, besides changing climate scenarios.

- **Rainwater harvest**

  Rainwater harvesting is a technique used for collecting, storing and using rainwater for domestic, agricultural or any other uses. The rainwater is collected from various hard surfaces such as rooftops, runoff from catchments, from streams and water conservation through watershed management or other manmade aboveground hard surfaces. It is an age-old system of collection of rainwater for future use. The harvested water can be stored on surface through ponds and tanks or can be recharged to groundwater.

- **Protection of Water from Pollution**

  If the total fresh water available on the earth remains pollution free, it is sufficient to meet the drinking water needs of the existing population of the world, unfortunately a large portion of fresh water does not remain fit for use of the living world due to increasing

economic activities, urbanization etc.

- **Rational Use of Groundwater:**

  Groundwater meets 25 per cent of total supply of water in the world, remaining 75 per cent supply is met by surface water sources of rivers, lakes etc. Demand for groundwater goes on increasing in proportion to its available quantity due to which quantity of groundwater goes on decreasing. After exploitation of groundwater, its re-infiltration takes a very long time to complete. Hence, Groundwater exploitation should be only in proportion to its recharging capacity.

- **Increasing Forest Cover:**

  According to hydrological movements, water is received through rainfall every year different quantities on the surface of the earth. This water flows on the surface and reaches the seas. Some part of rainwater is stored in stable water reservoirs (lakes and tanks), whereas some quantity of water infiltrates into the land and takes the form of groundwater.

WATER USES AND MANAGEMENT

A total of 18000 L of water is pumped every day for the College dwellers as well to meet the daily demands of the academic and administrative Departments (Table 1). The daily use of the water during 2020-21 was approx. 2110 L per day shown in Figure 2&3.

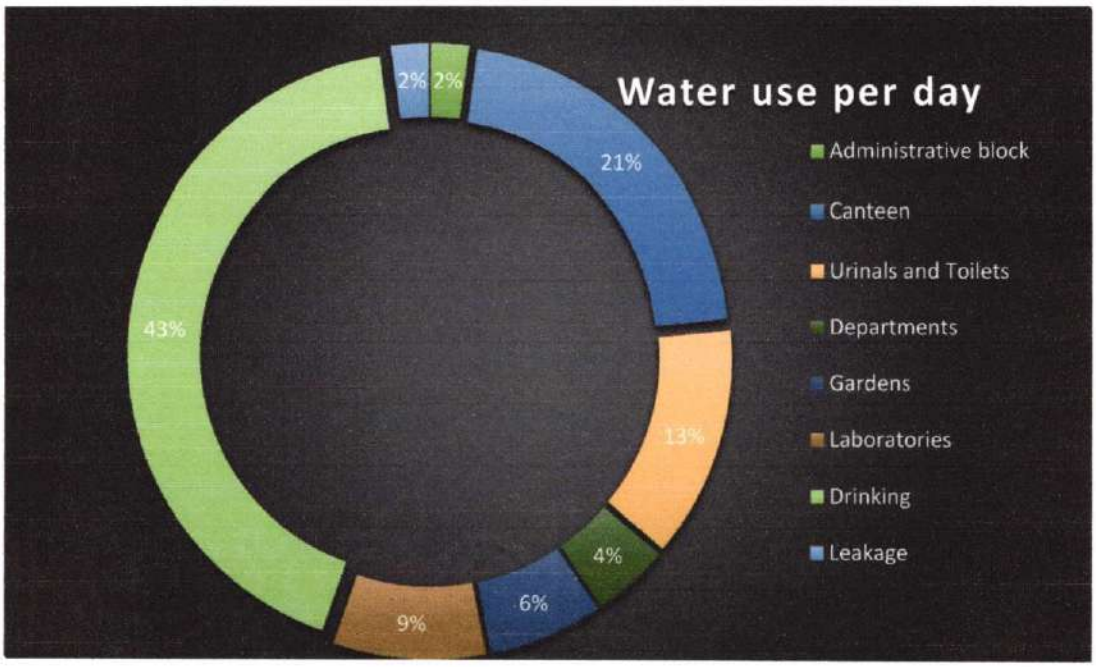


Figure.2: Daily water Consumption and usage in RBVRRR

Table:1 Source and uses of water in the college campus Source of water

Source and uses of water in the College campus Source of water		
Sl. No	**Parameters**	**Information**
1	No of Wells	1
2	No of the motors used	2
3	Horsepower- motor	3 HP x 2
4	Depth of well- Total	600 m x 1
5	Capacity of Tank(Total)	250000 L
Quantity of water used in different sections of the Campus		
	Sections	**Water use (L/day)**
6	Administrative block	100
7	Canteen	100
8	Urinals and Toilets	100
9	Departments	10
10	Gardens	1000
11	Laboratories	100
12	Drinking	500
13	Leakage	500
14	Main purposes of water use in the campus	Drinking and cooking purpose Toilets and wash areas Laboratory use Gardening Construction
15	Nos. of water tap	320 nos
16	Water cooler and drinking water filtration facility	5 nos
17	Nos. of urinal and toilets	20
18	Nos. of waterless /bio-toilets	Nil
19	Any water wastage/why?	Yes, leakage from pipes and tanks, leaving of taps open at times
20	Water usage for gardening	1000 Ltr
21	Wastewater sources	leakage from pipes and tanks, Overflowing of tanks from residential qtrs., Toilets, laboratories, hostels
22	Use of wastewater	Nil
23	The fate of wastewater from labs	Discharged into soak pit in case of contamination and natural discharge
24	Any wastewater treatment for lab water	No
25	Whether any green chemistry method practiced in Labs	No

26	Rainwater harvesting	Rain water harvesting is maintain by the water body within the premises which also helps in maintaining the ground water level and there is no reusable rain water which

The stake holders of the BVRRR specially propose to use of grey water which is obtained from the various domestic activities and they re-use the same water for gardening and vegetable fields etc. Also water recycling is done as per the direction of the competent authority in broader scale as and when required. During the rainy season water from the roof tops of the buildings directly fall into the lake through rain water outlets, RCC drains and recharges the ground water table throughout the year

Figure.3 Drinking water in Each Floor

Present Status: Constructed Water harvesting Pits 2 No's across the campus and in the process of constructing water drains and interconnecting the same to water harvesting pits to recharge the ground water.

Waste Management:

The campus produces and disposes solid waste through its day-to-day operations. There can be difference between individuals, between certain day's activities, and between holidays and work days, as well as between seasons. An average figure per person per day is however worked out by observing their activities for a week by student volunteers at the disposal area through sample survey approach, quantifying the measured wastes and then averaging.

In India, through certain research studies on waste generation in academic campuses from time to time, environmentalists have arrived at some empirical coefficients for assessing GHG emissions from solid wastes. These will be use in evaluating the green auditing data on wastes in RBVRR institute. The wastes generated in the college is systematically collected and disposed off as scientifically as possible. Wet wastes are separated at source itself. For disposal, only competent agencies are approached and materials handed over. As seen in the table, most items are intended to be recycled, reused or processed. Adequate numbers of garbage bins are provided in every room and in every floor in every hostel as well as in the academic area and guest house, and the students are using them as and when required. The practice of burning the paper waste, which is the usual practice needs to be discontinued and better options tried. Using waste paper for creating decorative materials is one option. The present waste generation is represented as **Table.2 and Figure.4-5**

The following waste is categorizes as:

- **Non Bio Waste** – Plastic Bottles / Waste Paper / Cardboards/ Batteries etc

Non- biodegradable waste, which cannot be decomposed by biological processes is called non- biodegradable waste.

These are of two types –

- **Recyclable**: waste having economic values but destined for disposal can be recovered and reused along with their energy value. e g. Plastic, paper, old cloth etc.
- **Non-recyclable**: waste which do not have economic value of recovery. e.g. Carbon paper, thermo coal, tetra packs etc.

Disposal of non-biodegradable waste is a major concern, not just plastic, a variety of waste being accumulated. There are a few ways to help non-biodegradable waste management. The impact of non biodegradable waste on the environment and also focus on its safe disposal for sustainable environment.

Table 2. Annual Waste Generation category wise

S. No.	Stake holders	Types of solid waste	Average waste generated Year (Kg)	% of waste
1	ACADEMIC DEPARTMENT	Paper waste	100	16.8
2		Plastic waste	10	1.7
3		Organic Waste	100	16.8
4		E-waste	1	0.2
5		Bio Medical Waste	20	3.4
6	ADMINISTRATIVE OFFICE	Paper waste	100	16.8
7		Plastic waste	10	1.7
8		Organic Waste	30	5.0
9		E-waste	2	0.3
10	CANTEENS	Paper waste	10	1.7
11		Plastic waste	10	1.7
12		Organic Waste	200	33.6
13		E-waste	2	0.3
TOTAL			**595 Kg /Year**	

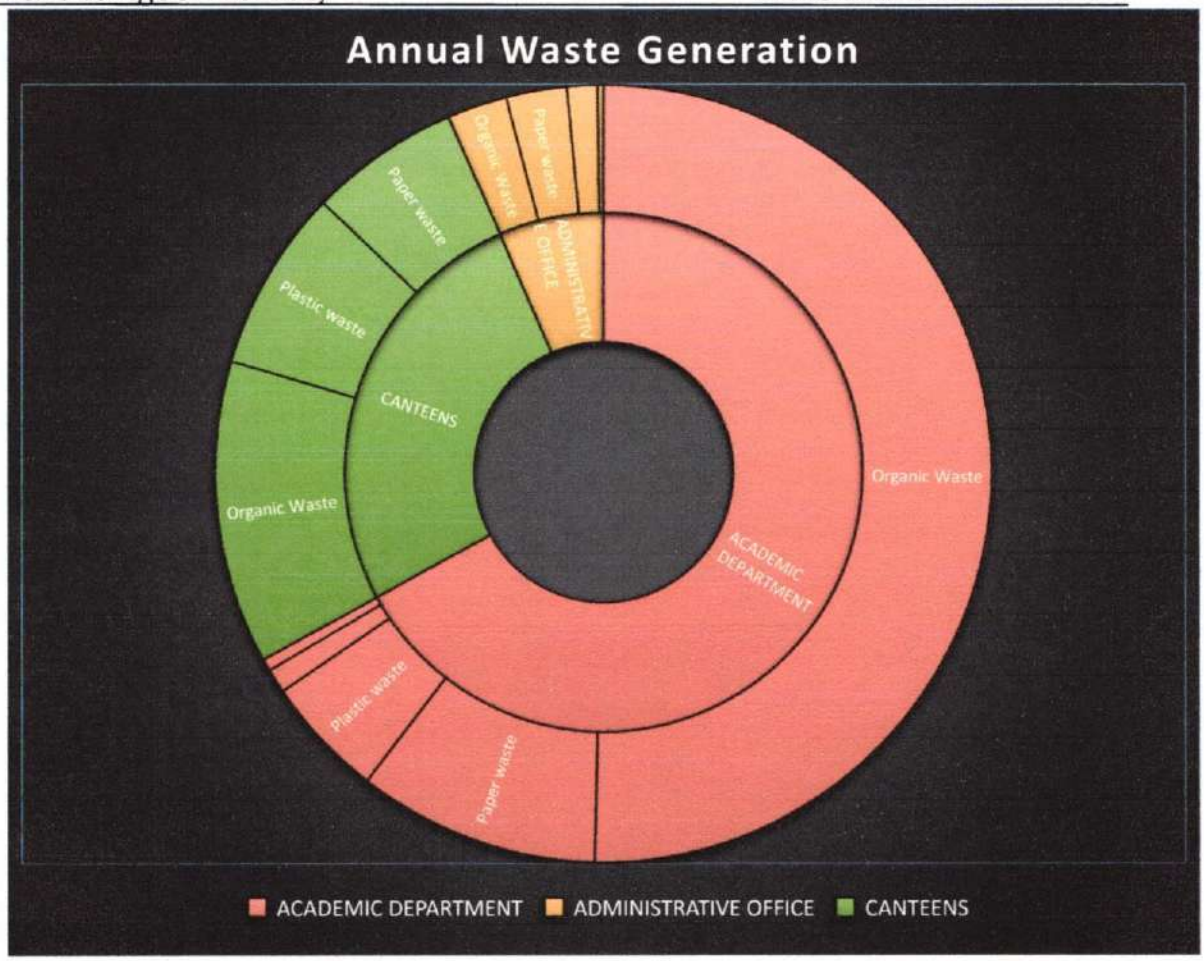


Figure.4 Annual Waste Generation In the RBVRR College of Pharmacy

- **Bio Medical waste:**

  Bio medical waste means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals, and including categories mentioned in Schedule I Category of Waste as **Table 3**

