



**PARVATHANENI BRAHMAYYA
SIDDHARTHA COLLEGE OF ARTS & SCIENCE**

Autonomous

Siddhartha Nagar, Vijayawada-520010

Re-accredited at 'A+' by the NAAC

7.1.3 Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 500 words)

1. Solid waste management
2. Liquid waste management
3. Biomedical waste management
4. e-Waste management
5. Waste recycling system
6. Hazardous chemicals and radioactive waste management

Response:

Parvathaneni Brahmayya Siddhartha College of Arts & Science, Vijayawada is dedicated to act to establish various measures to manage the waste generated on the campus, as means ensuring the environment sustainability. The college is able to manage all types of mentioned below, except Biomedical waste which is not relevant to the college.

Table: Showing the waste management methods existing in the college

Solid waste management	Liquid waste management	Biomedical waste management	e-Waste management	Waste recycling system	Hazardous chemicals and radioactive waste management
Yes	Yes	No (Such waste is not generated in the campus)	Yes	Yes	Yes

Point 1: Solid waste management

Response

The college is maintaining the following types of solid waste recycling methods.

The College is dedicated to effective solid waste management, implementing comprehensive strategies to handle both biodegradable and non-biodegradable wastes. Our robust waste management system incorporates various composting techniques, including vermicomposting, NADEP composting, INDORE composting, pipe composting etc., reflecting our commitment to sustainability and environmental stewardship.

Key Components of Our Solid Waste Management System:

- **Vermicomposting:** Earthworms are used to decompose organic waste, transforming it into nutrient-rich manure. This process not only reduces waste but also produces high-quality compost that can be used on campus as garden and landscape manure. One advantage of vermicomposting is no need to aerate or turn a vermicompost pile. The worms do the turning for aeration. In vermicomposting, most of the excess energy is tied up in worm biomass.
- **NADEP Composting:** The NADEP method of organic composting is also done with a wide range of organic materials such as foliage litter and kitchen waste with an end-product of a fertilizer that serves as a good alternative to manure.
- **Indore method of Composting:** The Indore method of composting is a traditional technique that involves layering organic materials in pits or heaps and turning them regularly to aerate the pile. College employed this composting technique to process canteen kitchen waste, garden refuse, and other biodegradable materials. This method facilitates the natural decomposition of organic matter, resulting in compost that enriches soil health and supports plant growth.
- **Pipe Composting:** College has innovative pipe composting system, designed to efficiently manage organic waste in a compact form. This method is particularly effective in urban settings, where space is limited, allowing for effective waste decomposition without requiring extensive land use.

Separation of Waste: We emphasize the importance of waste segregation at the source. Clearly marked bins for biodegradable and non-biodegradable waste encourage students and staff to participate actively in waste management practices. Nearly 30 fixed SS dustbins are placed across the campus. 15 Neelkamal roller dustbins are used to collect the segregated waste. Sufficient plastic dustbins are placed in the corridors.

Monitoring and Evaluation: Our solid waste management practices are regularly monitored and evaluated to identify areas for improvement and ensure compliance with environmental standards.

In conclusion, the solid waste management initiatives at Parvathaneni Brahmayya Siddhartha College of Arts & Science demonstrate our commitment to sustainability and responsible waste handling. By implementing a diverse range of composting techniques and promoting awareness, we strive to minimize our environmental impact and cultivate an eco-friendly campus culture.

The wastes are properly stacked in designated place and later disposed through vendors for proper waste management. The college promotes digital platform to reduce the usage of paper for communication and sharing documents.

