MANAGEMENT OF DEGRADABLE AND NON-DEGRADABLE WASTE

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1. Solid Waste Management

NECESSITY AND IMPORTANCE:

College students, staff, and faculty often lead busy lives and value convenience; as they go about their day rushing between activities and classes, the purchase of single-use products is often the most convenient choice. The consequence of this convenience comes in the form of high quantities of waste. In an era where societies around the world are becoming more conscious of the issues surrounding waste, students, faculty, and staff must be properly educated on proper waste management practices. Although the introduction of more recycling bins on campus may help increase recycling rates, a study noted that any recycling or waste management system depends not only on technical factors and availability, but also the motivation of the users to participate in the process. It can be understood that waste management education is essential in reducing waste, increasing diversion rates and encouraging environmentally friendly behavior.

ABOUT INSTITUTE:

The Swarrnim Startup and Innovation University, is located on a beautiful campus of 11 acres. The college administration works on the several facets of 'Green Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Work, and Alternative Energy.

OBJECTIVES :

The main objective of the solid waste management system in the campus is to promote the Environment Management and Conservation in the College Campus. The purpose of the current available system is :

• To identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

• To introduce and aware students to real concerns of environment and its sustainability

• To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use on the campus.

• To establish a baseline data to assess future sustainability by avoiding the interruptions in environment that are more difficult to handle and their corrections requires high cost.

• To bring out a status report on environmental compliance.

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Solid Waste collection pits for composting

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Photos of Dry and Wet waste collection Dustbins

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Photos of solid waste

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2. LIQUID WASTE MANAGEMENT

Liquid waste sources

Liquid waste on a college campus can come from hostels and academic buildings.

Treatment

Liquid waste is treated in tanks that hold the sewage in a basin where solids settle to the bottom, and then the liquid is chemically treated in another tank.

Purpose

The purpose of liquid waste treatment is to prevent water pollution from toxic substances, inorganic matter, and other matter. It also aims to reduce health hazards and nuisances in the environment.

Benefits

- Proper waste management on a college campus can:
- Reduce environmental pollution
- Create a greener and more sustainable campus
- Ensure the wellbeing of students and employees
- Provide a better environment for plants and animals
- Enhance the relationship between the campus and the surrounding community.

Photos of liquid waste

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3. BIOMEDICAL WASTE MANAGEMENT

About:

At Swarrnim Startup and Innovation University, we are committed to fostering a safe, healthy, and eco-friendly environment for our students, faculty, healthcare professionals, and patients. Our Bio-Medical Waste Management Unit is dedicated to the safe handling, treatment, and disposal of medical waste generated from our hospital, research labs, and educational departments, ensuring compliance with legal and environmental standards.

Our Mission:

The Bio-Medical Waste Management Department at Swarrnim Startup and Innovation University ensures that all medical waste generated during healthcare and research activities is handled with the utmost care and responsibility. We aim to minimize environmental hazards, reduce risk to public health, and adhere strictly to regulatory standards for bio-medical waste management. We believe that educating the next generation of healthcare professionals includes instilling a sense of responsibility for the safe management of healthcare waste.

How We Manage Bio-Medical Waste:

Our bio-medical waste management system involves a comprehensive and transparent process to ensure the safety of patients, healthcare providers, students, and the surrounding community.

Segregation at Source: Medical waste is segregated at the point of generation according to bio-medical waste categories, including infectious waste, sharps, pathological waste, etc.

Safe Collection: Specialized color-coded bags and containers are provided across departments and labs to ensure proper disposal.

Transportation: Medical waste is transported using secure, labeled vehicles to minimize risk of exposure and contamination.

Documentation: Each color-coded bag is labeled with a barcode, weighed upon arrival at the Bio-Medical Waste Management Department, and the data is documented accordingly.

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Photos of Bio- Medical Waste

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Photos of Bio- Medical Waste