Table :3 Bio Medical waste category wise

Option	Waste Category	Treatment & Disposal
Category No-1	Human Anatomical Waste (human tissues, organs, body parts)	incineration/deep burial
Category No. 2	Animal Waste (animal tissues, organs, body parts carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals colleges, discharge from hospitals, animal houses)	incineration/deep burial
Category No. 3	Microbiology & Biotechnology Waste (wastes from laboratory cultures, stocks or specimens of micro- organisms live or attenuated vaccines, human and animal cell culture used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins, dishes and devices used for transfer of cultures)	local autoclaving/micro-waving/incineration
Category No. 4	Waste sharps (needles, syringes, scalpels, blades, glass, etc. that may cause puncture and cuts. This includes both used and unused sharps)	disinfection (chemical treatment/autoclavin g/microwaving and mutilation/shredding
Category No 5	Discarded Medicines and Cytotoxic drugs (wastes comprising of outdated, contaminated and discarded medicines)	incineration@/destructio n and drugs disposal in secured landfills
Category No 6	Soiled Waste (Items contaminated with blood, and body fluids including cotton, dressings, soiled plaster casts, lines, beddings, other material contaminated with blood)	Incineration/ autoclaving/microwaving
Category No. 7	Solid Waste (wastes generated from disposable items other than the waste sharps such as tubings, catheters, intravenous sets etc).	disinfection by chemical treatment/autoclaving/ microwaving and mutilation/ shredding
Category No. 8	Liquid Waste (waste generated from laboratory and washing, cleaning, house- keeping and disinfecting activities).	disinfection by chemical treatment and discharge into drains
Category No. 9	Incineration Ash (ash from incineration of any bio-medical waste)	disposal in municipal landfill
Category No. 10	Chemical Waste (chemicals used in production of biologicals, chemicals used in disinfection, as insecticides, etc.)	Chemical discharge into drains for liquids and secured landfill for solids

Rule 1998 schedule II

Color coding	Type of container	Waste categories
Yellow 	Plastic bags	Cat 1 human anatomical waste Cat 2 Animal Waste Cal 3 Microbiological Waste Cat 6 Solid Waste
Red 	Disinfected container plastic bags	Cat 3 Microbiological Cat. 6 Soiled Dressing
Blue/white 	Plastic bags, puncture proof containers	Cat. 4 Waste sharp Cat.7 Plastic disposable
Black 	Do	Cat. 5 Discarded medicine Cat. 9 Incineration ash Cat 10 Chemical Waste

Conditions in Transportation and Storage

• The waste may be temporarily stored at the storage area of the Institute, it may be sent in bulk to the site of final disposal once or twice a day depending upon the quantum of waste.

During transportation following points should be taken care of

• Ensure that waste bags/containers are properly sealed and labeled.

• Bags should not be filled completely, so that bags can be picked up by the neck again for further handling. Hand should not be put under the bag. At a time only one bag should be lifted.

• Manual handling of waste bags should be minimized to reduce the risk of needle prick injury and infection.

• BMW should be kept only in a specified storage area.

• After removal of the bag, clean the container including the lid with an appropriate disinfectant.

• Waste bags should be transported in a covered wheeled containers or large bins in covered trolleys.

• No untreated bio -medical waste shall be kept stored beyond a period of 48 hours

Bio medical waste storage	In Class room Carridor

Figure.5 Dust Collection Bins from Different waste at Institute

E Waste Management

Waste Electrical and Electronic Equipment (WEEE) or E-waste is one of the fastest growing waste streams in the world. In developed countries, it equals 1% of total solid waste on an average. In developing countries, it ranges from 0.01% to 1% of the total municipal solid waste generation. In countries like China and India, though annual generation per capita is less than 1 kg, it is growing at an exponential pace.

Present Status: The College is having an MOU with M/s. Green Wave E-waste recycling Ltd, Nacharam to dispose the E Waste and the bio medical waste is dispose to M/s Sattva Global Services Pvt Ltd. Every year the agency will come and pick up the E waste and Bio medical waste dispose it in environmental friendly way.

Carbon Footprint

Carbon Footprint is the amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, optimization, or community. An acceptable definition for carbon foot print is: carbon footprints the total amount of greenhouse gases produced directly and indirectly for supporting human activities, usually expressed in equivalent tons of carbon dioxide (CO_2). The most common greenhouse gases (GHGs) in our environment are carbon dioxide, water vapour, methane nitrous oxide and ozone. The total carbon footprint college as calculated and represented as **Table.4** and International Standards of carbon footprint for various parameters represented as **Table. 5**

The RBVRR has total staff (Teaching + Non Teaching) of 70 members, the Co2 emission

Table:4 Carbon foot Print

Sl. No:	Source	Rate	Quantity x Days/year		Total Quantity	Annual Eqvt. CO_2
1	Electricity use (For India)	0.82 kg/kWh	--		3136KWh	2.6 T CO_2
2	Fossil fuel use	268 g CO2eq/kg	LPG	5	435kg /Year	0.05 T CO_2
3	Bus – students public transport	268 g CO2eq/L	100	100	250 kg/year	67 T CO_2
4	Staff week public transport	268 g CO2eq/L	25	150	56.2 kg/Year	15 T CO_2
5	Non Teaching staff public transport	268 g CO2eq/L	45	150	168 kg/Year	45 T CO_2
6	Cars, Taxis all	230g CO2eq/L	2	100	5 kg/Year	0.6 CO_2
						130.2T CO_2

The per capita carbon footprint for the RBVRR, is 130 kg (or 0.013 T) of CO_2 equivalent 130.2 T /1000 persons].

According to Economic Survey, Govt. of India 2009 - 10, the per capita emission for an Indian was 1.2 ton CO_2 eq. per annum. In the same report, it was projected that this will go up to 2.0 – 2.5 T of CO2 by 2020-21 and to 3.0 – 3.5 T of CO_2 by 2030. For the year 2020-21, the RBVRR, the Carbon Footprint per capita at 0.013 T CO_2 is even less than one-Fourth of the national average. The campus is thus **a Green Campus**.

Carbon Footprint Balance

The remediation gap between the assessed footprint and available remediation is 130.2–3.5 =126.7 T CO_2eq for 2020-21. On closer examination, major contributors to it are:- Daily bus journey by around 600 day scholars (due to covid-19 more no of students attend the classes are online).

Table: 5 International standard values of Carbon foot Print for various parameters

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
For homes and businesses				
Propane	12.70/gallon	5.76/gallon	139.05	63.07
Butane	14.80/gallon	6.71/gallon	143.20	64.95
Butane/Propane Mix	13.70/gallon	6.21/gallon	141.12	64.01
Home Heating and Diesel Fuel (Distillate)	22.40/gallon	10.16/gallon	161.30	73.16
Kerosene	21.50/gallon	9.75/gallon	159.40	72.30
Coal (All types)	4,631.50/short ton	2,100.82/short ton	210.20	95.35
Natural Gas	117.10/thousand cubic feet	53.12/thousand cubic feet	117.00	53.07
Gasoline	19.60/gallon	8.89/gallon	157.20	71.30
Residual Heating Fuel (Businesses only)	26.00/gallon	11.79/gallon	173.70	78.79
Other transportation fuels				

Jet Fuel	21.10/gallon	9.57/gallon	156.30	70.90
Aviation Gas	18.40/gallon	8.35/gallon	152.60	69.20
Industrial fuels and others not listed above				
Flared natural gas	120.70/thousand cubic feet	54.75/thousand cubic feet	120.60	54.70
Petroleum coke	32.40/gallon	14.70/gallon	225.10	102.10
Other petroleum & miscellaneous	22.09/gallon	10.02/gallon	160.10	72.62
Nonfuel uses				
Asphalt and Road Oil	26.34/gallon	11.95/gallon	166.70	75.61
Lubricants	23.62/gallon	10.72/gallon	163.60	74.21
Petrochemical Feedstocks	24.74/gallon	11.22/gallon	156.60	71.03

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
Special Naphthas (solvents)	20.05/gallon	9.10/gallon	160.50	72.80
Waxes	21.11/gallon	9.57/gallon	160.10	72.62
Coal by type				
Anthracite	5,685.00/short ton	2,578.68/short ton	228.60	103.70
Bituminous	4,931.30/short ton	2,236.80/short ton	205.70	93.30
Subbituminous	3,715.90/short ton	1,685.51/short ton	214.30	97.20
Lignite	2,791.60/short ton	1,266.25/short ton	215.40	97.70
Coke	6,239.68/short ton	2,830.27/short ton	251.60	114.12
Other fuels				
Geothermal (average all generation)	NA	NA	16.99	7.71
Municipal Solid Waste	5,771.00/short ton	2,617.68/short ton	91.90	41.69
Tire-derived fuel	6,160.00/short ton	2,794.13/short ton	189.54	85.97
Waste oil	924.0/barrel	419.12/barrel	210.00	95.25

Source: U.S. Energy Information Administration estimates.
Note: To convert to carbon equivalents multiply by 12/44. Coefficients may vary slightly with estimation method and across time.

Summary

Goals of the College

In the effort to Enhancing an environmentally literate campus where students can learn the idea of protection of environment and stay healthy. The college Management is proactively working on the several facets of "Green Campus" including Plantation of more trees, Water Conservation, Efficient water usage by eliminating leaking water taps, Installation of STP, Water Harvesting Pits and interconnecting them to Recharge the Ground Water table. Effective Waste Management which includes Food Waste, Plastic, Paper, carbon footprints etc.

Annexures

E Waste management :

An agreement has been made with M/s. Green Wave E-waste recycling Ltd, Nacharam for disposal of the E Waste which are mentioned below (A detailed MOU is enclosed)

Electronic Waste (E-Waste) -The Term E-Waste will refer to the below mentioned electrical and electronic waste for the purpose of this Agreement which includes;

Computers & Peripherals (CPU, Keyboard, Mouse& Monitor)

Laptops

Servers

PCBs

Mobiles or Communication devices

Mother Boards (Computers &Laptops)

Security Devices

Telecom Equipment

Printers & Scanners

Military Electronic

Control Systems

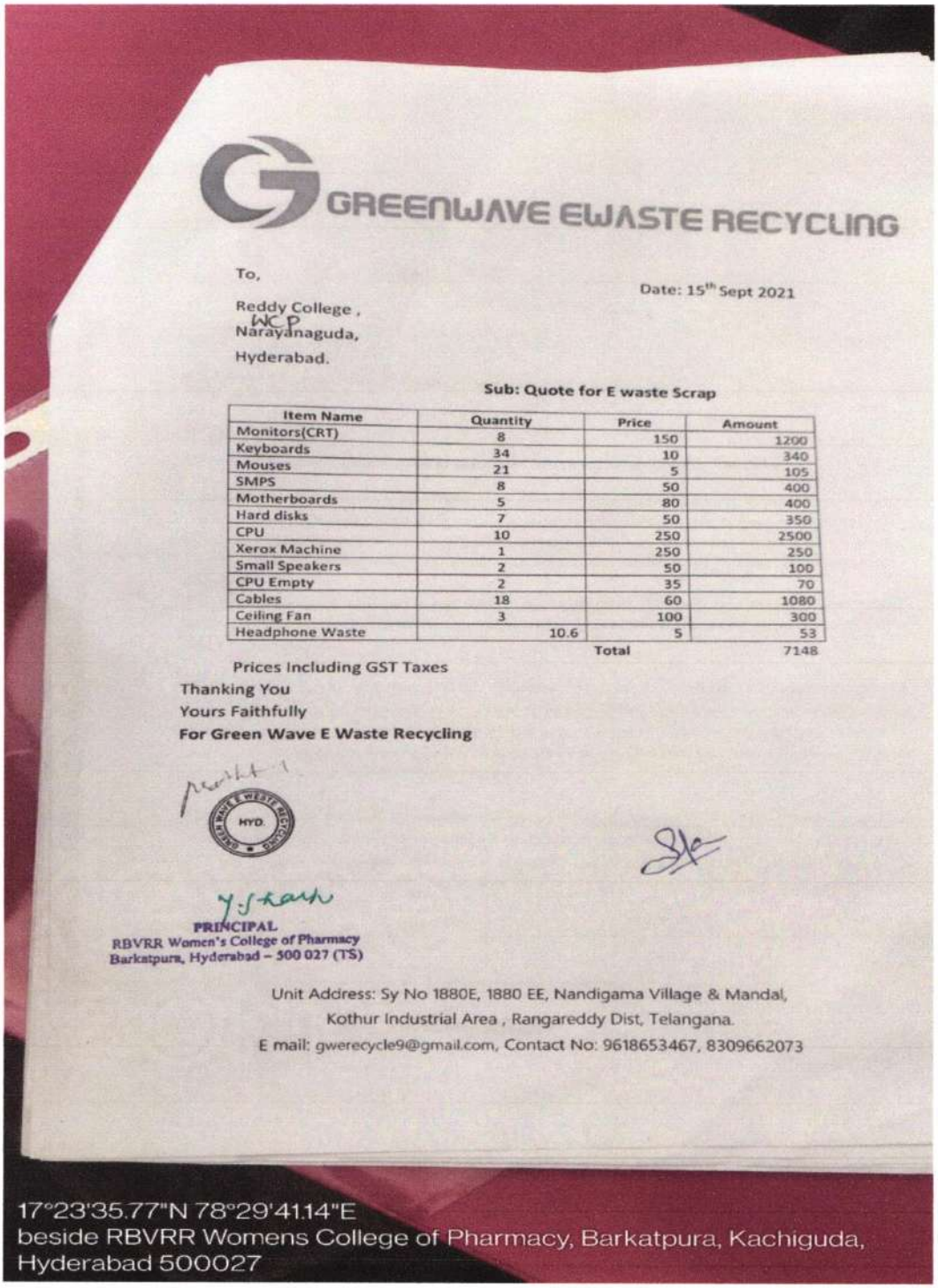
Data Cables and wires

Batteries

CD/DVD

Tube lights and CFL

MOU for E Waste Disposal



GREENWAVE EWASTE RECYCLING

To,

Reddy College ,
WCP
Narayanaguda,
Hyderabad.