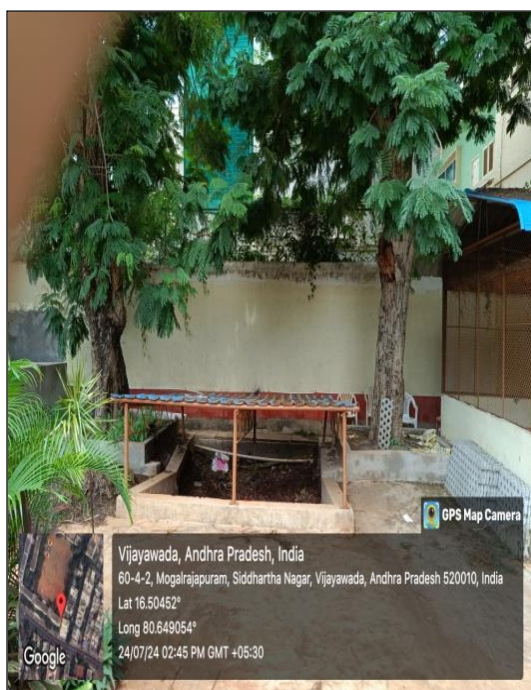
Total number of (students+ faculty+ staff) = 3464 +121+59 =3545

Collection of solid waste from campus (Kg/day) = 30

Total waste from the campus = (3545 X 30) =106.35 Kg/day

Paramount for the college is sustainability of the environment. A value added paper is introduced by Department of Zoology on Solid Waste Management to the students of the college. Institution is successful in shifting from a linear model of ‘we make, we consume and we dispose’ to a circular model of reduce, reuse and recycle.

Supporting Details



Indore Compost method



Waste is collected through dustbins



WET WASTE DUST BIN



COLLECTING WASTE



VERMI COMPOS



Pipe composting



Pipe composting



SS Dust Bins



Pipe composting



NADEP Composting



NADEP COMPOSTING



NADEP COMPOSTING

Dimensions of the Pit in the college:

Vermicompost pit Dimensions

Pit breadth- 6 m Pit length 9 m Pit height- 21cm cm

Indore Composting pit

Bed breadth- 11 m Bed length- 12 m Bed height- 75 cm

NADEP Composting pits (3 in number)

Bed breadth- 5 m Bed length- 11 m Bed height- 21 cm

Table 2: Block-wise Waste Generation and Management

Sl No	Department / Block	Food / Org. waste /day	Non-org. plastic dry waste / day	Plastic, Thermo coal/ day	Mgt. of organic waste	Mgt. of other waste	Waste dumping pit	Waste Mgt. practices
1	Botany	M	L	N	/	✓	✓	/
2	Chemistry	L	L	N	/	✓	✓	/
3	Commerce	M	L	N	✓	✓	✓	✓
4	Economics, History, Polity	M	L	N	/	✓	✓	/
5	English, Telugu, Hindi	M	L	N	/	✓	✓	/
6	Zoology	L	L	N	/	✓	✓	/
7	Electronics	L	L	N	✓	✓	✓	✓
8	Statistics	L	L	N	✓	✓	✓	✓
9	Library	L	M	N	✓	✓	✓	✓
10	Seminar Hall	N	L	N	✓	✓	✓	✓
11	English Lab	N	L	N	✓	✓	✓	✓
12	Near Canteen, Book Stall	L	L	N	✓	✓	✓	✓
13	Mother Theresa	L	M	N	✓	✓	✓	✓
14	Pantagili Block	M	M	M	✓	✓	✓	✓
15	CV Raman Block	M	M	M	✓	✓	✓	✓
16	Tagore Block	M	M	M	✓	✓	✓	✓
17	Mathematics	L	L	N	✓	✓	✓	✓
18	Physics	L	L	N	✓	✓	✓	✓
19	Computer	M	L	N	✓	✓	✓	✓
20	IQAC	N	L	N	✓	✓	✓	✓
21	Webinar	N	N	N	✓	✓	✓	✓
22	Director Room	L	L	L	✓	✓	✓	✓

23	Principal Room	L	L	L	✓	✓	✓	✓
24	Administrative Office	M	L	M	✓	✓	✓	✓
25	Canteen	M	M	M	✓	✓	✓	✓
26	Indoor Stadium	N	M	L	✓	✓	✓	✓
27	Around the lawn	M	M	M	✓	✓	✓	✓
28	Corridors and along the internal path ways	M	M	L	✓	✓	✓	✓