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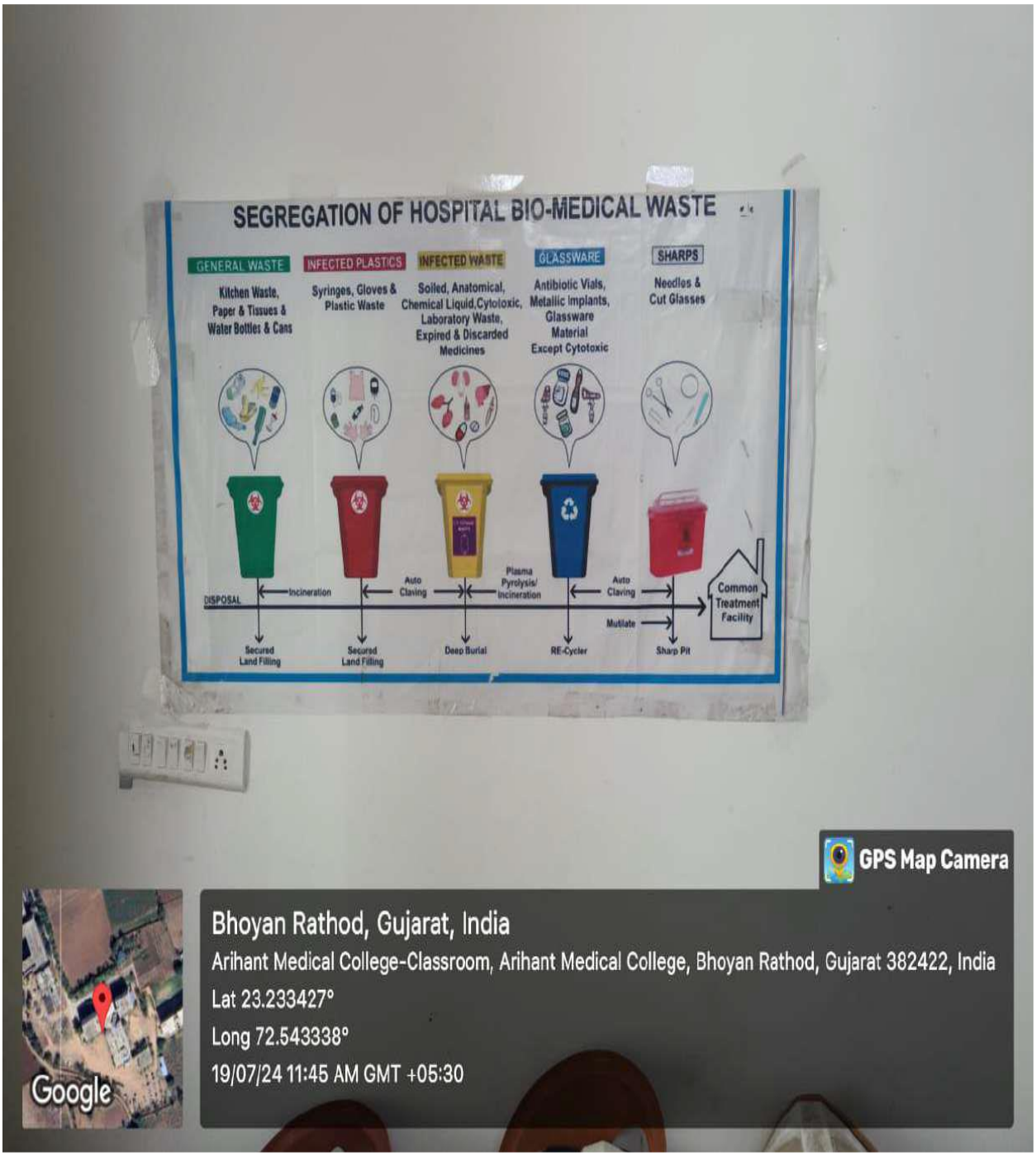
Photo of Bio- Medical Waste



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4. E Waste Management

E-Waste can generally be defined as any electrically powered appliance that has reached its end-of-life. Electronic waste or E-waste is generated when electronic and electrical equipment become unfit for their originally intended use or have crossed the expiry date. Computers, servers, mainframes, monitors, compact discs (CDs), printers, scanners, copiers, calculators, fax machines, battery cells, cellular phones, TVs, iPods, medical apparatus, 5 refrigerators, and air conditioners are the general type of E-Waste generated in the campus. E-waste consists of toxic elements such as Lead, Mercury, Cadmium, Chromium etc. The unscientific disposal of E-Waste can generate a threat to the environment as well as to human health. Due to the presence of these toxic substances in E-Waste, recycling and disposal of E-Waste becomes an important issue.

The Swarrnim Startup and Innovation University had taken the following initiatives such as Extended Producer Responsibility (EPR); Design for Environment (DfE); Reduce, Reuse, Recycle (3Rs), technology platform for linking the market facilitating a circular economy aiming correct disposal of the e-waste, with increased reuse and recycling rates, and adopt sustainable consumer habits.

Best Practices in the Institution -E-Waste Management:

- Effort to utilize the Extended Producer Responsibility
- Use of reusable resources in all possible areas
- E-Waste generated is channelized through authorized recycler for treatment, dismantling and disposal
- Adequate efforts put in to ensure that no damage is caused to the environment during storage and transportation of the E-Waste.