Date: 15th Sept 2021

Sub: Quote for E waste Scrap

Item Name	Quantity	Price	Amount
Monitors(CRT)	8	150	1200
Keyboards	34	10	340
Mouses	21	5	105
SMPS	8	50	400
Motherboards	5	80	400
Hard disks	7	50	350
CPU	10	250	2500
Xerox Machine	1	250	250
Small Speakers	2	50	100
CPU Empty	2	35	70
Cables	18	60	1080
Ceiling Fan	3	100	300
Headphone Waste	10.6	5	53
		Total	7148

Prices Including GST Taxes

Thanking You

Yours Faithfully

For Green Wave E Waste Recycling

HYD.

PRINCIPAL
RBVRR Women's College of Pharmacy
Barkatpura, Hyderabad – 500 027 (TS)

Unit Address: Sy No 1880E, 1880 EE, Nandigama Village & Mandal,
Kothur Industrial Area , Rangareddy Dist, Telangana.
E mail: gwerecycle9@gmail.com, Contact No: 9618653467, 8309662073

17°23'35.77"N 78°29'41.14"E
beside RBVRR Womens College of Pharmacy, Barkatpura, Kachiguda, Hyderabad 500027

MOU for Bio Medical waste Disposal

sattva enviro
Bio-Medical Waste Management

A Unit of
M/s. Sattva Global Services Pvt. Ltd.
Office : H.No. 6-3-1089/4/4, Ground Floor,
Opp Yes Bank, Raj Bhavan Road, Somajiguda,
Hyderabad - 5000 82. Phone : +91 970123107
E-mail : info@sattvaenviro.com

Service Certificate

This is to certify that M/s. RBVRR WOMEN'S COLLEGE OF PHARMACY, D.NO. 8-
- BARKATPURA, HYDERABAD - 50
Hospital / Nursing Home / Dental / Pharma / R&D is a member of M/s. Sattva Global Service Pvt. Ltd. bearing Regist
No. SG/ RD /129 Sattva Enviro Company is Providing Bio Medical Waste Management Service to the inst
from 01st MARCH, 2020 for a total bed strength of — Beds.
this certificate is Valid upto 28th FEBRUARY, 2021.

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

KIWIS ECO LABORATORIES PRIVATE LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NO.19, ALEAP INDUSTRIAL ESTATE,SY NO. 342, GAJULARAMARAM VILLAGE, QUTBULLAPUR MANDAL & MUNICIPALITY, HYDERABAD, RANGA REDDY, TELANGANA, INDIA

in the field of

TESTING

Certificate Number: TC-8699

Issue Date: 24/10/2019 **Valid Until:** 23/10/2021*

*The validity is extended for one year up to 23.10.2022

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : KIWIS ECO LABORATORIES PRIVATE LIMITED

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

सत्यमेव जयते

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT AND FORESTS

No.Q.15018/27/2013-CPW

Dated: 10 -9-2014

To

M/s Kiwis Eco Laboratories Pvt. Ltd.
Plot No. 19, Sy. No. 342,
ALEAP Industrial Estate,
Gajularamaram Village,
Quthbullpur,
Rangareddy District
Andhra Pradesh

Sub: Recognition of Environmental Laboratory under the Environment (Protection) Act, 1986 of M/s Kiwis Eco Laboratories Pvt. Ltd., Rangareddy District, Andhra Pradesh.

Please refer to your application seeking recognition of your environmental laboratory under the Environment (Protection) Act, 1986. As approved by the competent authority, it has been decided to accord recognition to your laboratory under Environment (Protection) Act 1986. The terms & conditions as given in the Annexure – III, IV & V have already been agreed by you.

2. It is desired that the period of recognition of the laboratory under E(P)A 1986, as Gazette notified may also be mentioned wherever "MoEF recognized Lab" is written. A copy of the Gazette notification is enclosed.

3. The laboratory shall compulsorily participate in the Analytical Quality Control (AQC) exercise conducted by the Central Pollution Control Board, atleast once a year, to ascertain the capability of the laboratory and analysts from time to time.

4. The laboratory has to submit quarterly reports to the Ministry in the enclosed format regarding its activities and the number of samples analysed during the reporting period.

5. It may also be noted that periodic surveillance of recognized environmental laboratory under the Environment (Protection) Act, 1986 will be undertaken by the Central Govt. to assess its proper functioning, systematic operation and reliability of data generated at the laboratory.

6. It is also mandatory for the Lab to renew ISO 9001 and OHSAS 18001 from time to time.

(Dr. M. Raina)
Director

Encl: as above

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies a Quality Management System in accordance with

ISO 9001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

Q-170201R Certificate Number	03 February 2020 Date of Last Issue
03 February 2017 Date of Initial Registration	02 February 2021 Date of Expiry

Global MCS

IAS MSCB-122

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

Certificate is Valid for 3 Years (03.02.2020 to 02.02.2023) From the Date of Last Issue. Upon Successful Completion of Surveillance Audit New Certificate With an Extended Validity will be issued.

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
www.mcsglobal.in, E.mail:info@mcsglobal.in

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies an Environmental Management System in accordance with

ISO 14001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

180206-E Certificate Number	08 February 2020 Date of Last Issue
08 February 2018 Date of Initial Registration	07 February 2021 Date of Expiry

Global MCS

QAC

Certificate is Valid for 1 Year (08.02.2020 to 07.02.2021) From the Date of Last Issue. Upon Successful Completion of Re Certification Audit New Certificate With an Extended Validity will be issued.

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
www.mcsglobal.in, E.mail:info@mcsglobal.in

Environmental Audit of
RBVRR WOMEN'S COLLEGE OF PHARMACY

3-4-343, Barkathpura, Hyderabad - 500027

2019-2020

Prepared by

M/s KIWIS ECO LABORATORIES PVT LTD.,
(Recognized by MoEF, GOI, New Delhi
Certified by ISO 9001:2015, ISO 14001:2015 & OHSAS 45001:2018)
Plot No. 19, ALEAP Industrial Estate, Sy.No.342
Near Pragathi Nagar, Quthbullapur Mandal
Rangareddy Dist, Hyderabad, Telangana – 500090
Tel: +91- 9966661485

ACKNOWLEDGEMENT

RBVRR Women's College Of Pharmacy has been working at the forefront since its inception to bring about social change for national and international development by conducting workshops and other extension activities. RBVRR Women's College Of Pharmacy is aware of the needs of the green audit for the maintenance and future development of the campus. In its pursuit of excellence, RBVRR Women's College Of Pharmacy has recognized itself to improve the environmental quality and maintain its unique pristine ecosystem for the future generation of students and all the inhabitants of the campus. Although we have been taking a number of steps to conserve and protect our environment. This report of 2019-20 is the first formal effort to document the results of our investigation and interpret the information of all the required parameters of the Green audit process. RBVRR Women's College Of Pharmacy aims to take up the policy and efforts at every level to avert ecological catastrophe on a global scale by supporting the climate neutrality goals committed by the Government of India. As a part of this, efforts will take to continuously monitor the sustainability of the academic process by constituting the Green Audit Committee consisting of faculty members working in this arena to collect basic data of the environmental parameters within the campus so that the environmental issues are resolved within the campus. The Green Audit Committee has tried to identify the current / emerging environmental issues so as to monitor the environmental management practices adopted in the college along with subsequent impact of these on the campus environment.

The Green audit conducted is an external audit that aims towards creating awareness healthy and sustainable environment. Though nascent, the initiative will taken up to foster the concept of environmental sustainability. Hopefully, all stakeholders will pay attention to this report, allowing us to develop a bottom-up approach to addressing future challenges.

Principal

Date

To WHOM SO EVER IT MAY CONCERN

This is to certify that the first Energy Audit Report 2019-20 of **RBVRR Women's College Of Pharmacy, Bharkatpura** is an original External audit work conducted by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi)** dated **26-02-2020** on behalf of the terms of agreement with the College. The Green Audit Committee to monitor the environmental management practices adopted in the **RBVRR Women's College Of Pharmacy,** which is in line with the terms of the International Standards of External Auditing.

After going through the report, it is obvious that adequate and appropriate audit procedures were followed for Environmental Quality Audit, Water Audit, Waste Management Audit, and Energy Audit and Carbon Footprint. The gathered evidences support the conclusions reached and contained in this report.

The suggestions and recommendations prescribed and the conclusions derived are quite genuine within the achievable limits, and I understand that RBVRR Women's College Of Pharmacy is competent to fulfil those to meet the Sustainable Development Goals.

I recommend and firmly believe that this report meets the requirement prescribed for development of a Green Campus.

Principal

(Dr.M. Sumakanth)
RBVRR Women's College Of Pharmacy

RBVRR WOMENS COLLEGE OF PHARMACY CC No 1706 HYDERABAD (TS), INDIA

KIWIS

DECLARATION

Environmental Audit Report for **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** during **01st and 02nd February 2020** and following Observations were presented below. The Management is proactive towards Green Initiative by Harvesting Solar Energy, Planting Trees, Better water conservation, Waste Management, Carbon Footprint, A continual improvement in Green Initiative is appreciated. We appreciate the efforts of the **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** in this regard. This Environmental Audit Report has been prepared by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi, ISO 9001:2015,14001:2015)** dated **25-02-2020** is for the use of the Customer with due consideration and skill as per our general terms and conditions of business and the terms of agreement with the customer.

Authorized Signatory

KIWIS ECO LABORATORIES PRIVATE LIMITED ★ Hyderabad

(Ch. Rajani Kumari)
Managing Director

KIWIS ECO LABORATORIES PRIVATE LIMITED
(NABL, MoEF and ISO Certified Laboratory)
Plot No. 19, ALEAP Industrial Estate, SY. No's 342, Gajularamaram Village, Quthbullpur Mandal and Municipality, Hyderabad, Ranga Reddy Dist 500 090. Email: kiwislabhyd@gmail.com I Website: www.ssmntgroup.com/kiwis-eco-labs. 040 - 23816333.
CIN NO : U85110TG2013PTC087604

GREEN AUDIT ASSESSMENT TEAM

INTERNAL: RBVRR Women's College Of Pharmacy,

Dr. M. Sumakanth, Principal	Chairman	
Dr. Tripura Sundari. IQAC	Member	
Dr. A. Krishna Sailaja	Member	
Ms. Zeenath Banu	Member	
Dr. Sudha Parimala	Member	
Dr. G. Uma Rani	Member	
Dr. J. Archana	Member	

EXTERNAL: KIWIS ECO LABORATORIES PRIVATE LIMITED

Dr. Ch. Rajani Kumari Managing Director,	Team Member	
Dr. D. Sivaramakrishna HOD-LAB	Team Member	
Dr. D. Sreekanth Quality Manager	Team Member	
Dr. Nalini Vijayalaxmi Manager-Laboratory	Team Member	

Environmental Audit scope of work

The Green Audit is carried out in view of assessing all necessary environmental components and their impact on the campus physically by visiting the premises with reference to following.

- Identifying the Green Area in total area of the campus and increase the process of planting tress so that Heat /Global warming is mitigated.
- A continual drive is created. Water Conservation/ Efficient Usage / Eliminate the water misuse or wastage , Rain Water Harvesting etc
- Waste Management which includes Bio Waste/ Non Bio Waste/ E Waste etc
- Carbon Foot Print – Transportation of Teaching Staff / Non Teaching Staff/ Students

ABOUT THE COLLEGE

RBVRR Women's College of Pharmacy was established in the year 2006 under "Hyderabad Mahila Vidya Sangham" to provide education to women students. The college was self-financed, approved by **PCI, AICTE** and is affiliated to **Osmania University,** accredited by **NBA** for B.Pharmacy Course with an objective to nurture the pharmacy education and to support the healthcare system through skilled Women Pharmacy graduates.

RBVRR Women's College of Pharmacy Institute is one of the leading institutions which have taken a leap forward in the quality professional education. This institution has emerged as a unique centre of academic excellence of higher learning in the field of pharmacy. All the efforts are focused to provide a congenial environment to educate and train girl students into competent professionals and mould them into confident women to succeed in their lives both personally and professionally which helps in fulfillment of vision of the college. The college is footing with achievements like "**Recognition as**

Research Centre" by Osmania University, has Certified **"Institute Innovation Council"** jointly by **AICTE** and **MHRD.**

From the past 14 years of standing period, the institute has created its own identity by adopting innovative practices The phenomenal academic achievements of our students have always added glory to the college.

The college has a tradition of excelling in Sports and extracurricular activities, in which our students continue to bring us laurels. The success in all spheres is the combined product of all our little efforts- the contribution of highly qualified, dynamic and multi-talented faculty, non-teaching staff and our students. Our teachers aim at providing high quality educational experience to the students in the form of debates, group discussions, workshops, symposia, seminars, Environmental activities, social activities (NSS) and cultural competitions. Eminent personalities are invited from all walks of life to address our students and expose them to new ideas and thoughts for our better society.