H-High M-Medium L-Low

Table: 3 Waste generated per day in the campus

Type of Waste	Quantity of Waste per day (kgs)
Bio degradable waste	27
Non-biodegradable waste	5
Hazardous waste	0.3


TABLE: 4 VERMICOMPOSTING DATA

Values in KGs


Years	July	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June
2018-2019	300	270	300	270	300	270	300	280	300	270	300	270
2019-2020	270	270	300	270	270	300	270	252	300	300	300	270
2020-2021	270	300	270	270	300	300	270	252	300	300	300	300
2021-2022	300	270	300	270	300	300	270	280	270	270	300	270
2022-2023	270	300	270	300	300	300	270	280	300	270	300	300
2023-2024	300	270	270	300	300	270	300	270	252	270	300	300

HOW TO SPEED UP A COMPOST PILE 5 EASY TIPS


1. MAKE SURE IT IS LARGE ENOUGH



2. ADJUST MOISTURE LEVELS




3. ADJUST RATIO OF BROWN TO GREEN MATERIALS



4. CONSIDER PARTICLE SIZE



5. TURN THE PILE!

COMPOST MATERIALS GUIDE

To start, aim for 1 part green to 3 parts brown materials. Adjust the pile's composition to maintain even moisture without the pile becoming soggy.

Green materials
Nitrogen-rich

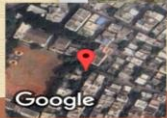
- Fruit scraps
- Vegetable scraps
- Grass clippings
- Green plants & garden waste
- Weeds
- Used coffee grounds
- Bread, pasta, rice
- Chicken manure
- Cow and horse manure
- Feathers
- Flowers
- Organic fertilizer (in small quantities!)

Brown materials
Carbon-rich


- Fallen leaves
- Wood ashes
- Paper
- Coffee filters
- Cardboard (shredded)
- Toilet paper rolls
- Hair (human or animal)
- Dryer lint
- Used potting soil
- Woody plant stems & trunks (chop before composting)
- Fallen pine needles
- Hay or straw
- Eggshells (powdered, calcium-rich)

Do not compost

- Fish
- Animal waste
- Herbicide or pesticide-treated plants
- Cooked foods
- Citrus peels
- In-ground soil
- Oils and fats
- Cat litter
- Dairy products



Vijayawada, Andhra Pradesh, India
 60/4/8A, 1st Line, Mogalrajapuram, Siddhartha Nagar, Vijayawada, Andhra Pradesh 520010, India
 Lat 16.50536°
 Long 80.649737°
 24/07/24 02:38 PM GMT +05:30



Compost Guidelines Display

Point 2: Liquid Waste Management

Response:

Parvathaneni Brahmayya Siddhartha College of Arts & Science is dedicated to sustainable liquid waste management, implementing innovative practices that effectively utilize water resources and enhance our campus environment. Our approach focuses on the recycling of RO water waste, rainwater harvesting, and groundwater recharge through percolation pits.

Key Components of Our Liquid Waste Management System:

- **RO Waste water Utilization:** The College has developed a systematic approach to manage reverse osmosis (RO) waste water. Rather than being discarded, this water is repurposed for providing essential moisture to our gardens and landscaped areas. This practice not only conserves water but also supports the growth and health of campus green cover.
- **Rainwater Harvesting:** The college established rainwater harvesting systems designed to capture and store rainwater runoff from rooftops and other surfaces. This collected rainwater is used to water plants, reducing dependence on traditional water sources and promoting eco-friendly practices.
- **Groundwater Recharge with Percolation Pits:** To further enhance the conservation of waste management efforts, the college has constructed 12 percolation pits strategically located throughout the campus. These pits facilitate the natural infiltration of rainwater into the ground, recharging the local groundwater table and promoting long-term water sustainability.
- **Condensed water from AC machines:** Condensed water from AC machines is used for Watering plants: The water from an air conditioner can be used to water both indoor and outdoor plants, cleaning floors, used as battery water and Fish culture in aquariums.
- **Water Tank overflow:** The watering of plants using water tank overflow is efficiently utilized allowing the water to run in a sieved pipe all along the gardens and landscaped areas. This allows for optimized water usage.
- **Watering Efficiency:** The watering of plants using RO waste water allows for optimized water usage. By ensuring that our gardens receive adequate moisture, The College contributes to campus biodiversity and promotes a lush, vibrant environment.
- **Awareness and Education:** The College actively engages the campus community through workshops and informational sessions about the importance of liquid waste management and water conservation. This educational outreach fosters a culture of sustainability and encourages responsible water use among students and staff.
- **Monitoring and Evaluation:** Our liquid waste management initiatives are regularly monitored and assessed to ensure effectiveness and compliance with environmental

standards. This ongoing evaluation helps us identify areas for improvement and encourages innovative practices.

In summary, the liquid waste management practices at the College reflect our commitment to sustainability and responsible resource management. By effectively utilizing RO waste water, harvesting rainwater and recharging groundwater, we not only enhance the campus ecosystem but also set a precedent for sustainable practices within our community.

RO waste water is directly used for watering the plants.



RO waste water is directly used for watering the plants.



Point 3 : Biomedical waste management

Not Applicable. No Biomedical waste is generated in the campus.

Point 4: e-waste Generation:

Response:

Parvathaneni Brahmayya Siddhartha College of Arts & Science is committed to e-waste management as part of our broader ecofriendly initiatives. With the rapid advancement of technology, the proper handling and disposal of electronic waste (e-waste) have become increasingly important to minimize environmental impact and promote resource recovery.

The college of has mechanism to dispose of e wastes generated from various sources. E-waste is generated from computer laboratories, electronic labs, Physics Labs, Chemistry Lab, Academic and Administrative Offices.

The e-waste includes out of order equipment or obsolete items like lab instruments, circuits, desktops, laptops and accessories, printer, charging and network cables, Wi-Fi devices, cartridges, sound systems, display units, UPS, Biometric Machine, scientific instruments etc. All such equipment which cannot be reused or recycled is being disposed of through authorized vendors. In procurement of new items buy-back option is preferred for technology up gradation. E-waste stored in a particular location in store for exchange offer or dispose off to minimum price.

Key Components of Our E-Waste Management System:

- **E-Waste Collection Drives:** Regular e-waste collection drives are organized on campus to encourage the proper disposal of obsolete and non-functional electronic devices. These

initiatives provide a convenient opportunity for the college community to safely dispose of items.

- **Collaboration with Certified e-Waste Recyclers:** the College partners with certified e-waste recycling organizations that specialize in the safe dismantling and recycling of electronic devices. This collaboration ensures that e-waste is processed in an environmentally friendly manner, recovering valuable materials while preventing harmful substances from entering landfills.
- **Inventory Management:** The College maintains an inventory of electronic equipment to monitor usage and plan for up gradation or replacements. This proactive approach minimizes e-waste generation and helps ensure that devices are used efficiently throughout their lifecycle.
- **Up gradation Management:** The electronic equipment periodically changes. Instead of dispose of the CPU, upgraded by changing the mother board and minimized the boot time by using SSDs. The shelf life of the unit is increased.
- **Sustainable Purchasing Practices:** To reduce future e-waste generation, the college emphasizes sustainable purchasing practices. We prioritize energy-efficient and environmentally friendly electronic products that are designed for longevity and recyclability.
- **Monitoring and Evaluation:** Our e-waste management efforts are regularly evaluated to assess their effectiveness and identify areas for improvement. This continuous assessment helps us adapt our strategies to ensure optimal management of electronic waste.

