

## **Key Indicator -7.1 Institutional Values and Social Responsibilities**

### **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)**

#### **Response:**

#### **Solid waste management Practices**

The institution had taken several steps to maintain a green environment. A system for solid/liquid waste management is in place through recycling and other means, among other steps such as planting more trees, encouraging bicycling, E scooters, and constructing additional solar power plants. In this regard, the most important initiatives are:

Solid Waste Management Practices comprises 6 Nos. of Organic waste Compost pit installed for the size of 20 X 10 X 5 feet (L X B X D) for converting the leftover food waste, vegetable waste from hostel kitchen and dry leaves of trees/plants into organic manure. These Bio-degradable wastes are converted to organic manure which in turn used for gardening purposes. Approximately, 200 kg of solid waste is dumped every day and allowed to mulch for 3 months and being used as manure for Landscaping and tress plantation. Once every six months, suitable tender method is used to dispose of old note books, newspapers, plastic debris, and iron scraps. Paper mills receive a variety of waste papers for recycling.

#### **Electronically Operated Sanitary Waste Incinerator Plant**

The inappropriate disposal of sanitary napkins is a problem that requires immediate attention in order to improve hygiene. Incineration of sanitary napkins using electrical or physical fire-based incinerators without allowing the smoke generated in the process to escape into the atmosphere is one of the finest ways to dispose of menstrual waste. Napkins must be burnt as soon as they are used to prevent infections from growing on them. Twelve numbers of electronically operated Sanitary Waste Incinerators with total capacity of 192 Nos. Napkins/hour have been installed at various locations inside the campus.



## Technical specification of the Incinerator

Specifications	
Capacity	400 Persons
Burning Per day	250 Napkins Approx
Per Time Storage	16 Napkins Approx
Dimension in MM	LxBxH = 320x350x590
Construction	MS Powder Coated
Heater Watts	2000 Watts
Mode	100% Automatic
Operation	Micro Processor
Color	Blue / Red
Options	<b>Sensor</b>
Safety Cut Offs	4 Steps

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**Details of Dustbins for collection of Solid waste**

<b>Sl. No.</b>	<b>Location</b>	<b>Capacity-10 Ltr (in numbers)</b>	<b>Capacity-20 Ltr (in numbers)</b>	<b>Capacity-50 Ltr (in numbers)</b>	<b>Total Quantity (in numbers)</b>
1	Admin office	10	2	2	14
2	S&H Block	25	4	5	34
3	Tech park Building	8	2	3	13
4	CSE Block	30	3	4	37
5	EEE Block	30	4	5	39
6	AIDS Block	12	3	3	18
7	ECE Block	30	4	7	41
8	IT Block	20	2	2	24
9	Library Block	10	2	2	14
10	Civil Block	12	3	2	17
11	Mechanical Block	25	4	4	33
12	Transport Office	2	0	0	2
13	Autonomous Block	6	2	2	10
14	Security office	1	0	0	1
15	Maintenance Block	6	0	0	6
16	PEd Dept	2	0	0	2
	<b>Total Qty</b>	<b>229</b>	<b>35</b>	<b>41</b>	<b>305</b>





### Compilation of Dry leaves for Organic Composting



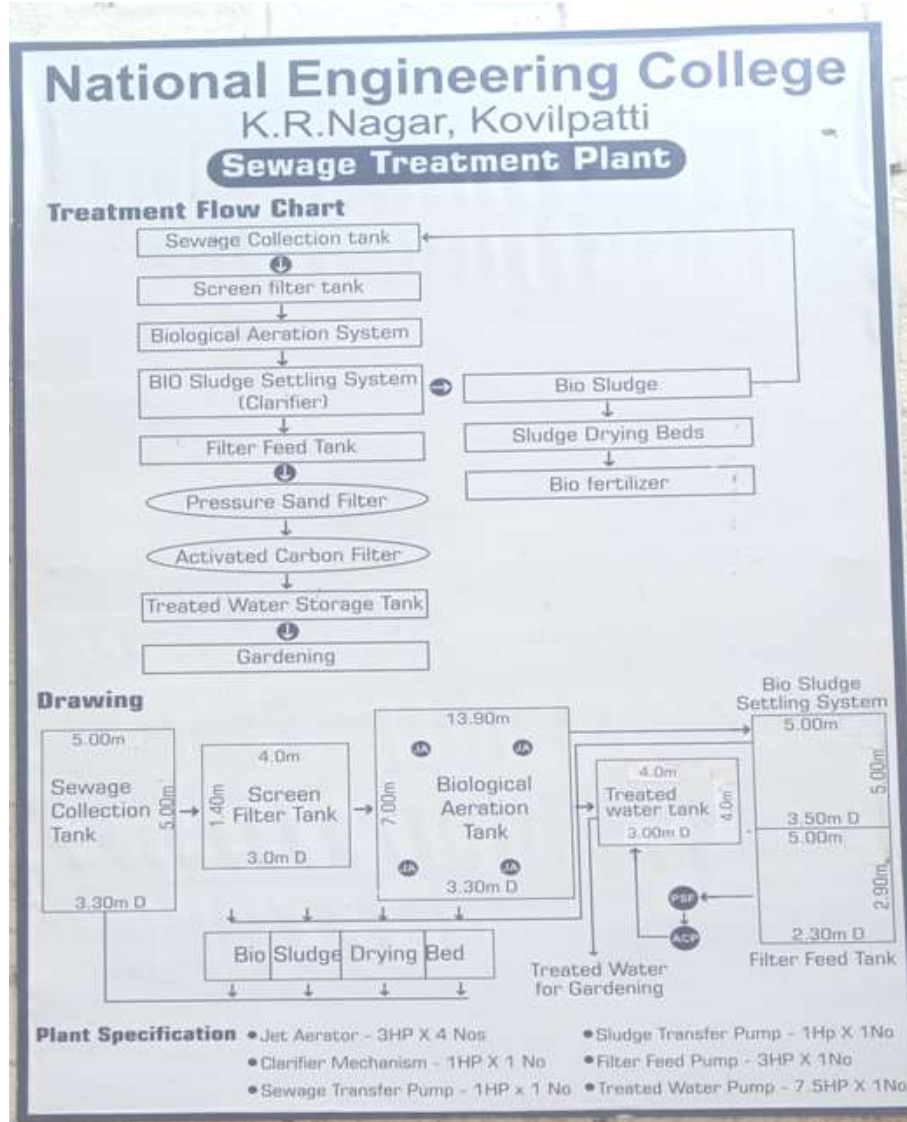
### Segregation of Solid waste at source for Organic Composting