RBVRR Women's College of Pharmacy is centrally located in the city at Plot No 3-4-343, Barkatpura, Hyderabad District, Hyderabad -50002, and Telangana State. The site is located at the intersection of 17°23'36.64" (N) latitude and 78°29'40.92" (E) longitude. The site location of the buildings and facilities in RBVRR and some photographs given in (Fig 1). The total area of the Institute is 0.8 acres in which 0.2 acres of area is covered with green belt and 0.56 acres is covered with buildings and roads and the layout of the same is presented as above.

Figure.1 Site Location of the College

ENVIRONMENTAL AUDIT

Water Conservation , Harvesting and Management

Water is an important natural resource and is available naturally depending on the climate and topographic features. All organisms are dependent on water for their living. Although water is available in nature, portable water is not available freely for human consumption. There have been many practices to conserve water so that it can be readily available for human use. It has been noticed that due to unsustainable use of water resources there is contamination and depletion of the ground water and also water which is available in various reservoirs like lakes, ponds, streams etc which is becoming more alarming. Therefore it becomes increasingly important to conserve protect and manage the water resources availability and usage so that it is sustainably used within the college campus. Water auditing is conducted to evaluate the quality, availability and usage of water; the facilities available and methods adopted to revitalize and use it so that the resources are intact without leading to deterioration.

Per capita water availability of many river basins in India is declining over the years due to sustained population pressure, agriculture and industrial expansion, besides changing climate scenarios.

- **Rainwater harvest**

  Rainwater harvesting is a technique used for collecting, storing and using rainwater for domestic, agricultural or any other uses. The rainwater is collected from various hard surfaces such as rooftops, runoff from catchments, from streams and water conservation through watershed management or other manmade aboveground hard surfaces. It is an age-old system of collection of rainwater for future use. The harvested water can be stored on surface through ponds and tanks or can be recharged to groundwater.

- **Protection of Water from Pollution**

  If the total fresh water available on the earth remains pollution free, it is sufficient to meet the drinking water needs of the existing population of the world, unfortunately a large portion of fresh water does not remain fit for use of the living world due to increasing

economic activities, urbanization etc.

- **Rational Use of Groundwater:**

  Groundwater meets 25 per cent of total supply of water in the world, remaining 75 per cent supply is met by surface water sources of rivers, lakes etc. Demand for groundwater goes on increasing in proportion to its available quantity due to which quantity of groundwater goes on decreasing. After exploitation of groundwater, its re-infiltration takes a very long time to complete. Hence, Groundwater exploitation should be only in proportion to its recharging capacity.

- **Increasing Forest Cover:**

  According to hydrological movements, water is received through rainfall every year different quantities on the surface of the earth. This water flows on the surface and reaches the seas. Some part of rainwater is stored in stable water reservoirs (lakes and tanks), whereas some quantity of water infiltrates into the land and takes the form of groundwater.

WATER USES AND MANAGEMENT

A total of 18000 L of water is pumped every day for the College dwellers as well to meet the daily demands of the academic and administrative Departments (Table 1). The daily use of the water during 2019-20 was approx. 2110 L per day shown in **Figure 2&3.**

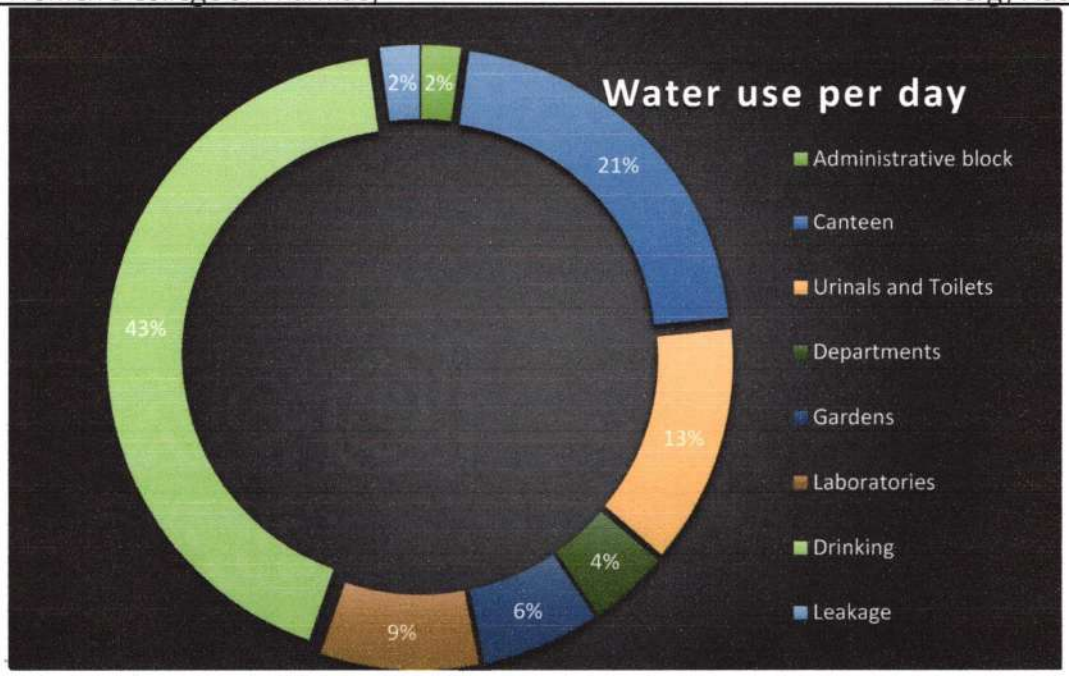


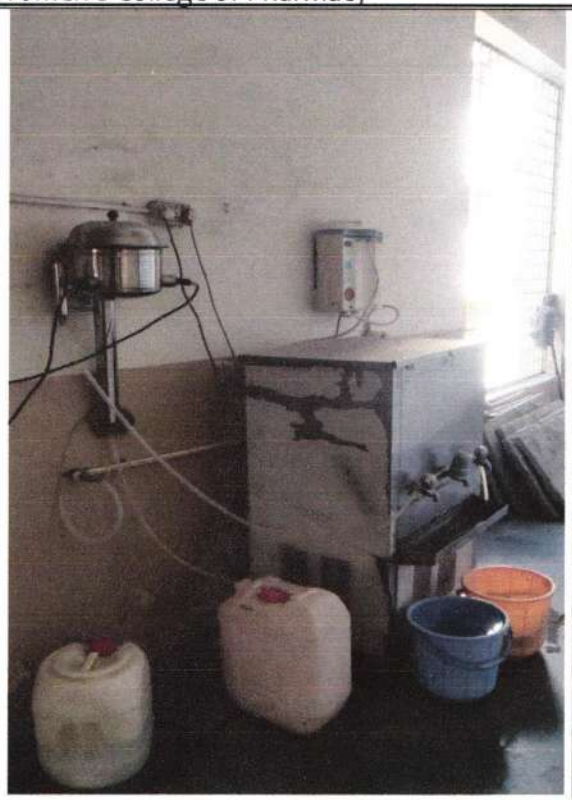
Figure. 2: Daily water Consumption and usage in RBVRRR

Table:1 Source and uses of water in the college campus Source of water

Source and uses of water in the College campus Source of water		
Sl. No	**Parameters**	**Information**
1	No of Wells	1
2	No of the motors used	2
3	Horsepower- motor	3 HP x 2
4	Depth of well- Total	600 m x 1
5	Capacity of Tank(Total)	250000 L
Quantity of water used in different sections of the Campus		
	Sections	**Water use (L/day)**
6	Administrative block	600
7	Canteen	2500
8	Urinals and Toilets	9000
9	Departments	500
10	Gardens	1000
11	Laboratories	1000
12	Drinking	5000
13	Leakage	500
14	Main purposes of water use in the campus	Drinking and cooking purpose Toilets and wash areas Laboratory use Gardening Construction
15	Nos. of water tap	320 nos

16	Water cooler and drinking water filtration facility	5 nos
17	Nos. of urinal and toilets	20
18	Nos. of waterless /bio-toilets	Nil
19	Any water wastage/why?	Yes, leakage from pipes and tanks, leaving of taps open at times
20	Water usage for gardening	1000 Ltr
21	Wastewater sources	leakage from pipes and tanks, Overflowing of tanks from residential qtrs., Toilets, laboratories, hostels
22	Use of wastewater	Nil
23	The fate of wastewater from labs	Discharged into soak pit in case of contamination and natural discharge
24	Any wastewater treatment for lab water	No
25	Whether any green chemistry method practiced in Labs	No
26	Rainwater harvesting	Rain water harvesting is maintain by the water body within the premises which also helps in maintaining the ground water level and there is no reusable rain water which

The stake holders of the BVRRR specially propose to use of grey water which is obtained from the various domestic activities and they re-use the same water for gardening and vegetable fields etc. Also water recycling is done as per the direction of the competent authority in broader scale as and when required. During the rainy season water from the roof tops of the buildings directly fall into the lake through rain water outlets, RCC drains and recharges the ground water table throughout the year



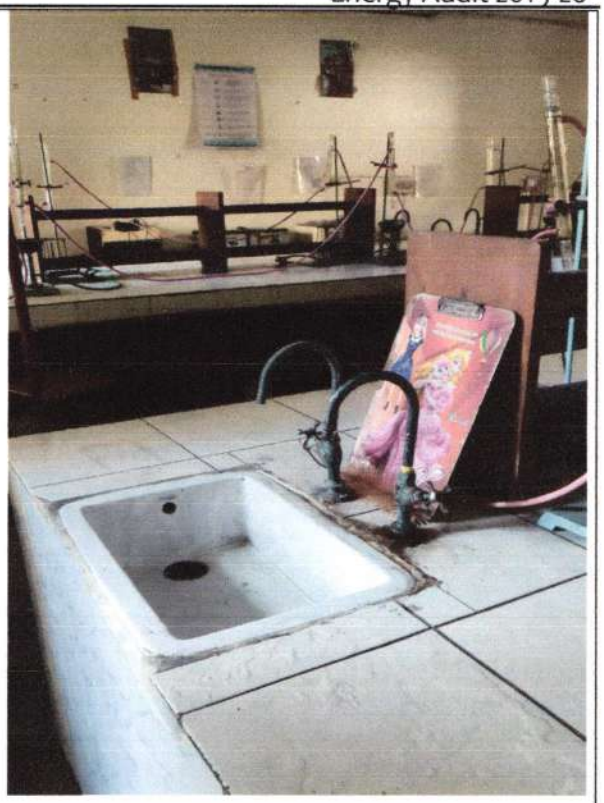


Figure.3 Drinking water in Each Floor

Present Status: Constructed Water harvesting Pits 2 No's across the campus and in the process of constructing water drains and interconnecting the same to water harvesting pits to recharge the ground water.

Waste Management:

The campus produces and disposes solid waste through its day-to-day operations. There can be difference between individuals, between certain day's activities, and between holidays and work days, as well as between seasons. An average figure per person per day is however worked out by observing their activities for a week by student volunteers at the disposal area through sample survey approach, quantifying the measured wastes and then averaging.

In India, through certain research studies on waste generation in academic campuses from time to time, environmentalists have arrived at some empirical coefficients for assessing GHG emissions from solid wastes. These will be use in evaluating the green auditing data on wastes in RBVRR institute. The wastes generated in the college is systematically collected and disposed off as scientifically as possible. Wet wastes are separated at source itself. For disposal, only competent agencies are approached and materials handed over. As seen in the table, most items are intended to be recycled, reused or processed. Adequate numbers of garbage bins are provided in every room and in every floor in every hostel as well as in the academic area and guest house, and the students are using them as and when required. The practice of burning the paper waste, which is the usual practice needs to be discontinued and better options tried. Using waste paper for creating decorative materials is one option. The present waste generation is represented as **Table.2 and Figure. 4 -5**

The following waste is categorizes as:

- **Non Bio Waste** – Plastic Bottles / Waste Paper / Cardboards/ Batteries etc

Non- biodegradable waste, which cannot be decomposed by biological processes is called non- biodegradable waste.

These are of two types –

- **Recyclable**: waste having economic values but destined for disposal can be recovered and reused along with their energy value. e g. Plastic, paper, old cloth etc.
- **Non-recyclable**: waste which do not have economic value of recovery. e.g. Carbon paper, thermo coal, tetra packs etc.

Disposal of non-biodegradable waste is a major concern, not just plastic, a variety of waste being accumulated. There are a few ways to help non-biodegradable waste management. The impact of non biodegradable waste on the environment and also focus on its safe disposal for sustainable environment.