In conclusion, the College is dedicated to effective e-waste management through education, collection initiatives, and responsible recycling practices. By fostering a culture of sustainability and environmental responsibility, we aim to minimize the impact of e-waste on our environment and promote a cleaner, greener campus.



BRP INFOTECH
PRIVATE LIMITED

BRP Infotech Pvt. Ltd.

An ISO 9001 : 2015 & ISO 14001 : 2015 Certified Co.

Date : 11th APR. 2022

S. No. : 637

UPPCB Reg.: 3154

Certificate of E-waste Destruction / Recycling

This is to certified that *BRP Infotech Private Limited*

has received E-waste material from

M/S. P.B.S. COLLEGE. D.F. ARTS & SCIENCE

SIDDHARTHA NAGAR, VIJAYWADA

Received destructed materials ware used

IT & Electronic waste of 570 KGS.

All the received material has been processed as per the CPCB Norms

In our plant at industrial area, Masuri-Gulawati Road ,Hapur (U.P) India

By processing out of running equipment, we are doing our duty to help

Keep our environment clean & green

Invoice No- 01/21-22

COD Issued Date- 03/02/2022

Green Regards,

Binay Kumar Singh
Managing Director



Form-6 [See rule 19] E-WASTE MANIFEST

1.	Sender's name and mailing address (Including Phone No.)	P.B.S College of Arts & Science, Vijaywada.
2.	Sender's authorisation no, if applicable.	37AABTS1271J32B
3.	Manifest Document No.	Recy/ E Waste/ 3154/ UPPCB/DT. 28/06/2018 To 28/06/2023 Recy/ 226 C-1/e Waste/ Regn. 442/2019
4.	Transporter's name and address (including phone no.)	
5.	Type of vehicle	(Truck Or Tanker Or Special Vehicle)
6.	Transporter/s registration No.	
7.	Vehicle Registration No.	AP 11 Y 1258
8.	Receiver's name & Address	BRP INFOTECH PVT. LTD.
9.	Receiver's authorisation No, if applicable	Recy/ E Waste/ 3.154/ UPPCB/DT. 28/06/2018 To 28/06/2023 Recy/ 226 C-1/e Waste/ Regn. 442/2019
10.	Description Of E-Waste (Items, Weight/ Numbers)	E waste Scrap 570kgs.
11.	Name And Stamp Of Sender* (Manufacturer Or Producer Of Bulk Consumer Or Collection Center Or Refurbisher Or Dismantler): Signature :	MONTH DAY YEAR 02 - 03 - 2022
12.	Transporter Acknowledgement Of Receipt Of E-waste Name And Stamp: Signature:	MONTH DAY YEAR 02 - 03 - 2022
	Receiver* (Collection Centre Or Refurbisher Or Dismantler Or Recycler) Certification Of Receipt Of E-waste Name And Stamp: Signature:	MONTH DAY YEAR 02 - 03 - 2022

* As Applicable
Note:-

Copy Number With Colour Code (1)	Purpose (2)
Copy 1 (Yellow)	To be retained by the sender after taking signature on it from the transporter and other three copies will be carried by transporter
Copy 2 (Pink)	To be retained by the receiver after signature of the transporter.
Copy 3 (Orange)	To be retained by the transporter after taking signature of the receiver
Copy 4 (Green)	To be retained by the receiver with his/her signature to the sender