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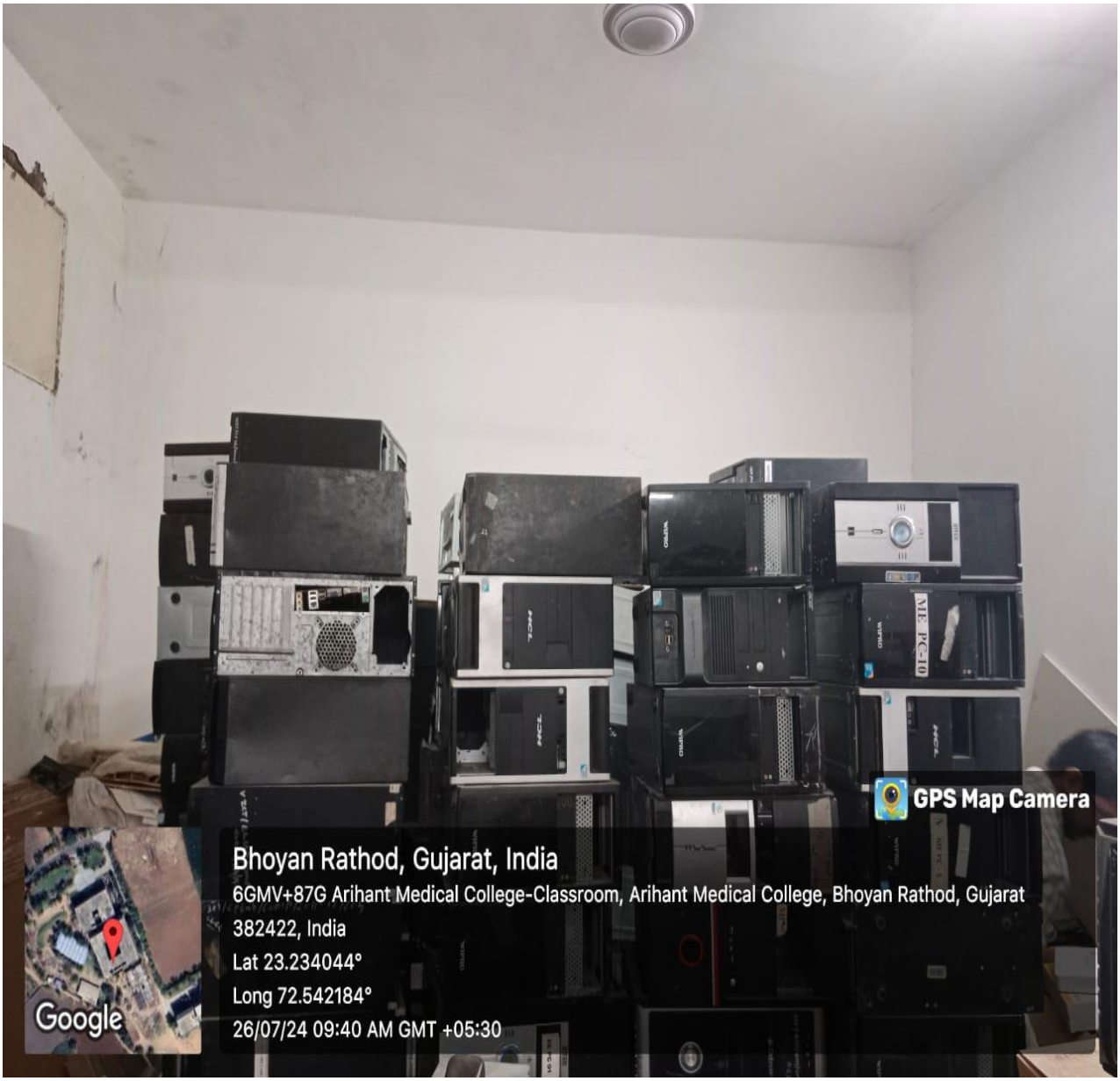
Photos of E waste