Table 2. Annual Waste Generation category wise

S. No.	Stake holders	Types of solid waste	Average waste generated Year (Kg)	% of waste
1	ACADEMIC DEPARTMENT	Paper waste	1000	43.5
2		Plastic waste	25	1.1
3		Organic Waste	300	13.0
4		E-waste	1	0.0
5		Bio Medical Waste	25	1.1
6	ADMINISTRATIVE OFFICE	Paper waste	160	7.0
7		Plastic waste	25	1.1
8		Organic Waste	50	2.2
9		E-waste	2	0.1
10	CANTEENS	Paper waste	100	4.3
11		Plastic waste	10	0.4
12		Organic Waste	600	26.1
13		E-waste	2	0.1
TOTAL			**2300Kg /Year**	

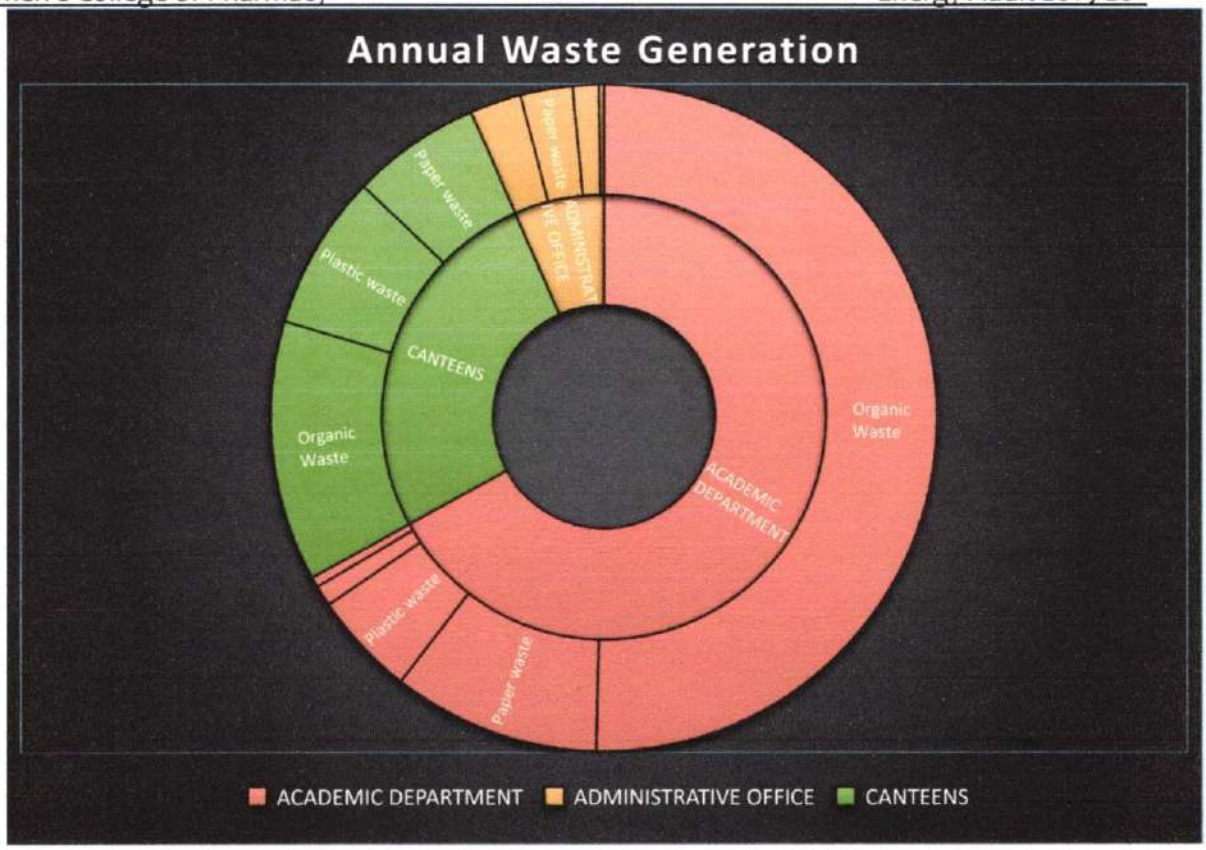


Figure.4 Annual Waste Generation In the RBVRR College of Pharmacy

- **Bio Medical waste:**

  Bio medical waste means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals, and including categories mentioned in Schedule I

  Category of Waste as **Table 3**

Table :3 Bio Medical waste category wise

Option	Waste Category	Treatment & Disposal
Category No-1	Human Anatomical Waste (human tissues, organs, body parts)	incineration/deep burial
Category No. 2	Animal Waste (animal tissues, organs, body parts carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals colleges, discharge from hospitals, animal houses)	incineration/deep burial
Category No. 3	Microbiology & Biotechnology Waste (wastes from laboratory cultures, stocks or specimens of micro- organisms live or attenuated vaccines, human and animal cell culture used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins, dishes and devices used for transfer of cultures)	local autoclaving/micro-waving/incineration
Category No. 4	Waste sharps (needles, syringes, scalpels, blades, glass, etc. that may cause puncture and cuts. This includes both used and unused sharps)	disinfection (chemical treatment/autoclavin g/microwaving and mutilation/shredding
Category No 5	Discarded Medicines and Cytotoxic drugs (wastes comprising of outdated, contaminated and discarded medicines)	incineration@/destructio n and drugs disposal in secured landfills
Category No 6	Soiled Waste (Items contaminated with blood, and body fluids including cotton, dressings, soiled plaster casts, lines, beddings, other material contaminated with blood)	Incineration/ autoclaving/microwaving
Category No. 7	Solid Waste (wastes generated from disposable items other than the waste sharps such as tubings, catheters, intravenous sets etc).	disinfection by chemical treatment/autoclaving/ microwaving and mutilation/ shredding
Category No. 8	Liquid Waste (waste generated from laboratory and washing, cleaning, house- keeping and disinfecting activities).	disinfection by chemical treatment and discharge into drains
Category No. 9	Incineration Ash (ash from incineration of any bio-medical waste)	disposal in municipal landfill
Category No. 10	Chemical Waste (chemicals used in production of biologicals, chemicals used in disinfection, as insecticides, etc.)	Chemical discharge into drains for liquids and secured landfill for solids

Rule 1998 schedule II

Color coding	Type of container	Waste categories
Yellow 	Plastic bags	Cat 1 human anatomical waste Cat 2 Animal Waste Cal 3 Microbiological Waste Cat 6 Solid Waste
Red 	Disinfected container plastic bags	Cat 3 Microbiological Cat. 6 Soiled Dressing
Blue/white 	Plastic bags, puncture proof containers	Cat. 4 Waste sharp Cat.7 Plastic disposable
Black 	Do	Cat. 5 Discarded medicine Cat. 9 Incineration ash Cat 10 Chemical Waste

Conditions in Transportation and Storage

• The waste may be temporarily stored at the storage area of the Institute, it may be sent in bulk to the site of final disposal once or twice a day depending upon the quantum of waste.

During transportation following points should be taken care of

• Ensure that waste bags/containers are properly sealed and labeled.

• Bags should not be filled completely, so that bags can be picked up by the neck again for further handling. Hand should not be put under the bag. At a time only one bag should be lifted.

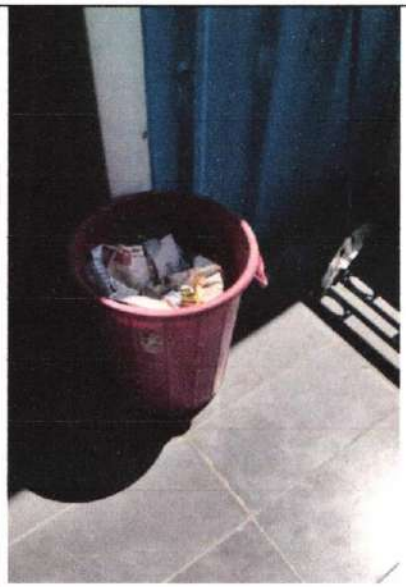
• Manual handling of waste bags should be minimized to reduce the risk of needle prick injury and infection.

• BMW should be kept only in a specified storage area.

• After removal of the bag, clean the container including the lid with an appropriate disinfectant.

• Waste bags should be transported in a covered wheeled containers or large bins in covered trolleys.

• No untreated bio -medical waste shall be kept stored beyond a period of 48 hours



Bio medical waste storage	In Class room Carridor

Figure.5 Dust Collection Bins from Different waste at Institute

E Waste Management

Waste Electrical and Electronic Equipment (WEEE) or E-waste is one of the fastest growing waste streams in the world. In developed countries, it equals 1% of total solid waste on an average. In developing countries, it ranges from 0.01% to 1% of the total municipal solid waste generation. In countries like China and India, though annual generation per capita is less than 1 kg, it is growing at an exponential pace.

Present Status: The College is having an MOU with M/s. Green Wave E-waste recycling Ltd, Nacharam to dispose the E Waste and the bio medical waste is dispose to M/s Sattva Global Services Pvt Ltd. Every year the agency will come and pick up the E waste and Bio medical waste dispose it in environmental friendly way.

Carbon Footprint

Carbon Footprint is the amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, optimization, or community. An acceptable definition for carbon foot print is: carbon footprints the total amount of greenhouse gases produced directly and indirectly for supporting human activities, usually expressed in equivalent tons of carbon dioxide (CO_2). The most common greenhouse gases (GHGs) in our environment are carbon dioxide, water vapour, methane nitrous oxide and ozone. The total carbon footprint college as calculated and represented as **Table.4** and International Standards of carbon footprint for various parameters represented as **Table. 5**

The RBVRR has total staff (Teaching + Non Teaching) of 70 members, the Co2 emission

Table:4 Carbon foot Print

Sl. No:	Source	Rate	Quantity x Days/year		Total Quantity	Annual Eqvt. CO_2
1	Electricity use (For India)	0.82 kg/kWh	--		3136KWh	2.6 T CO_2
2	Fossil fuel use	268 g CO2eq/kg	LPG	50	725kg /Year	0.19 T CO_2
3	Bus – students public transport	268 g CO2eq/L	550	250	3437 kg/year	921 T CO_2
4	Staff week public transport	268 g CO2eq/L	25	300	225 kg/Year	60.3 T CO_2
5	Non Teaching staff public transport	268 g CO2eq/L	45	300	270 kg/Year	72.3 T CO_2
6	Cars, Taxis all	230g CO2eq/L	2	300	15 kg/Year	4 CO_2
						1060.3T CO_2

The per capita carbon footprint for the RBVRR, is 0.106 kg (or 0.106 T) of CO_2 equivalent 1060.3 T /1000 persons].

According to Economic Survey, Govt. of India 2009 - 10, the per capita emission for an Indian was 1.2 ton CO_2 eq. per annum. In the same report, it was projected that this will go up to 2.0 – 2.5 T of CO2 by 2019-20 and to 3.0 – 3.5 T of CO_2 by 2030. For the year 2019-20, the RBVRR, the Carbon Footprint per capita at 0.106 T CO_2 is even less than one-Fourth of the national average. The campus is thus **a Green Campus**.

Carbon Footprint Balance

The remediation gap between the assessed footprint and available remediation is 1060.3–5.7 =1054.6 T CO_2eq for 2019-20. On closer examination, major contributors to it are:- Daily bus journey by around 600 day scholars (due to covid-19 more no of students attend the classes are online).

Table: 5 International standard values of Carbon foot Print for various parameters

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
For homes and businesses				
Propane	12.70/gallon	5.76/gallon	139.05	63.07
Butane	14.80/gallon	6.71/gallon	143.20	64.95
Butane/Propane Mix	13.70/gallon	6.21/gallon	141.12	64.01
Home Heating and Diesel Fuel (Distillate)	22.40/gallon	10.16/gallon	161.30	73.16
Kerosene	21.50/gallon	9.75/gallon	159.40	72.30
Coal (All types)	4,631.50/short ton	2,100.82/short ton	210.20	95.35
Natural Gas	117.10/thousand cubic feet	53.12/thousand cubic feet	117.00	53.07
Gasoline	19.60/gallon	8.89/gallon	157.20	71.30
Residual Heating Fuel (Businesses only)	26.00/gallon	11.79/gallon	173.70	78.79
Other transportation fuels				

Jet Fuel	21.10/gallon	9.57/gallon	156.30	70.90
Aviation Gas	18.40/gallon	8.35/gallon	152.60	69.20
Industrial fuels and others not listed above				
Flared natural gas	120.70/thousand cubic feet	54.75/thousand cubic feet	120.60	54.70
Petroleum coke	32.40/gallon	14.70/gallon	225.10	102.10
Other petroleum & miscellaneous	22.09/gallon	10.02/gallon	160.10	72.62
Nonfuel uses				
Asphalt and Road Oil	26.34/gallon	11.95/gallon	166.70	75.61
Lubricants	23.62/gallon	10.72/gallon	163.60	74.21
Petrochemical Feedstocks	24.74/gallon	11.22/gallon	156.60	71.03

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
Special Naphthas (solvents)	20.05/gallon	9.10/gallon	160.50	72.80
Waxes	21.11/gallon	9.57/gallon	160.10	72.62
Coal by type				
Anthracite	5,685.00/short ton	2,578.68/short ton	228.60	103.70
Bituminous	4,931.30/short ton	2,236.80/short ton	205.70	93.30
Subbituminous	3,715.90/short ton	1,685.51/short ton	214.30	97.20
Lignite	2,791.60/short ton	1,266.25/short ton	215.40	97.70
Coke	6,239.68/short ton	2,830.27/short ton	251.60	114.12
Other fuels				
Geothermal (average all generation)	NA	NA	16.99	7.71
Municipal Solid Waste	5,771.00/short ton	2,617.68/short ton	91.90	41.69
Tire-derived fuel	6,160.00/short ton	2,794.13/short ton	189.54	85.97
Waste oil	924.0/barrel	419.12/barrel	210.00	95.25

Source: U.S. Energy Information Administration estimates.
Note: To convert to carbon equivalents multiply by 12/44. Coefficients may vary slightly with estimation method and across time.