Form-6 [See rule 19] E-WASTE MANIFEST

1.	Sender's name and mailing address (Including Phone No.)	P.B.S College of Arts & Science, Vijaywada.
2.	Sender's authorisation no, if applicable.	37AABTS1971J32B
3.	Manifest Document No.	Recy./ E Waste/ 3154/ UPPCB/DT. 28/06/2018 To 28/06/2023 Recy./ 226 C-1/e Waste/ Regn. 442/2019
4.	Transporter's name and address (including phone no.)	
5.	Type of vehicle	(Truck Or Tanker Or Special Vehicle)
6.	Transporter/s registration No.	
7.	Vehicle Registration No.	AP 11 V 1258
8.	Receiver's name & Address	BRP INFOTECH PVT. LTD.
9.	Receiver's authorisation No, if applicable	Recy./ E Waste/ 3154/ UPPCB/DT. 28/06/2018 To 28/06/2023 Recy./ 226 C-1/e Waste/ Regn. 442/2019
10.	Description Of E-Waste (Items, Weight/ Numbers)	E waste Scrap 570kgs
11.	Name And Stamp Of Sender* (Manufacturer Or Producer Of Bulk Consumer Or Collection Center Or Refurbisher Or Dismantler):	MONTH DAY YEAR 02 - 02 - 2022
	Signature :	
12.	Transporter Acknowledgement Of Receipt Of E-waste	
	Name And Stamp: Signature:	MONTH DAY YEAR 02 + 03 - 2022
	Receiver* (Collection Centre Or Refurbisher Or Dismantler Or Recycler)	
	Certification Of Receipt Of E-waste	MONTH DAY YEAR 02 + 03 - 2022



* As Applicable
Note:-

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e-Waste



e-waste

Point 5: Waste recycling system

Response

Separating, recovering, and reusing components of solid waste that may still have economic value is recycling. Composting is considered a recycling process, since it reclaims the organic parts of solid waste for reuse as mulch or soil conditioner.

Separation

Before any material can be recycled, it must be separated from the raw waste and sorted. Separation is accomplished at the source of the waste called curbside separation.



recycling bins Recycling bins set side by side with trash bins.

Reuse

Parvathaneni Brahmayya Siddhartha College of Arts and Science is practicing all most all kinds of composting methods. Not only that the college is also offering a value added course on solid waste management. Still other waste materials have potential for reuse. These include paper, water, metal, glass and plastic. Newsprint and cardboard is repulped to make the same materials, while other types of scrap paper are recycled for use in low-quality papers such as boxboard, tissues, and towels. Waste glass is also recycled. Plastic containers and other products are increasingly recycled, and, like paper, these are sorted at the source before processing.

Practice 6. Hazardous chemicals and Radioactive waste management

Response:

Parvathaneni Brahmayya Siddhartha College of Arts & Science recognizes the importance of effective hazardous chemicals and radioactive waste management as part of our commitment to environmental safety and sustainability. We have implemented comprehensive procedures to ensure the safe handling, disposal, and minimization of hazardous materials generated within our facilities, particularly in our chemistry laboratory. Gas chambers/hoods are constructed in all chemistry labs to avoid the exposure to toxic gases and radiations.

Table 4 : Year wise Hazardous waste generated

YEAR	Hazardous waste in kgs
2019	6
2020	6.5
2021	6.3
2022	6.2
2023	6.1

Key Components of Our Management System:

- **Safe Handling Procedures:** The college has established stringent protocols for the safe handling and storage of hazardous chemicals. All laboratory personnel are trained in proper safety measures, including the use of personal protective equipment (PPE) and emergency response procedures.
- **Dilution and Disposal:** Chemicals identified as hazardous are carefully diluted to safe levels in accordance with regulatory guidelines. Once properly diluted, these substances are disposed of through the municipal drain system, ensuring compliance with local environmental regulations and preventing harm to the ecosystem.
- **Training and Awareness:** Faculty and students are provided with ongoing training on hazardous waste management, focusing on the importance of proper disposal methods and the potential risks associated with mishandling chemicals. This educational outreach fosters a culture of safety and responsibility within the college community.
- **Emergency Preparedness:** The College maintains a comprehensive emergency response plan for chemical spills or accidents. Regular drills and training sessions are conducted to prepare staff and students for any potential incidents.

In summary, the College is committed to the responsible management of hazardous chemicals and radioactive waste. Through safe handling practices, proper disposal methods.