



# Waste Management Policy

## INTRODUCTION

People's University is an established and reputed University in Central India engaged in higher education and setting standards in Teaching and Research in fields of Medical, Dental, Engineering, Pharmacy, Nursing Sciences and in fields of Paramedical Studies and Management. The University is accredited by NAAC and its associated hospital is accredited with NABH and NABL. It is committed to transform lives and serve the society through pursuit of excellence in teaching, innovation, lifelong learning and outreach services. People's University came into existence on 2011 through Madhya Pradesh Act No. 17 of 2007.

The University realizes that integrated waste management is essential in reducing its environmental footprint and providing a safe and healthy work environment for teaching, non-teaching employees, students, residence and visitors.

The University needs to make sure that all the campus wastes are disposed of responsibly by using proper waste segregation mechanism at the source. In addition, the medical and other hazardous waste should be disposed or managed by government approved and registered waste contractors. The aim of this policy is to facilitate execution of the action plan mentioned in "National Environment Policy 2006".

## POLICY STATEMENT

The University will adopt the principles of the 'best available feasible environmental option' in the deliverance of its waste management services.

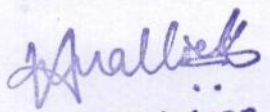
The University requires all the teaching and non-teaching staff, students, guests and residence to act in accordance with this Policy. Any solid waste generated in the campus shall be managed and handled in accordance with the compliance criteria and the procedure laid down in Municipal Solid Wastes (Management and Handling) Rules and shall also comply with the various regulations under national and international environmental protection legislation.

## OBJECTIVES

The objectives of this policy are:

- ✓ Ensure that waste management in campus is in accordance with all waste legislative requirements.
- ✓ Minimize waste generation and facilitate repair, reuse and recycling of wastes in a cost effective manner.
- ✓ Provide clearly defined roles and responsibilities to identify and co-ordinate activity of the waste management.
- ✓ Promote environmental consciousness in order encourage waste minimization, reuse and recycling.
- ✓ Invest into the expansion of recycling opportunities in the University campus.
- ✓ Ensure safe handling and storage of wastes in campus.
- ✓ Provide appropriate training for teacher, resident, staff and students on waste management issues.

  
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### WASTE MANAGEMENT COMMITTEE

Constituent Unit/Service Departments needs to establish a waste management committee in their respective units/department/hospital comprising of:

- 1) Head of Institution/Service Department: Chairman
- 2) Administrative Officer/Senior Staff: Nodal Officer
- 3) GM-IT, People's University
- 4) Representative Civil Department

### RESPONSIBILITIES OF WASTE MANAGEMENT COMMITTEE

- 1) Monitoring the day to day delivery of general waste and their recycling services.
- 2) Operational monitoring of waste management systems.
- 3) Providing copy of minutes of respective Waste Management Committee meetings to the Registrar, People's University.
- 4) Ensuring that no hazardous waste is disposed of through the general or waste recycling streams.
- 5) Nominating a 'responsible person' within their department to coordinate waste disposal for any hazardous or laboratory wastes.
- 6) Ensuring that waste of office and residence is disposed off responsibly through proper waste disposal system.
- 7) As per the Hazardous Waste regulations it will be mandatory that concerned department cannot store hazardous waste for period not exceeding 90 days and shall maintain a record of sale, transfer, storage, recycling and reprocessing of such wastes unless the concerned State Pollution Control Board has extended the stipulated period.
- 8) The waste could either be recycled /reused or disposed of in captive or common treatment, storage and disposed facilities available in the campus or incinerated.
- 9) Animal house/bio-medical waste management and disposal will be governed by Bio-Medical Waste (Management and Handling) Rules, 1998, MoEF, Gov.of India.
- 10) Degradable and non-biodegradable waste will be segregated and treated according to their physical nature.

### E- WASTE MANAGEMENT

People's University has Centralized IT & Communication Department, it is responsible to manage IT resources, Centralized data processing, Servers, Personal Computer (Central processing unit with input and output devices), Laptop computers (Central processing unit with input and output devices), Notebook computers, Notepad computers, Printers including cartridges, Copying equipment, User terminals and systems, Bio- Metrics Machines, telephones, UPS, Cordless telephones etc.