Summary

Goals of the College

In the effort to Enhancing an environmentally literate campus where students can learn the idea of protection of environment and stay healthy. The college Management is proactively working on the several facets of "Green Campus" including Plantation of more trees, Water Conservation, Efficient water usage by eliminating leaking water taps, Installation of STP, Water Harvesting Pits and interconnecting them to Recharge the Ground Water table. Effective Waste Management which includes Food Waste, Plastic, Paper, carbon footprints etc.

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

KIWIS ECO LABORATORIES PRIVATE LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NO.19, ALEAP INDUSTRIAL ESTATE,SY NO. 342, GAJULARAMARAM VILLAGE, QUTBULLAPUR MANDAL & MUNICIPALITY, HYDERABAD, RANGA REDDY, TELANGANA, INDIA

in the field of

TESTING

Certificate Number: TC-8699

Issue Date: 24/10/2019 **Valid Until:** 23/10/2021*

*The validity is extended for one year up to 23.10.2022

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : KIWIS ECO LABORATORIES PRIVATE LIMITED

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

सत्यमेव जयते

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT AND FORESTS

No.Q.15018/27/2013-CPW

Dated: 10 -9-2014

To

M/s Kiwis Eco Laboratories Pvt. Ltd.
Plot No. 19, Sy. No. 342,
ALEAP Industrial Estate,
Gajularamaram Village,
Quthbullpur,
Rangareddy District
Andhra Pradesh

Sub: Recognition of Environmental Laboratory under the Environment (Protection) Act, 1986 of M/s Kiwis Eco Laboratories Pvt. Ltd., Rangareddy District, Andhra Pradesh.

Please refer to your application seeking recognition of your environmental laboratory under the Environment (Protection) Act, 1986. As approved by the competent authority, it has been decided to accord recognition to your laboratory under Environment (Protection) Act 1986. The terms & conditions as given in the Annexure – III, IV & V have already been agreed by you.

2. It is desired that the period of recognition of the laboratory under E(P)A 1986, as Gazette notified may also be mentioned wherever "MoEF recognized Lab" is written. A copy of the Gazette notification is enclosed.

3. The laboratory shall compulsorily participate in the Analytical Quality Control (AQC) exercise conducted by the Central Pollution Control Board, atleast once a year, to ascertain the capability of the laboratory and analysts from time to time.

4. The laboratory has to submit quarterly reports to the Ministry in the enclosed format regarding its activities and the number of samples analysed during the reporting period.

5. It may also be noted that periodic surveillance of recognized environmental laboratory under the Environment (Protection) Act, 1986 will be undertaken by the Central Govt. to assess its proper functioning, systematic operation and reliability of data generated at the laboratory.

6. It is also mandatory for the Lab to renew ISO 9001 and OHSAS 18001 from time to time.

(Dr. M. Raina)
Director

Encl: as above

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies a Quality Management System in accordance with

ISO 9001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

Q-170201 Certificate Number	03 February 2019 Date of Last Issue
03 February 2017 Date of Initial Registration	02 February 2020 Date of Expiry

Global MCS

MSCB-122

Certificate is Valid for 1 Year (03.02.2019 to 02.02.2020) From the Date of Last Issue. Upon Successful Completion of Re Certification Audit New Certificate With an Extended Validity will be issued.

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
www.mcsglobal.in, E.mail:info@mcsglobal.in

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies an Environmental Management System in accordance with

ISO 14001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

180206-E	08 February 2019
Certificate Number	Date of Last Issue
08 February 2018	07 February 2020
Date of Initial Registration	Date of Expiry

Global MCS

QAC

Certificate is Valid for 2 Years (08.02.2019 to 07.02.2021) From the Date of Last Issue. Upon Successful Completion of Surveillance Audit New Certificate With an Extended Validity will be issued.

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
www.mcsglobal.in, E.mail:info@mcsglobal.in

Environmental Audit of
RBVRR WOMEN'S COLLEGE OF PHARMACY

3-4-343, Barkathpura, Hyderabad - 500027

2018-2019

Prepared by

M/s KIWIS ECO LABORATORIES PVT LTD.,
(Recognized by MoEF, GOI, New Delhi
Certified by ISO 9001:2015, ISO 14001:2015 & OHSAS 45001:2018)
Plot No. 19, ALEAP Industrial Estate, Sy.No.342
Near Pragathi Nagar, Quthbullapur Mandal
Rangareddy Dist, Hyderabad, Telangana – 500090
Tel: +91- 9966661485

ACKNOWLEDGEMENT

RBVRR Women's College Of Pharmacy has been working at the forefront since its inception to bring about social change for national and international development by conducting workshops and other extension activities. RBVRR Women's College Of Pharmacy is aware of the needs of the green audit for the maintenance and future development of the campus. In its pursuit of excellence, RBVRR Women's College Of Pharmacy has recognized itself to improve the environmental quality and maintain its unique pristine ecosystem for the future generation of students and all the inhabitants of the campus. Although we have been taking a number of steps to conserve and protect our environment. This report of 2018-19 is the first formal effort to document the results of our investigation and interpret the information of all the required parameters of the Green audit process. RBVRR Women's College Of Pharmacy aims to take up the policy and efforts at every level to avert ecological catastrophe on a global scale by supporting the climate neutrality goals committed by the Government of India. As a part of this, efforts will take to continuously monitor the sustainability of the academic process by constituting the Green Audit Committee consisting of faculty members working in this arena to collect basic data of the environmental parameters within the campus so that the environmental issues are resolved within the campus. The Green Audit Committee has tried to identify the current / emerging environmental issues so as to monitor the environmental management practices adopted in the college along with subsequent impact of these on the campus environment.

The Green audit conducted is an external audit that aims towards creating awareness healthy and sustainable environment. Though nascent, the initiative will taken up to foster the concept of environmental sustainability. Hopefully, all stakeholders will pay attention to this report, allowing us to develop a bottom-up approach to addressing future challenges.

Principal

Date

RBVRR WOMENS COLLEGE OF PHARMACY HYDERABAD (TS) INDIA RBVRR CC No 1/06

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the first Environmental Audit Report 2018-19 of **RBVRR Women's College Of Pharmacy, Bharkatpura** is an original External audit work conducted by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi)** dated **27-02-2019** on behalf of the terms of agreement with the College. The Green Audit Committee to monitor the environmental management practices adopted in the **RBVRR Women's College Of Pharmacy,** which is in line with the terms of the International Standards of External Auditing.

After going through the report, it is obvious that adequate and appropriate audit procedures were followed for Environmental Quality Audit, Water Audit, Waste Management Audit, and Energy Audit and Carbon Footprint. The gathered evidences support the conclusions reached and contained in this report.

The suggestions and recommendations prescribed and the conclusions derived are quite genuine within the achievable limits, and I understand that RBVRR Women's College Of Pharmacy is competent to fulfil those to meet the Sustainable Development Goals.

I recommend and firmly believe that this report meets the requirement prescribed for development of a Green Campus.

Principal

(Dr.M. Sumakanth)
RBVRR Women's College Of Pharmacy

KIWIS

DECLARATION

Environmental Audit Report for **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** during **06th and 07th February 2019** and following Observations were presented below. The Management is proactive towards Green Initiative by Harvesting Solar Energy, Planting Trees, Better water conservation, Waste Management, Carbon Footprint, A continual improvement in Green Initiative is appreciated. We appreciate the efforts of the **M/s. RBVRR Women's College Of Pharmacy Barkathpura, Hyderabad–500027, Telangana** in this regard. This Environmental Audit Report has been prepared by **M/s. Kiwis Eco Laboratory Pvt. Ltd., Hyderabad (Recognized by NABL& MOEF, GOI, New Delhi, ISO 9001:2015,14001:2015)** dated **25-02-2019** is for the use of the Customer with due consideration and skill as per our general terms and conditions of business and the terms of agreement with the customer.

Authorized Signatory

KIWIS ECO LABORATORIES PRIVATE LIMITED ★ Hyderabad

(Ch. Rajani Kumari)
Managing Director

KIWIS ECO LABORATORIES PRIVATE LIMITED
(NABL, MoEF and ISO Certified Laboratory)
Plot No. 19, ALEAP Industrial Estate, SY. No's 342, Gajularamaram Village, Quthbullpur Mandal and Municipality, Hyderabad, Ranga Reddy Dist 500 090. Email: kiwislabhyd@gmail.com I Website: www.ssmntgroup.com/kiwis-eco-labs. 040 - 23816333.
CIN NO : U85110TG2013PTC087604

GREEN AUDIT ASSESSMENT TEAM

INTERNAL: RBVRR Women's College Of Pharmacy,

Dr. M. Sumakanth, Principal	Chairman	
Dr. Tripura Sundari. IQAC	Member	
Dr. A. Krishna Sailaja	Member	
Ms. Zeenath Banu	Member	
Dr. Sudha Parimala	Member	
Dr. G. Uma Rani	Member	
Dr. J. Archana	Member	

EXTERNAL: KIWIS ECO LABORATORIES PRIVATE LIMITED

Dr. Ch. Rajani Kumari Managing Director,	Team Member	
Dr. D. Sivaramakrishna HOD-LAB	Team Member	
Dr. D. Sreekanth Quality Manager	Team Member	
Dr. Nalini Vijayalakshmi Manager-Laboratory	Team Member	

Green Audit scope of work

The Green Audit is carried out in view of assessing all necessary environmental components and their impact on the campus physically by visiting the premises with reference to following.

- Identifying the Green Area in total area of the campus and increase the process of planting tress sothat Heat /Global warming is mitigated.
- A continual drive is created. Water Conservation/ Efficient Usage / Eliminate the water misuse or wastage , Rain Water Harvesting etc
- Waste Management which includes Bio Waste/ Non Bio Waste/ E Waste etc
- Carbon Foot Print – Transportation of Teaching Staff / Non Teaching Staff/ Students

ABOUT THE COLLEGE

RBVRR Women's College of Pharmacy was established in the year 2006 under "Hyderabad Mahila Vidya Sangham" to provide education to women students. The college was self-financed, approved by **PCI, AICTE** and is affiliated to **Osmania University,** accredited by **NBA** for B.Pharmacy Course with an objective to nurture the pharmacy education and to support the healthcare system through skilled Women Pharmacy graduates.

RBVRR Women's College of Pharmacy Institute is one of the leading institutions which have taken a leap forward in the quality professional education. This institution has emerged as a unique centre of academic excellence of higher learning in the field of pharmacy. All the efforts are focused to provide a congenial environment to educate and train girl students into competent professionals and mould them into confident women to succeed in their lives both personally and professionally which helps in fulfillment of vision of the college. The college is footing with achievements like **"Recognition as Research Centre"** by Osmania University, has Certified **"Institute Innovation Council"**

jointly by **AICTE** and **MHRD**.

From the past 14 years of standing period, the institute has created its own identity by adopting innovative practices The phenomenal academic achievements of our students have always added glory to the college.

The college has a tradition of excelling in Sports and extracurricular activities, in which our students continue to bring us laurels. The success in all spheres is the combined product of all our little efforts- the contribution of highly qualified, dynamic and multi-talented faculty, non-teaching staff and our students. Our teachers aim at providing high quality educational experience to the students in the form of debates, group discussions, workshops, symposia, seminars, Environmental activities, social activities (NSS) and cultural competitions. Eminent personalities are invited from all walks of life to address our students and expose them to new ideas and thoughts for our better society.

RBVRR Women's College of Pharmacy is centrally located in the city at Plot No 3-4-343, Barkatpura, Hyderabad District, Hyderabad -50002, and Telangana State. The site is located at the intersection of 17°23'36.64" (N) latitude and 78°29'40.92" (E) longitude. The site location of the buildings and facilities in RBVRR and some photographs given in (Fig 1). The total area of the Institute is 0.8 acres in which 0.2 acres of area is covered with green belt and 0.56 acres is covered with buildings and roads and the layout of the same is presented as above.

Figure.1 Site Location of the College

ENVIRONMENTAL AUDIT

Water Conservation , Harvesting and Management

Water is an important natural resource and is available naturally depending on the climate and topographic features. All organisms are dependent on water for their living. Although water is available in nature, portable water is not available freely for human consumption. There have been many practices to conserve water so that it can be readily available for human use. It has been noticed that due to unsustainable use of water resources there is contamination and depletion of the ground water and also water which is available in various reservoirs like lakes, ponds, streams etc which is becoming more alarming. Therefore it becomes increasingly important to conserve protect and manage the water resources availability and usage so that it is sustainably used within the college campus. Water auditing is conducted to evaluate the quality, availability and usage of water; the facilities available and methods adopted to revitalize and use it so that the resources are intact without leading to deterioration.