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Photos of E waste

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Photos of E waste

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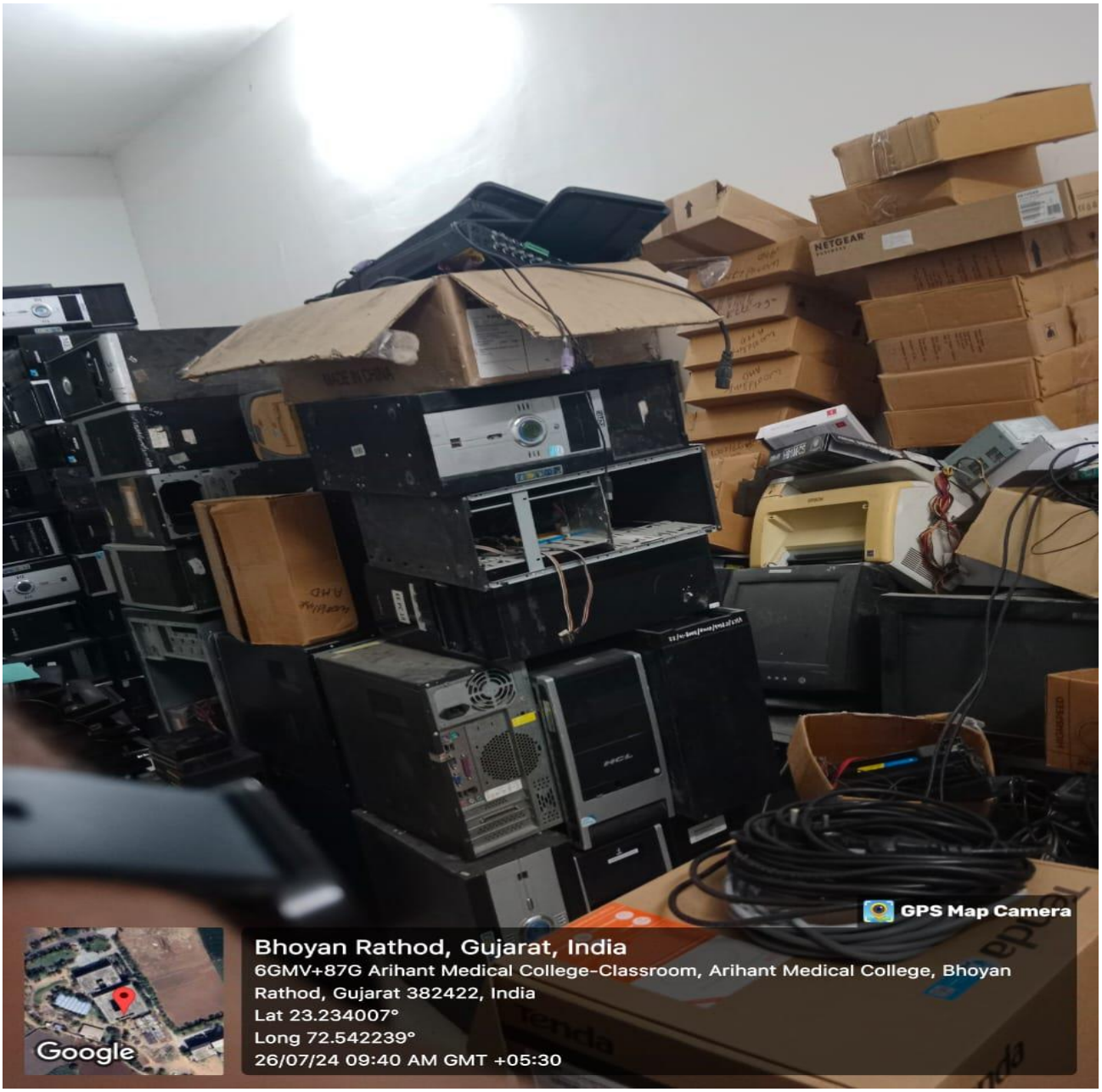
Photos of E waste



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5. Waste Recycling System

Students' council from Swarrnim Startup and Innovation University modelled their interpretations of Lord Ganesha out of waste paper material. Lord Ganesha models also spread the message of a green planet, sustainability, upcycling, clean environment and created awareness for climate change. After modelling the idols, the participants also painted them using colorful concepts and acrylic paint.

Use of waste paper

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Photo of waste recycle

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6. Hazardous Chemical and Radioactive Waste Management

Faculty and staff are responsible for safe work practices and procedures in their respective work areas. Faculty and staff working with chemical and/or hazardous waste must coordinate its proper disposal with the environmental health, safety, and hazardous waste officer.

The Swarrnim Startup and Innovation University had taken effective measures to stop hazardous and radioactive waste from being combustible, corrosive, reactive, and poisonous. For this, the following standards will be implemented:

- ✓ Laboratories must indicate procedures for handling and getting rid of hazardous material safely.
- ✓ Strong containers (coded red) should be used to collect hazardous waste to prevent breaking.
- ✓ Labelled protective containers made expressly to hold radioactive waste should be used to collect radioactive waste.
- ✓ Only certified laboratory staff should be permitted to handle radioactive and hazardous waste while taking all necessary safety procedures and doing so in a radiation prevention chamber.
- ✓ The segregated hazardous waste should not be kept for longer than the permitted amount of time.
- ✓ Biosafety regulations set forth by the institution should be followed when autoclaving and disposing of hazardous biological waste.
- ✓ Hazardous chemical waste should be neutralized or diluted before being disposed of outside the building using separate plumbing that connects to separate collection tanks.
- ✓ The Safe Disposal of Radioactive Waste Rules, 1987 of the Department of Atomic Energy shall be followed while disposing of radioactive waste.
- ✓ Swarrnim Startup and Innovation University also had a medical diagnostic X-Ray equipment but no waste generated there.

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Photo of Hazardous and radioactive chemicals

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