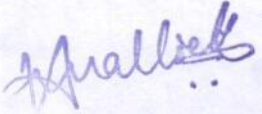
### RESPONSIBILITY OF IT DEPARTMENT

- **Collection of E- Waste:** - IT & Communication Department collects E-Waste from constituent units (PCMS, PCDS, PDA, PCRT, PCPS, PIHM etc.) of Peoples University.
- **Setting up collection centre** – IT & Communication Department stores damaged items collected from constituent units of People's University.
- **IT & Communication Department** ensure that E- waste generated is channelized to authorized collection centre's or registered dismantlers.

IT & Communication Department maintains all the records of E-Waste items and makes such records available for scrutiny by the Central pollution Control Board or the concerned state Pollution Control board.

  
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Reference standard	Entry Level, Second Edition - April 2014
Document name	SOP for Hospital Infection Control
Document number	PH/HIC/SOP/05
Date of initial issue	15/08/2021
Current Version No.	00
Revised issue date	-
Review schedule	Annual

**HIC 5. Statutory provisions with regard to Bio-Medical Waste (BMW) Management are complied with.**

**A. Purpose:**

- A. To ensure proper segregation, storage, transport and disposal of waste generated in the Hospital.
- B. To ensure that the Waste generated in the hospital is managed and disposed of in an environment friendly manner, in conformance with the M.P.C.B, Bhopal state /National regulations.

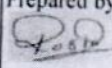
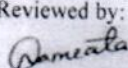
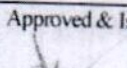
**B. Responsibility:** Health inspector, infection control doctor, infection control committee.

**Biomedical waste management has the following elements:**

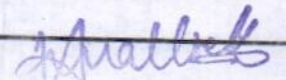
1. Segregation
2. Transportation
3. Pretreatment
4. Treatment and final disposal

**C. CATEGORIES OF BIO-MEDICAL WASTE & COLOR CODING (Table 1)**

Yellow	Non-chlorinated Plastic bags.  Separate collection system leading to effluent treatment system	<ul style="list-style-type: none"> <li>a. Human Anatomical Waste: (tissues, organs, body parts and fetus below the viability period)</li> <li>b. Animal Anatomical Waste (animal tissues, animal carcasses, tissue parts)</li> <li>c. Soiled Waste (Blood, Body fluids (dressing, plaster casts</li> <li>d. Expired or Discarded Medicines (Pharmaceutical waste, antibiotics, cytotoxic drugs including with glass or plastic ampoules, vials etc.)</li> </ul>	Incineration or Plasma Pyrolysis or deep burial - disposal by authorized agency
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Prepared by:  Infection Control Nurse	Reviewed by:  Infection Control Doctor	Approved & Issued by:  Medical Director
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Current Version No.	00
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Review schedule	Annual

		<p>e. Chemical Waste (Silver x-ray film developing liquid, discarded formalin, infected secretions, aspirated body fluids, blood, liquid from laboratories and floor washing, HK and disinfectants residue.)</p> <p>f. Microbiological and other clinical lab waste (waste from laboratory cultures and attenuated vaccines waste from production of biological toxins dishes and devices used from transfer of cultures)</p> <p>g. Chemical Liquid Waste (Silver x-ray film developing liquid, discarded formalin, infected secretions, aspirated body fluids, blood, liquid from laboratories and floor washing, HK and disinfectants residue.)</p>	
	<p>Red Non-chlorinated plastic bags or containers</p>	<p>Contaminated Waste (non sharp items like plastic and metals) e.g. Waste generated from disposable items such as tubing, bottles, intravenous tubes and sets, catheters, urine bags, syringes (without needle and fixed needle syringes) and vacuum containers with their needle cut) and gloves</p>	<p>Autoclaving/microwaving /hydroclaving and then sent for recycling not be sent to landfill.- Disposed by authorized agency</p>
<p>White</p>	<p>(Translucent)</p>	<p>Waste sharps including Metals and plastics.</p>	<p>Auto or Dry Heat</p>

<p>Prepared by:  Infection Control Nurse</p>	<p>Reviewed by:  Infection Control Doctor</p>	<p>Approved &amp; Issued by:  Medical Director</p>
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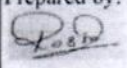
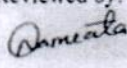
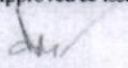