- **Rainwater harvest**

  Rainwater harvesting is a technique used for collecting, storing and using rainwater for domestic, agricultural or any other uses. The rainwater is collected from various hard surfaces such as rooftops, runoff from catchments, from streams and water conservation through watershed management or other manmade aboveground hard surfaces. It is an age-old system of collection of rainwater for future use. The harvested water can be stored on surface through ponds and tanks or can be recharged to groundwater.

- **Protection of Water from Pollution**

  If the total fresh water available on the earth remains pollution free, it is sufficient to meet the drinking water needs of the existing population of the world, unfortunately a large portion of fresh water does not remain fit for use of the living world due to increasing economic activities, urbanization etc.

- **Rational Use of Groundwater:**

  Groundwater meets 25 per cent of total supply of water in the world, remaining 75 per cent supply is met by surface water sources of rivers, lakes etc. Demand for groundwater

goes on increasing in proportion to its available quantity due to which quantity of groundwater goes on decreasing. After exploitation of groundwater, its re-infiltration takes a very long time to complete. Hence, Groundwater exploitation should be only in proportion to its recharging capacity.

- **Increasing Forest Cover:**

  According to hydrological movements, water is received through rainfall every year different quantities on the surface of the earth. This water flows on the surface and reaches the seas. Some part of rainwater is stored in stable water reservoirs (lakes and tanks), whereas some quantity of water infiltrates into the land and takes the form of groundwater.

Water Uses and Management

A total of 20000 L of water is pumped every day for the College dwellers as well to meet the daily demands of the academic and administrative Departments (Table 1). The daily use of the water during 2018-19 was approx. 26500 L per day shown in Figure 2&3.

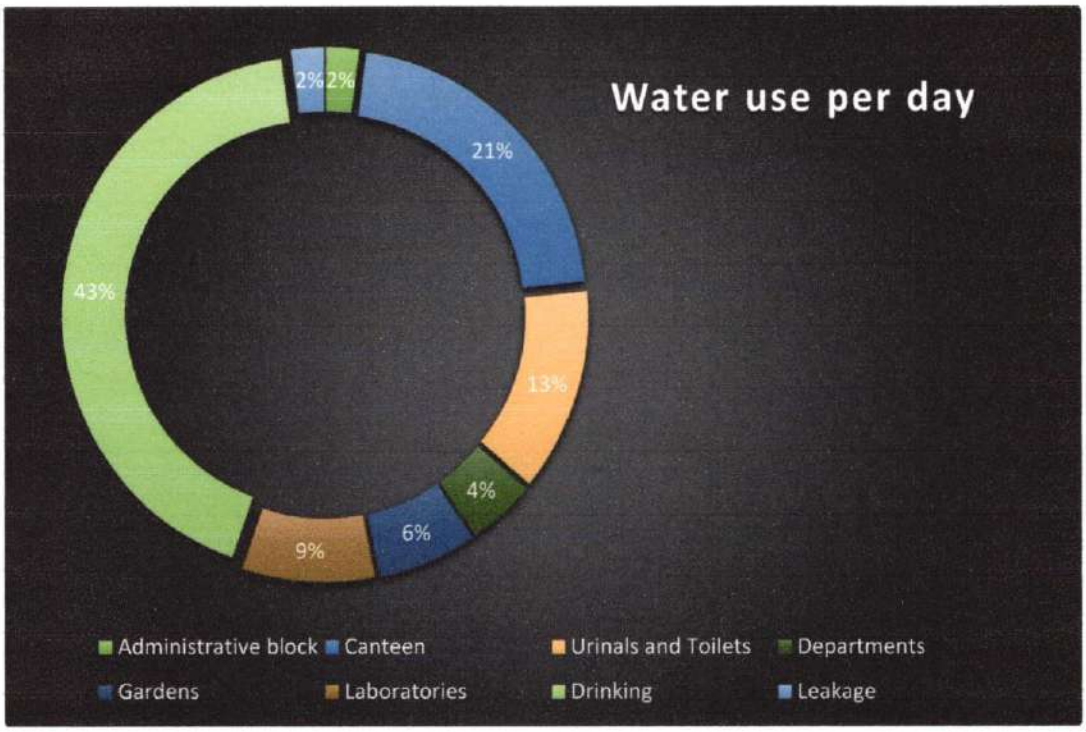


Figure. 2: Daily water Consumption and usage in RBVRRR

Table:1 Source and uses of water in the college campus Source of water

Source and uses of water in the College campus Source of water		
Sl. No	**Parameters**	**Information**
1	No of Wells	1
2	No of the motors used	2
3	Horsepower- motor	3 HP x 2
4	Depth of well- Total	600 m x 1
5	Capacity of Tank(Total)	250000 L
Quantity of water used in different sections of the Campus		
	Sections	**Water use (L/day)**
6	Administrative block	1000
7	Canteen	3500
8	Urinals and Toilets	8000
9	Departments	1500
10	Gardens	1000
11	Laboratories	5000
12	Drinking	6000
13	Leakage	500
14	Main purposes of water use in the campus	Drinking and cooking purpose Toilets and wash areas Laboratory use Gardening Construction
15	Nos. of water tap	320 nos
16	Water cooler and drinking water filtration facility	5 nos
17	Nos. of urinal and toilets	20
18	Nos. of waterless /bio-toilets	Nil
19	Any water wastage/why?	Yes, leakage from pipes and tanks, leaving of taps open at times
20	Water usage for gardening	1000 Ltr
21	Wastewater sources	leakage from pipes and tanks, Overflowing of tanks from residential qtrs., Toilets, laboratories, hostels
22	Use of wastewater	Nil
23	The fate of wastewater from labs	Discharged into soak pit in case of contamination and natural discharge
24	Any wastewater treatment for lab water	No
25	Whether any green chemistry method practiced in Labs	No
26	Rainwater harvesting	Rain water harvesting is maintain by the water body within the premises which also helps in maintaining the ground water level and there is no reusable rain water which

The stake holders of the BVRRR specially propose to use of grey water which is obtained from the various domestic activities and they re-use the same water for gardening and vegetable fields etc. Also water recycling is done as per the direction of the competent authority in broader scale as and when required. During the rainy season water from the roof tops of the buildings directly fall into the lake through rain water outlets, RCC drains and recharges the ground water table throughout the year

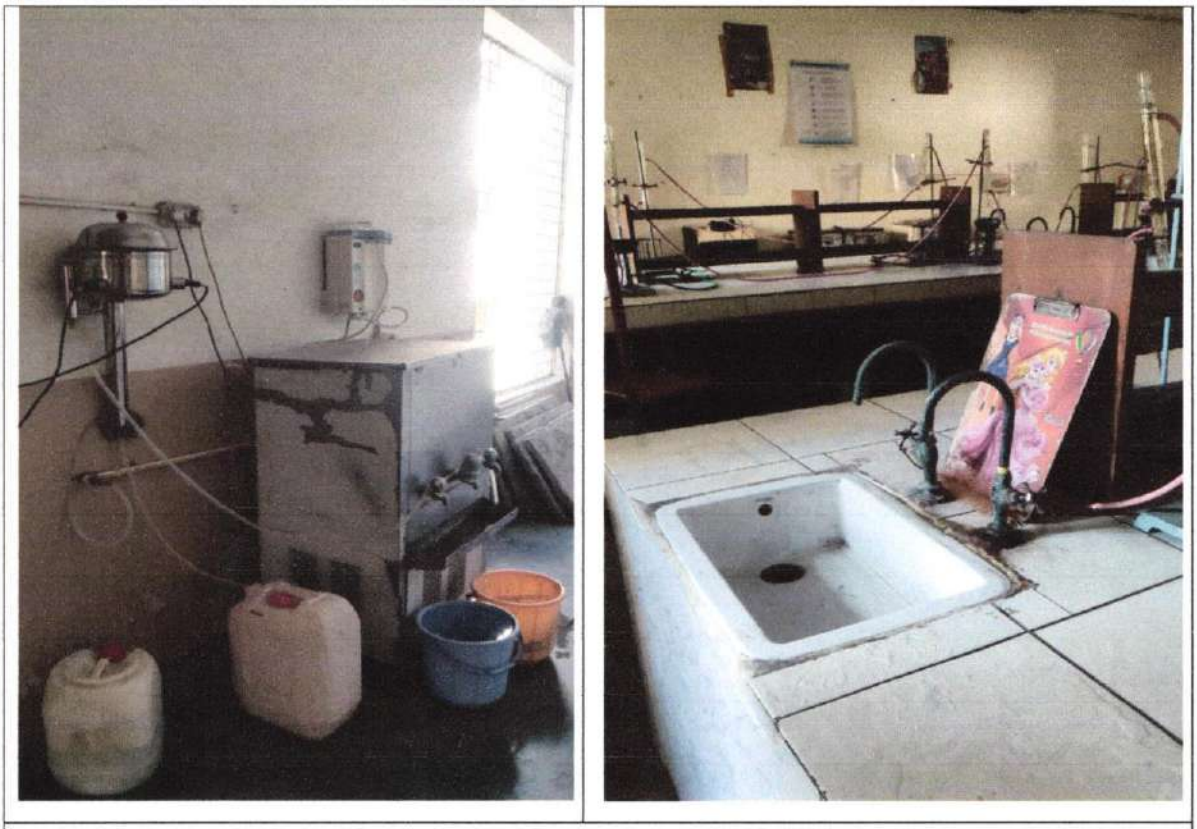


Figure.3 Drinking water in Each Floor

Present Status: Constructed Water harvesting Pits 2 No's across the campus and in the process of constructing water drains and interconnecting the same to water harvesting pits to recharge the ground water.

Waste Management:

The campus produces and disposes solid waste through its day-to-day operations. There can be difference between individuals, between certain day's activities, and

between holidays and work days, as well as between seasons. An average figure per person per day is however worked out by observing their activities for a week by student volunteers at the disposal area through sample survey approach, quantifying the measured wastes and then averaging.

In India, through certain research studies on waste generation in academic campuses from time to time, environmentalists have arrived at some empirical coefficients for assessing GHG emissions from solid wastes. These will be use in evaluating the green auditing data on wastes in RBVRR institute. The wastes generated in the college is systematically collected and disposed off as scientifically as possible. Wet wastes are separated at source itself. For disposal, only competent agencies are approached and materials handed over. As seen in the table, most items are intended to be recycled, reused or processed. Adequate numbers of garbage bins are provided in every room and in every floor in every hostel as well as in the academic area and guest house, and the students are using them as and when required. The practice of burning the paper waste, which is the usual practice needs to be discontinued and better options tried. Using waste paper for creating decorative materials is one option. The present waste generation is represented as **Table.2 and Figure.4-5.**

The following waste is categorizes as:

- **Non Bio Waste** – Plastic Bottles / Waste Paper / Cardboards/ Batteries etc

Non- biodegradable waste, which cannot be decomposed by biological processes is called non- biodegradable waste.

These are of two types –

- **Recyclable**: waste having economic values but destined for disposal can be recovered and reused along with their energy value. e g. Plastic, paper, old cloth etc.
- **Non-recyclable**: waste which do not have economic value of recovery. e.g. Carbon paper, thermo coal, tetra packs etc.

Disposal of non-biodegradable waste is a major concern, not just plastic, a variety of waste being accumulated. There are a few ways to help non-biodegradable waste management. The impact of non biodegradable waste on the environment and also

focus on its safe disposal for sustainable environment.

