

# CHAPTER-11

## E-WASTE MANAGEMENT

### 2020-21





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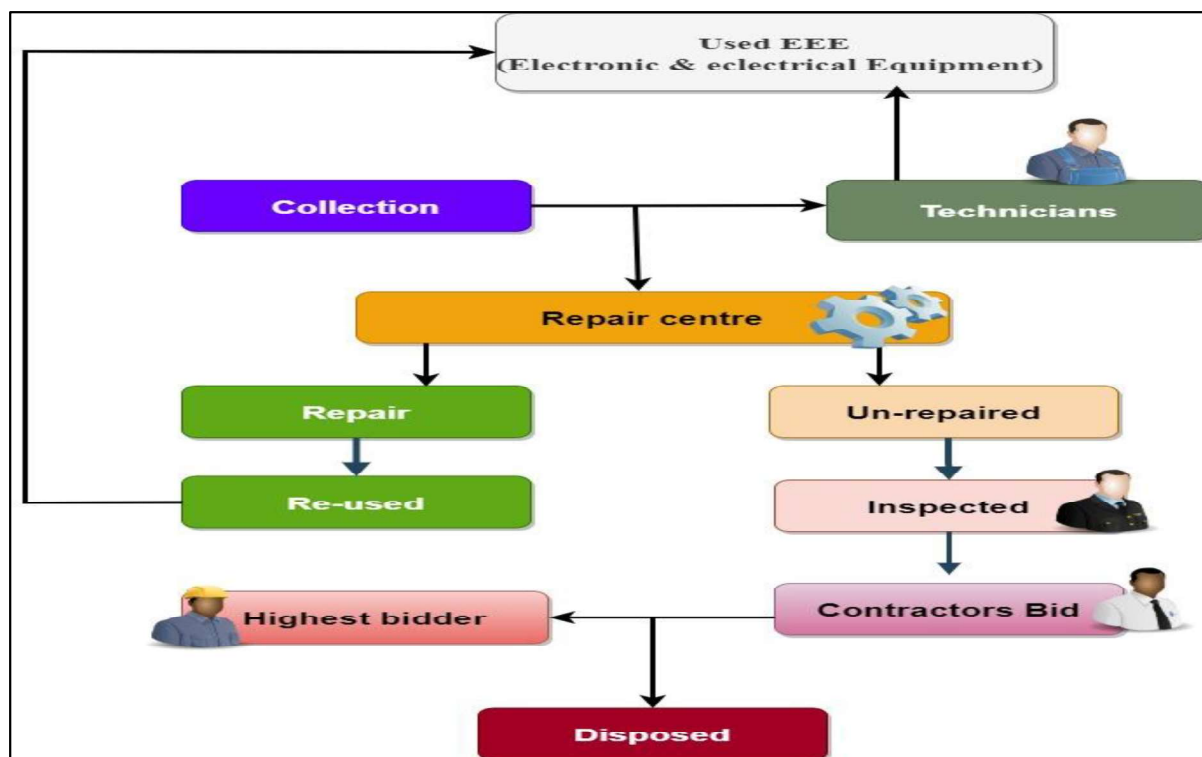
### E-WASTE MANAGEMENT

E-waste is the short term for Electronic waste. It describes the various forms of electric and electronic equipment that have ceased to be of any value to their owners. Electronic and electrical products that are discarded or reaching their end of life are called e-waste or electronic waste. With the advancement and changing technology, product life cycles have become shorter. Due to toxic materials in these products, recycling them or disposing them off in a safe and environmentally friendly manner is of utmost concern. The lack of organized segregation processes has created more harm to the people involved in the process. The present report on e-waste would help understand the awareness level and attitude of students and faculties towards e-waste segregation in Dr. Harisingh Gour Vishwavidyalaya, Sagar, as it has the major producers of e-waste due to implementation of Information and Communication Technology (ICT) in Higher Education.

Dr. Harisingh Gour Vishwavidyalaya, Sagar, is committed to practising sustainable development; therefore, the University has decided to identify and discuss e-waste management challenges in the University. Using a checklist and discussion with the Engineering department of the University and Heads of all the departments, an attempt has been made initially to design and identify issues, type of e-waste and related e-waste management in the University.

#### **Challenges identified:**

- Inefficient data management
- Improper equipment classifications
- Lack of awareness among the employees and the concerned authority on e-waste, collection and disposal problems
- Lack of specific regulations and policies on end-of-life electrical and electronic equipment (e-waste) management and practices within the University.



**Figure: Schematics on EEE in Dr.Harisingh Gour Vishwavidyalaya, Sagar**

#### **Type of EEE in university campus:**

University has diversified branches of study that include science stream, arts, commerce, Law and Management, and others where using electrical equipment and electronic device are common and obvious. Therefore, these are the point source of e-waste generation from time to time. The table below is the list prepared to report the types of e-waste generated.

**Table: Type of e-waste generated in the University**

| Sl.no | Electrical equipment                                                                                                                                 | Electronics/electronics assets                                                                              | Remarks                                                                                                                                                                                                                                                   |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.    | ACs, Scientific instruments like hot air oven, incubator, weighing balance, centrifuge, Shaker, electrical microscope, microwave, heat blowers, etc. | Computers, Laptops, Printers, UPS, scanners, mouse, wifi setup box, camera, printer roller, cartridge, etc. | The non-working metallic instruments are stored in each department in the storeroom or in the open backyard of the department, along with the non-repairable electronics or are deposited in the e-wastes to the engineering department of the University |



Figure: Some e-wastes in University

## Recommendations:

- Electronic wastes should be minimized before starting their treatment.
- Repair and reuse.
- We recommend putting a list of such waste on IUMS to see whether they can be repaired or reused.
- University may also open a centre for repairing electronic items like computers, printers, and photocopiers on outsourcing and on a payment basis.
- The University may seek a pilot project from departments to minimize the e-waste and reuse the equipment and management.
- A proper list of non-working equipment and electronics should be made by each department so that the appropriate action can be taken within time.
- Alumni of Physics Department (Mr. Jitendra Baghel) is converting the battery from AC to DC which may provide clean and eco-friendly light for 24-hour utilization in the University campus, which will be economical for the University.
- Finally, the electronic material that remains unutilized and cannot be recycled or reused by University officials may be sent or sold to the industries that recycle these wastes.
- The University is working on the above lines for proper recycling of e-wastes.