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Review schedule	Annual

	Puncture, Leak, tamper proof containers	E.g. Needles, syringes with fixed needles, needles from needles tip cutter or burner, scalpels, blades or any other contaminated sharp objective that may cause puncture and cuts. This includes both used, discarded and contaminated metal sharps	Sterilization followed by shredding or mutation or encapsulation.- Disposed by authorized agency
	Cardboard boxes with blue colored marking	Glassware e.g. flask, slides, broken injection vials, / Metallic Body Implants	Disinfection or autoclaving, microwaving, hydroclaving and then sent for recycling

**Bio Medical Wastage Chart**

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Current Version No.	00
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## BIO MEDICAL WASTAGE CHART

Bio Medical Waste				General Waste
रक्त/रक्तजन्य अंगुली में	लाल डस्टविल एवं पीले में	नीला डस्टविल एवं पीले में	पीला डस्टविल एवं पीले में	हरा डस्टविल एवं पीले में
नुकीले धार धाली वस्तुएं, सुईयां एण्डोड, नाईफ, बीजिल डिस्क, स्टीच के साथ जुड़ी हुई बीजिल आदि	सभी स्कोलपेन सेट, वेनफ्लोन, कंचेन, प्रोथेस, राईलाइस, बिना बीजिल के सीरिंग, चेन्डरयुस बिंग, गलाया गया प्लास्टिक पंपेन, आई की सेट, बायोल, ड्राइलरिस के डिस्पोजेशन प्लास्टिक आदि	टूटे हुए काँच के टुकड़े, मॉडिस्म एण्डलस, कान्टामिनेड ग्लास इनक्लूडिंग मेडिसिन बाइलस और, एम्बुलस, साइटोटोक्सिक ड्रग्स के अलावा अन्य मेडिसिन बोर्ड्री इम्प्लान्ट्स आदि, ग्लास स्लाईड, शाली ग्लास सीरिंग बायोल	सर्वे हुए गलाय गए ऑर, रक्त, रक्तजन्य अंगुली आदि	फार्मों के डिस्क, पुराने, उबालियां के पत्र, पत्र, पन्नी आदि

Note:- As Per 2016 Biomedical Waste Management Guidelines & 2019 Amendment.

Chemicals treatment using at least 1% hypochlorite solution or any other equivalent chemical reagent. It must be ensured that chemical treatment ensures disinfections.

Mutilation/shredding must be such so as to prevent unauthorized reuse. There will be no chemical pretreatment before incineration. Chlorinated plastics shall not be incinerated. Deep burial shall be an option available only in towns with population less than five lakhs and in rural areas.

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Current Version No.	00
Revised issue date	-
Review schedule	Annual

### Transportation:

The waste collection Van collects the waste between 1:30 to 2:30 pm every day. These vans are covered to protect the waste from spillage on the way to incinerator. Within the hospital the waste is transported in dedicated trolleys. The infective waste is collected in different colored polythene bags (as per M.P. pollution board.)

### Pre-treatment:

Needle destroyers in all patient care areas to disinfect and destroy needles and syringes. Sharps are soaked in 1% hypochlorite solution to thoroughly disinfect them before discarding sharps and needles in blue bags.

### Segregation:

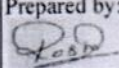
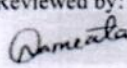
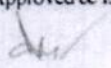
The most essential part of hospital waste management is the segregation of Bio-medical waste. Bio-medical waste shall not be mixed with other waste. BMW shall be segregated into containers/bags at the point of generation. The segregation of the waste should be performed within the premises of the hospital. The containers shall be duly labeled as per schedule III. The color coding, type of container to be used for different waste category and suggested treatment options are listed below.

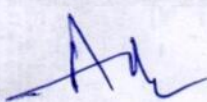
**Treatment:** PH hospital has its own plant for all BMW transportation from hospital for treatment and final disposal.

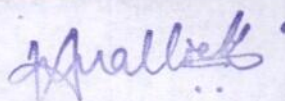
### **D.TREATMENT AND DISPOSAL OF LIQUID WASTE:**

No liquid waste is released in municipal sewer/land without pretreatment.