Table 2. Annual Waste Generation category wise

S. No.	Stake holders	Types of solid waste	Average waste generated Year (Kg)	% of waste
1	**ACADEMIC DEPARTMENT**	Paper waste	1200	44.8
2		Plastic waste	25	0.9
3		Organic Waste	500	18.7
4		E-waste	1	0.0
5	**ADMINISTRATIVE OFFICE**	Paper waste	200	7.5
6		Plastic waste	15	0.6
7		Organic Waste	80	3.0
8		E-waste	2	0.1
9	**CANTEENS**	Paper waste	150	5.6
10		Plastic waste	5	0.2
11		Organic Waste	500	18.7
12		E-waste	2	0.1
TOTAL			**2680 Kg /Year**	

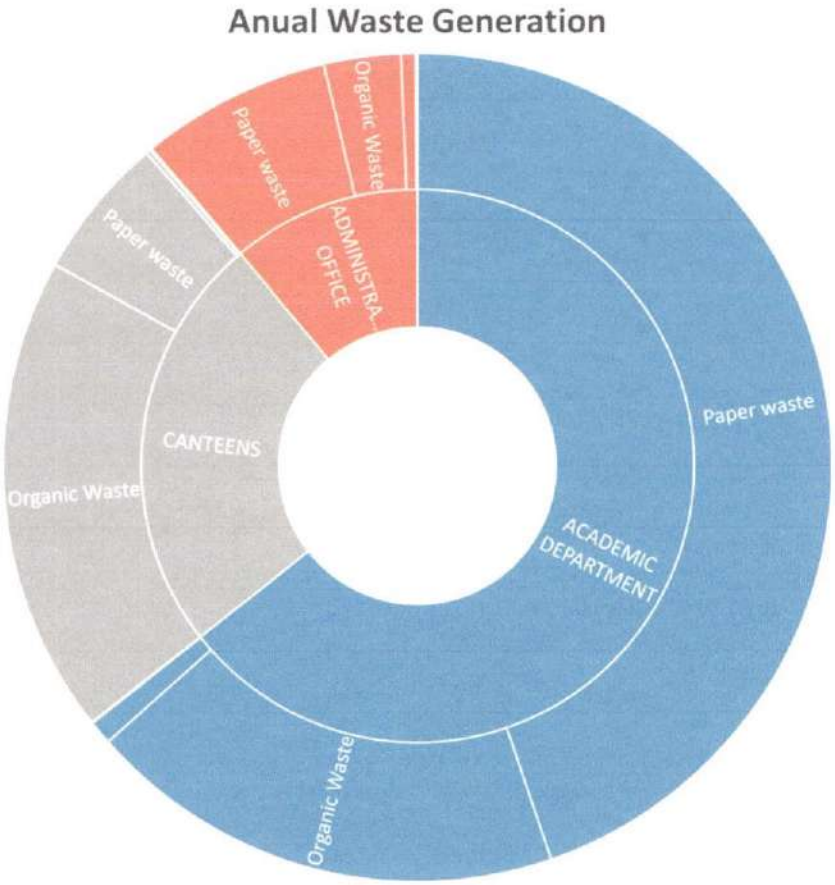


Figure.4 Annual Waste Generation In the RBVRR College of Pharmacy

- **Bio Medical waste:**

  Bio medical waste means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals, and including categories mentioned in Schedule I. Category of Waste as **Table 3. Bio Medical waste is not generated this academic year. In future, the medical lab has established.**

Table :3 Bio Medical waste category wise

Option	Waste Category	Treatment & Disposal
Category No-1	Human Anatomical Waste (human tissues, organs, body parts)	incineration/deep burial
Category No. 2	Animal Waste (animal tissues, organs, body parts carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals colleges, discharge from hospitals, animal houses)	incineration/deep burial
Category No. 3	Microbiology & Biotechnology Waste (wastes from laboratory cultures, stocks or specimens of micro- organisms live or attenuated vaccines, human and animal cell culture used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins, dishes and devices used for transfer of cultures)	local autoclaving/micro-waving/incineration
Category No. 4	Waste sharps (needles, syringes, scalpels, blades, glass, etc. that may cause puncture and cuts. This includes both used and unused sharps)	disinfection (chemical treatment/autoclaving/microwaving and mutilation/shredding
Category No 5	Discarded Medicines and Cytotoxic drugs (wastes comprising of outdated, contaminated and discarded medicines)	incineration@/destruction and drugs disposal in secured landfills
Category No 6	Soiled Waste (Items contaminated with blood, and body fluids including cotton, dressings, soiled plaster casts, lines, beddings, other material contaminated with blood)	Incineration/ autoclaving/microwaving
Category No. 7	Solid Waste (wastes generated from disposable items other than the waste sharps such as tubings, catheters, intravenous sets etc).	disinfection by chemical treatment/autoclaving/ microwaving and mutilation/ shredding
Category No. 8	Liquid Waste (waste generated from laboratory and washing, cleaning, house- keeping and disinfecting activities).	disinfection by chemical treatment and discharge into drains
Category No. 9	Incineration Ash (ash from incineration of any bio-medical waste)	disposal in municipal landfill
Category No. 10	Chemical Waste (chemicals used in production of biologicals, chemicals used in disinfection, as insecticides, etc.)	Chemical discharge into drains for liquids and secured landfill for solids

Bio medical waste storage	In Class room Carridor

Figure.5 Dust Collection Bins from Different waste at Institute

E Waste Management

Waste Electrical and Electronic Equipment (WEEE) or E-waste is one of the fastest growing waste streams in the world. In developed countries, it equals 1% of total solid waste on an average. In developing countries, it ranges from 0.01% to 1% of the total municipal solid waste generation. In countries like China and India, though annual generation per capita is less than 1 kg, it is growing at an exponential pace.

Present Status: The College is having an MOU with M/s. Green Wave E-waste recycling Ltd, Nacharam to dispose the E Waste is dispose to M/s Sattva Global Services Pvt Ltd. Every year the agency will come and pick up the E waste dispose it in environmental friendly way.

Carbon Footprint

Carbon Footprint is the amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, optimization, or community. An acceptable definition for carbon foot print is: carbon footprints the total amount of greenhouse gases produced directly and indirectly for supporting human activities, usually expressed in equivalent tons of carbon dioxide (CO_2). The most common greenhouse gases (GHGs) in our environment are carbon dioxide, water vapour, methane nitrous oxide and ozone. The total carbon footprint college as calculated and represented as **Table.4** and International Standards of carbon footprint for various parameters represented as **Table. 5**

The RBVRR has total staff (Teaching + Non Teaching) of 70 members, the Co2 emission

Table:4 Carbon foot Print

Sl. No:	Source	Rate	Quantity x Days/year		Total Quantity	Annual Eqvt. CO_2
1	Electricity use (For India)	0.82 kg/kWh	–		3030KWh	2.4 T CO_2
2	Fossil fuel use	268 g CO2eq/kg	LPG	40	580 kg /Year	0.15 T CO_2
3	Bus – students public transport	268 g CO2eq/L	580	250	3325 kg/year	971 T CO_2
4	Staff week public transport	268 g CO2eq/L	25	300	225 kg/Year	60.3 T CO_2
5	Non Teaching staff public transport	268 g CO2eq/L	45	300	270 kg/Year	72.3 T CO_2
6	Cars, Taxis all	230g CO2eq/L	2	300	15 kg/Year	4 CO_2
						1110.1T CO_2

The per capita carbon footprint for the RBVRR, is 0.111 kg (or 0.111 T) of CO_2 equivalent 1110.1 T /1000 persons].

According to Economic Survey, Govt. of India 2009 - 10, the per capita emission for an Indian was 1.2 ton CO_2 eq. per annum. In the same report, it was projected that this will go up to 2.0 – 2.5 T of CO2 by 2018-19 and to 3.0 – 3.5 T of CO_2 by 2030. For the year 2018-19, the RBVRR, the Carbon Footprint per capita at 0.111 T CO_2 is even less than one-Fourth of the national average. The campus is thus **a Green Campus**.

Table:5 International standard values of Carbon foot Print for various parameters

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
For homes and businesses				
Propane	12.70/gallon	5.76/gallon	139.05	63.07
Butane	14.80/gallon	6.71/gallon	143.20	64.95
Butane/Propane Mix	13.70/gallon	6.21/gallon	141.12	64.01
Home Heating and Diesel Fuel (Distillate)	22.40/gallon	10.16/gallon	161.30	73.16
Kerosene	21.50/gallon	9.75/gallon	159.40	72.30
Coal (All types)	4,631.50/short ton	2,100.82/short ton	210.20	95.35
Natural Gas	117.10/thousand cubic feet	53.12/thousand cubic feet	117.00	53.07
Gasoline	19.60/gallon	8.89/gallon	157.20	71.30
Residual Heating Fuel (Businesses only)	26.00/gallon	11.79/gallon	173.70	78.79
Other transportation fuels				
Jet Fuel	21.10/gallon	9.57/gallon	156.30	70.90
Aviation Gas	18.40/gallon	8.35/gallon	152.60	69.20
Industrial fuels and others not listed above				
Flared natural gas	120.70/thousand cubic feet	54.75/thousand cubic feet	120.60	54.70

Carbon Dioxide (CO_2) Factors:	Pounds CO_2 Per Unit of Volume or Mass	Kilograms CO_2 Volume or Mass	Pounds CO_2 Million Btu	Kilograms CO_2 Million Btu
Special Naphthas (solvents)	20.05/gallon	9.10/gallon	160.50	72.80
Waxes	21.11/gallon	9.57/gallon	160.10	72.62
Coal by type				
Anthracite	5,685.00/short ton	2,578.68/short ton	228.60	103.70
Bituminous	4,931.30/short ton	2,236.80/short ton	205.70	93.30
Subbituminous	3,715.90/short ton	1,685.51/short ton	214.30	97.20
Lignite	2,791.60/short ton	1,266.25/short ton	215.40	97.70
Coke	6,239.68/short ton	2,830.27/short ton	251.60	114.12
Other fuels				
Geothermal (average all generation)	NA	NA	16.99	7.71
Municipal Solid Waste	5,771.00/short ton	2,617.68/short ton	91.90	41.69
Tire-derived fuel	6,160.00/short ton	2,794.13/short ton	189.54	85.97
Waste oil	924.0/barrel	419.12/barrel	210.00	95.25

Source: U.S. Energy Information Administration estimates.
Note: To convert to carbon equivalents multiply by 12/44. Coefficients may vary slightly with estimation method and across time.

Summary

Goals of the College

In the effort to Enhancing an environmentally literate campus where students can learn the idea of protection of environment and stay healthy. The college Management is proactively working on the several facets of "Green Campus" including Plantation of more trees, Water Conservation, Efficient water usage by eliminating leaking water taps, Installation of STP, Water Harvesting Pits and interconnecting them to Recharge the Ground Water table. Effective Waste Management which includes Food Waste, Plastic, Paper, carbon footprints etc.

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

KIWIS ECO LABORATORIES PRIVATE LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

PLOT NO.19, ALEAP INDUSTRIAL ESTATE,SY NO. 342, GAJULARAMARAM VILLAGE, QUTBULLAPUR MANDAL & MUNICIPALITY, HYDERABAD, RANGA REDDY, TELANGANA, INDIA

in the field of

TESTING

Certificate Number: TC-8699

Issue Date: 24/10/2019 **Valid Until:** 23/10/2021*

*The validity is extended for one year up to 23.10.2022

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : KIWIS ECO LABORATORIES PRIVATE LIMITED

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

सत्यमेव जयते

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT AND FORESTS

No.Q.15018/27/2013-CPW

Dated: 10 -9-2014

To

M/s Kiwis Eco Laboratories Pvt. Ltd.
Plot No. 19, Sy. No. 342,
ALEAP Industrial Estate,
Gajularamaram Village,
Quthbullpur,
Rangareddy District
Andhra Pradesh

Sub: Recognition of Environmental Laboratory under the Environment (Protection) Act, 1986 of M/s Kiwis Eco Laboratories Pvt. Ltd., Rangareddy District, Andhra Pradesh.

Please refer to your application seeking recognition of your environmental laboratory under the Environment (Protection) Act, 1986. As approved by the competent authority, it has been decided to accord recognition to your laboratory under Environment (Protection) Act 1986. The terms & conditions as given in the Annexure – III, IV & V have already been agreed by you.

2. It is desired that the period of recognition of the laboratory under E(P)A 1986, as Gazette notified may also be mentioned wherever "MoEF recognized Lab" is written. A copy of the Gazette notification is enclosed.

3. The laboratory shall compulsorily participate in the Analytical Quality Control (AQC) exercise conducted by the Central Pollution Control Board, atleast once a year, to ascertain the capability of the laboratory and analysts from time to time.

4. The laboratory has to submit quarterly reports to the Ministry in the enclosed format regarding its activities and the number of samples analysed during the reporting period.

5. It may also be noted that periodic surveillance of recognized environmental laboratory under the Environment (Protection) Act, 1986 will be undertaken by the Central Govt. to assess its proper functioning, systematic operation and reliability of data generated at the laboratory.

6. It is also mandatory for the Lab to renew ISO 9001 and OHSAS 18001 from time to time.

(Dr. M. Raina)
Director

Encl: as above

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies an Environmental Management System in accordance with

ISO 14001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

180206-E	08 February 2019
Certificate Number	Date of Last Issue
08 February 2018	07 February 2020
Date of Initial Registration	Date of Expiry

Global MCS

QAC

Certificate is Valid for 2 Years (08.02.2019 to 07.02.2021) From the Date of Last Issue. Upon Successful Completion of Surveillance Audit New Certificate With an Extended Validity will be issued.

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
www.mcsglobal.in, E.mail:info@mcsglobal.in

Certificate of Registration

GMCSPL hereby certify that the organization

KIWIS ECO LABORATORIES PRIVATE LIMITED

Sy.No. S-342, Plot No.19, Gajularamaram Village,
Qutubullapur (M), Ranga Reddy District – 500 043,
Telangana State, India.

Has established and applies a Quality Management System in accordance with

ISO 9001:2015

For the scope of activities :

Environmental and other Relevant Laboratory Services including Microbiology

Q-170201	03 February 2019
Certificate Number	Date of Last Issue
03 February 2017	02 February 2020
Date of Initial Registration	Date of Expiry

Global MCS

MSCB-122

MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT IAF

Certificate is Valid for 1 Year (03.02.2019 to 02.02.2020) From the Date of Last Issue. Upon Successful Completion of Re Certification Audit New Certificate With an Extended Validity will be issued.

Signed on behalf of GMCSPL

Global Management Certification Services Pvt.Ltd.
#402, Plot No.410, Matrusri Nagar, Miyapur, Serilingampally, Hyderabad – 500 049, India.
www.mcsglobal.in, E.mail:info@mcsglobal.in