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## Liquid Waste Management Practices

### Sewage Water Treatment

Sewage Treatment Plants (STP) with 1,50,000 Ltr capacity (Estd:2017) at a cost of Rs. 12.0 Lakhs. Sewage water, Urinal waste, Toilet waste and Wastewater from all the blocks are collected and pumped in to STP through pipelines. All solid waste is filtered within the hostel, and water and detergents are collected in the collection tank. All undissolved materials are filtered in the collection tank, and the water, along with the sewage, is passed through the aeration tank. This will be passed through the Settling tank where it consists of Aerobic bioreactors where the sewage is digested. The odour and fine particles are removed from the cleaned supernatant water by passing it through the Filtration tank, which contains a Sand filter and a Carbon filter. The outlet treated/Recycled water is collected and pumped to use for watering the plants/trees through a drip irrigation and sprinkler system.



**Sewage water treatment flow diagram & Drawing**

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Photographic view of Sewage water treatment

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### Sewage water treatment plant details

Sl. No.	Description	Quantity
01	Submersible Jet Aerator Moc:SS304withCI,Power:3 HP	4 Nos.
02	Clarifier 5 meter fitted with twin scraper arm and4RPHGearsystem, Type; Fixe bride type, PVC lander –1No.,Moc:MSEpoxy	1 set
03	Sludge Recirculation pump Power:1.5HP,Capacity: 6m <sup>3</sup> /hr@3Kg	2 Nos.
04	Chemical Dosing system Dosing pump capacity: 6 LPH, Pump Quantity: 2 nos, Tank capacity: 50 Ltr., Pump Moc: Wetted part PP, Tank Moc: Poly Propylene	1 No.
05	Sand Filter media (Pebbles,Gravel, Sylex)	3000 kg
06	Control panel	1 No.

### Water Consumption and Sewage water treatment plant discharge details

Period	Hostel Total Consumption Ltrs	College Total Consumption Ltrs	Overall Consumption Ltrs	STP Discharge Ltrs
Jun-22	4142000	2146000	6288000	3792500
Jul-22	3710000	1995000	5705000	3189100
Aug-22	3806000	1979000	5785000	2144000
Sep-22	4570000	2256000	6826000	2481000
Oct-22	3930000	2088000	6018000	2467000
Nov-22	4786000	2142000	6928000	3427000
Dec-22	4424000	2206000	6630000	1705000
Jan-23	4018000	2043000	6061000	2271000
Feb-23	4275000	2109000	6384000	2418000
Mar-23	4346000	2512000	6858000	2777000
Apr-23	4294000	2062000	6356000	2440000
May-23	4217000	1771000	5988000	201000*

\*-STP under Maintenance

**E-waste Management:**

E-Waste management is also taken care by the Institute. Old and good condition computers are donated to the nearby schools. CDs, PCBs and electronic items are collected from each and every department and delivered for safe disposal. The parts of electronic items like transformers, transistors, resistors, capacitors, inductors, diodes, sensors etc., are removed from the electronic devices for reuse in practical/projects.

**Biomedical waste management:**

The institution has no biomedical wastage generated inside the campus.

**Hazardous chemicals and radioactive waste management**

The waste water from engineering chemistry lab is treated well and utilized for gardening. The water originating from the Engineering chemistry laboratory gets neutralized and treated with lime aided with ferric chloride. Suspended solids, organic and inorganic chemical compounds present in the water are filtered by passing it through sand and charcoal bed. Charcoal absorbs many substances ranging from coloured organic particulates to inorganic metal ions. Finally the treated water is used for gardening.