The effluent generated from the hospital should conform to the following limits (Established by MPPCB)

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Document number	PH/HIC/SOP/05
Date of initial issue	15/08/2021
Current Version No.	00
Revised issue date	-
Review schedule	Annual

Page 55 of 60

#### PARAMETERS

#### PERMISSIBLE LIMITS

PH	63-9.0
Suspended solids	100 mg/l
Oil and grease	10 mg/l
BOD	30 mg/l
COD	250 mg/l
Bio-assay tests	90% survival of fish after 96 hours in 100% effluent.

**Liquid Waste** (waste generated from laboratory & Laundry, cleaning, housekeeping, mortuary and disinfecting activities) is treated in ETP plant. Hospital is having its own one ETP (effluent treatment plant) All the waste water generated in hospital premises is treated in these plants. Hazardous biomedical waste is treated in ETP plant its Ph level is checked daily and other specification are checked on regular basis. Waste generated in the form of dry cake is sent to agency RamkyEnviro engineers LTD (Madhya Pradesh waste management project). Treated water is used for irrigation and horticulture purpose inside the campus and all flush of toilets are attached with this treated water supply.

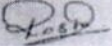
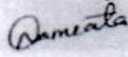

#### Notes:

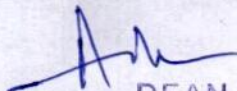
1. Color coding of waste categories with multiple treatment options as defined in Table 1 shall be selected depending on treatment option chosen, which shall be as specified in Table 1.

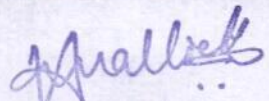
Different labels for Bio-medical waste containers and bags shall be required for identification and safe handling of this waste. These labels for storage/transportation of Biomedical waste are as under,:

#### E. SAFETY ISSUES AND OTHER PROTOCOLS PPE & VACCINATION OF THE HEALTH CARE WORKERS:

All waste handlers have been provided with Masks, Caps, Gum Boots, Gloves, and Disposable apron

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Reference standard	Entry Level, Second Edition - April 2014
Document name	SOP for Hospital Infection Control
Document number	PH/HIC/SOP/05
Date of initial issue	15/08/2021
Current Version No.	00
Revised issue date	-
Review schedule	Annual

Page 56 of 60

which they are expected to wear while dealing with the waste. All health care workers are vaccinated against Hepatitis B and tetanus.

## DEALING WITH SPILLAGE:

### Liquid spill management:

#### For small volume spills:

- Cover spills of infected or potentially infected material on the floor with paper towel/ blotting paper/newspaper. Pour 5% Phenol or freshly prepared 5% hypochlorite solution.
- Leave for 30 minutes for contact
- Then it wipe with gauze or cloth with gloved hands.
- The gauze or cloth used to wipe is to be considered as noninfectious waste and discarded in general waste.

#### For large volume spills:

- Cordon off the area
- Wear gloves.
- Mop with absorbent cotton/gauze and discard it to infectious waste bin
- Cover spills of infected or potentially infected material on the floor with paper towel blotting paper/newspaper. Pour 5% Phenol or freshly prepared 5% hypochlorite solution.
- Allow it for 30 min contact period.
- Wipe thoroughly with gloved hands using cotton or gauze and treat the gauze as soon infectious waste and dispose accordingly.

### Sharps Injury Management:

The commonest cause of injury while handling the waste is inappropriate segregation wherein sharp waste is deposited in containers meant for non-sharp waste. When sharp injury occurs following procedures is to be followed.

- (i) Stop the procedure immediately and wash the wound with soap and water, encourage Bleeding the apply antiseptic.

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Document number	PH/HIC/SOP/05
Date of initial issue	15/08/2021
Current Version No.	00
Revised issue date	-
Review schedule	Annual

Page 57 of 60

- (ii) Immediately report to CMO in Casualty for First aid and emergency treatment or any other action and follow-up advice, if required. 'PEP' is provided in casualty immediately as per NACO guidelines.
- (iii) Retention, if possible of the item and details of its source for identification of possible Infection.
- (iv) Investigation, determination and implementation of remedial measures.

**Recording of Sharp injury:** Needle Sticks/ Sharp injury should be recorded as per the Performa provided by BMW Guidelines. This Performa is available in casualty and Collected by ICN.

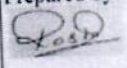
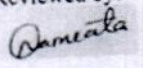
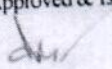
**Reporting to MPPCB:** Monthly reporting of category 4 & 7 quantity is done to pollution control board. Annual reporting of total biomedical weight is submitted to Govt agencies on 31st January every year, includes information about categories and quantities of biomedical waste handled during the preceding year.

**Records to be maintained:** Hospital maintains records related to generation, collection, reception, storage, transportation, treatment, disposal and /or any form of handling of biomedical waste in accordance with above rules and any guidelines. ETP & STP plant monthly reporting is submitted to MPPCB and six monthly reports is submitted to MOEF. Daily pH level and TSS are checked in hospital lab near ETP. Record is maintained in Laboratory.

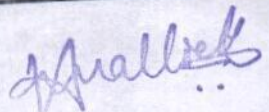
**Monitoring and supervision:**

A Monitoring Team which includes Infection control officer, ICN, Health inspector is responsible for day to day visits and surveillance of compliance with BMW practices. Nursing Sisters, Technicians and Sanitation staff is responsible for supervision of segregation practices in the specific area, allocated to them. The Nursing Sister in charge of the area is expected is taking round of the area every day. The technicians of Laboratories and OTs will be responsible, for the area of their work any adversity should be reported to infection control Officer, who will take appropriate action.

Ref: MPSPCB-Norms

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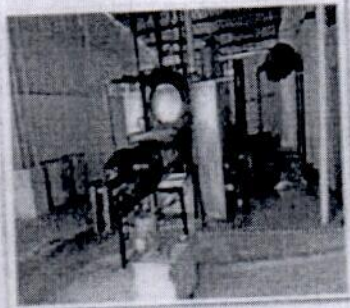
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## Storage and Transportation



## Incinerator - In House



■ Ash -  
Land Fill

Prepared by:  Infection Control Nurse	Reviewed by:  Infection Control Doctor	Approved & Issued by:  Medical Director
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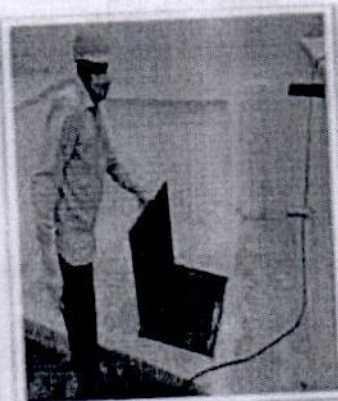
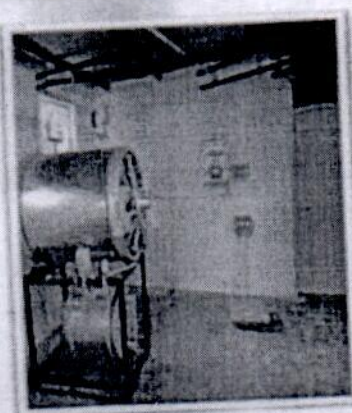


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Document name	SOP for Hospital Infection Control
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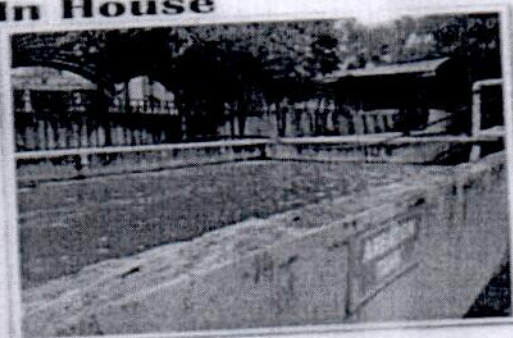
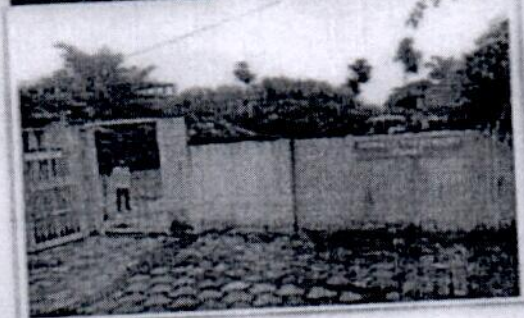
Page 59 of 60



## Incinerator - In House



## ETP Plant - In House



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Infection Control Nurse

Reviewed by:

*[Signature]*

Infection Control Doctor

Approved & Issued by:

*[Signature]*

Medical Director

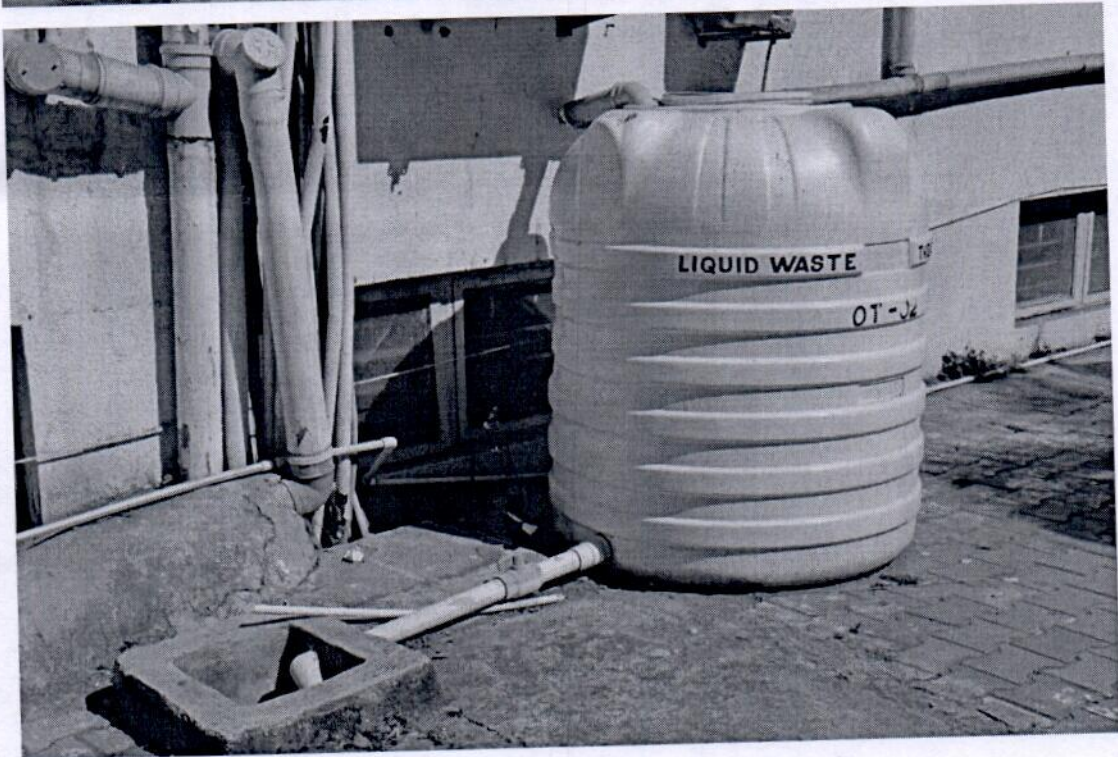
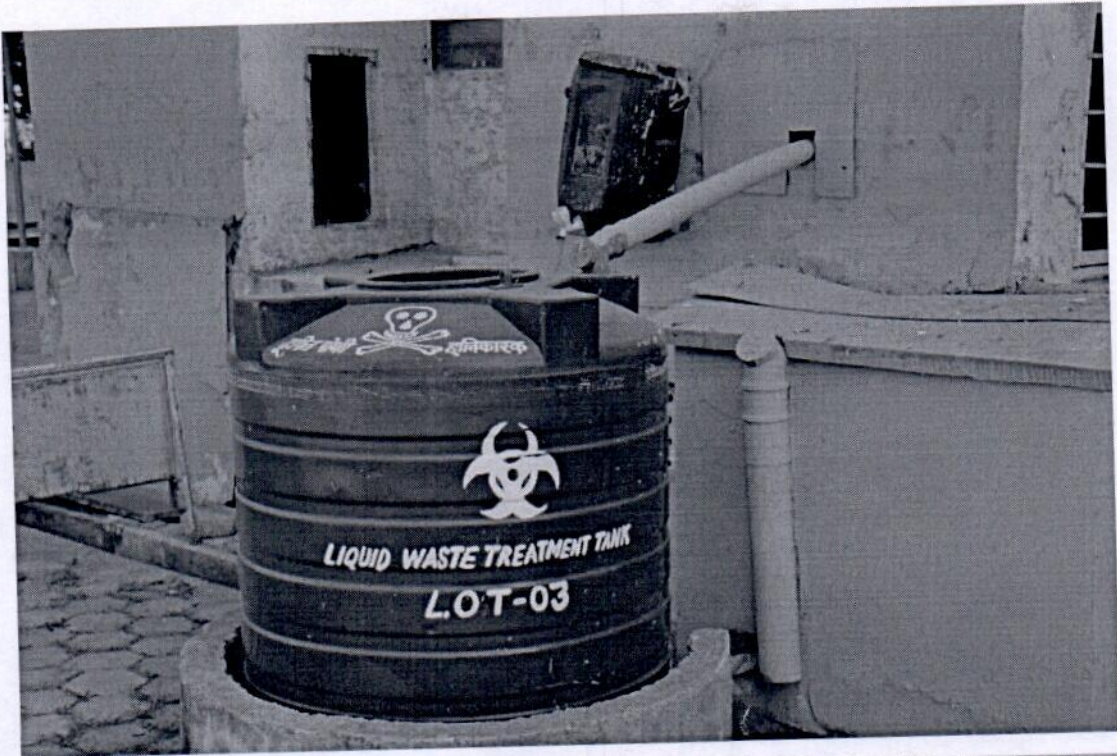
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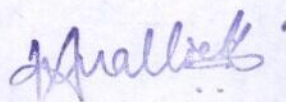
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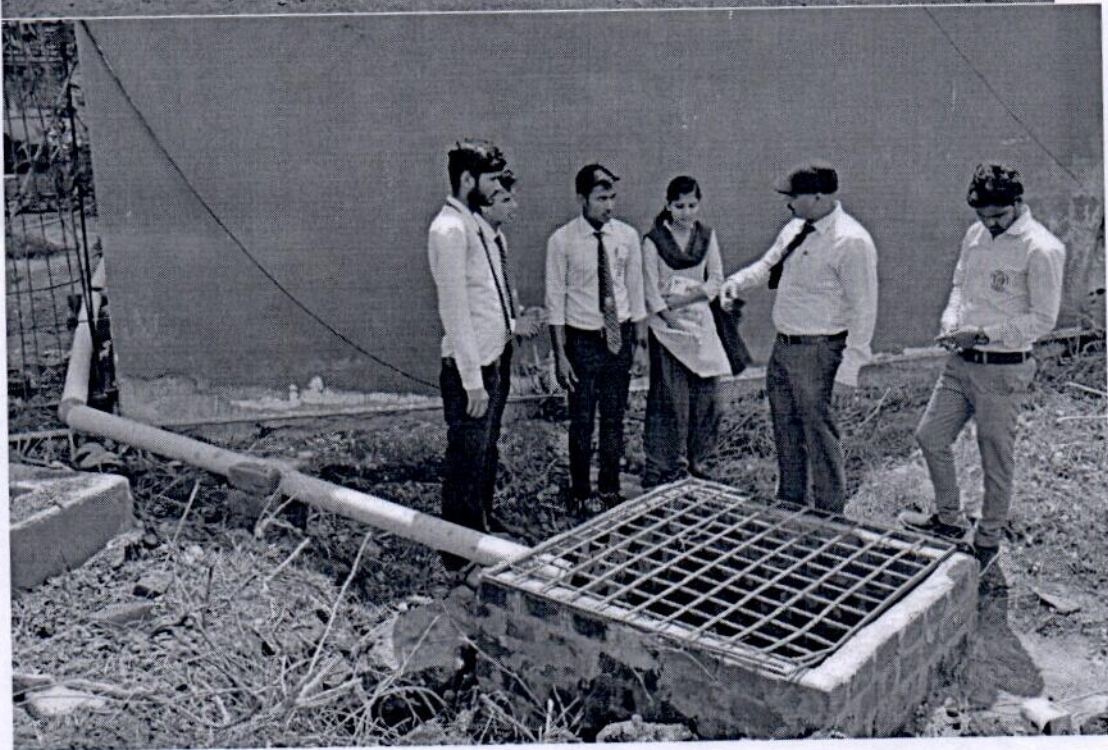




  
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