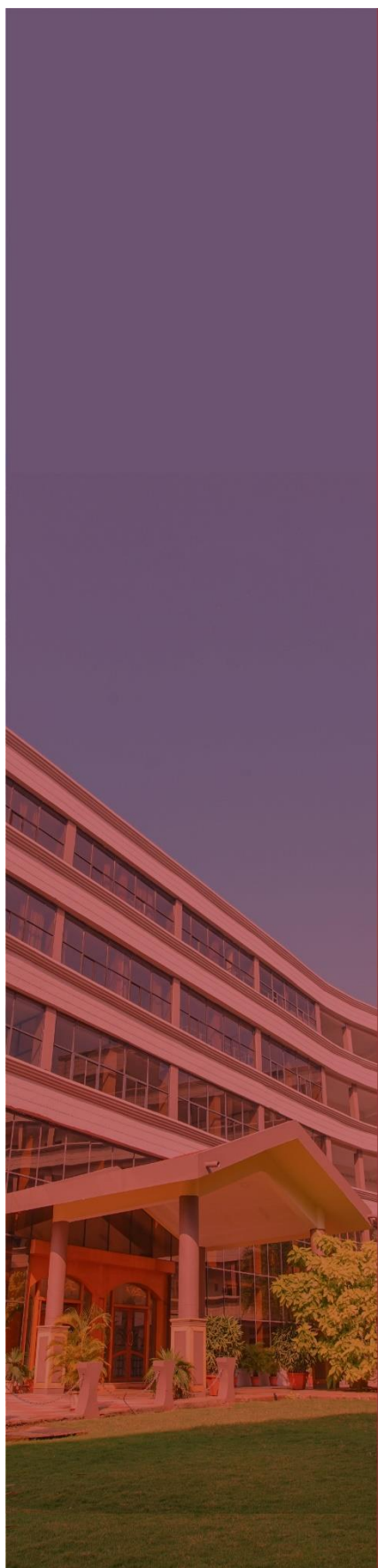


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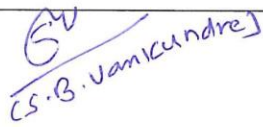
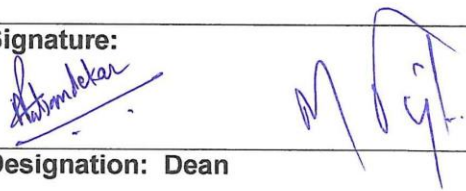

MANAGING E-WASTE IN INSTITUTE





**D.Y. PATIL EDUCATION SOCIETY (INSTITUTION DEEMED TO BE
UNIVERSITY), KOLHAPUR**

SOP For Managing E-Waste In The Institute

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SOP For Managing E-Waste In The Institute

Introduction

Spectacular developments in modern times have undoubtedly enhanced the quality of our lives. At the same time, these have led to manifold problems including the problem of massive amounts of hazardous waste and other wastes generated from electric products. These hazardous and other wastes pose a great threat to the human health and environment. The issue of proper management of wastes, therefore, is critical to the protection of livelihood, health and environment.

What is e-waste?

The problem of e-waste has become an immediate and long term concern as its unregulated accumulation and recycling can lead to major environmental problems endangering human health. Information technology has revolutionized the way we live, work and communicate bringing countless benefits and wealth to all its users. The creation of innovative and new technologies and the globalization of the economy have made a whole range of products available and affordable to the people changing their lifestyles significantly. New electronic products have become an integral part of our daily lives providing us with more comfort, security, easy and faster acquisition and exchange of information. But on the other hand, it has also led to unrestrained resource consumption and an alarming waste generation. Both developed countries and developing countries like India face the problem of e-waste management.

E-waste consists of all waste from electronic and electrical appliances which have reached their end- of- life period or are no longer fit for their original intended use and are destined for recovery, recycling or disposal. It includes computer and its accessories monitors, printers, keyboards, central processing units; typewriters, mobile phones and chargers, remotes, compact discs, headphones, batteries, LCD/Plasma TVs, air conditioners, refrigerators and other household appliances.⁵ The composition of e-waste is diverse and falls under ‘hazardous’ and ‘non-hazardous’ categories. Broadly, it consists of ferrous and non-ferrous metals, plastics, glass, wood and plywood, printed circuit boards, concrete, ceramics, rubber and other items. Iron and steel constitute about 50% of the waste, followed by plastics (21%), non-ferrous metals (13%) and other

constituents. Non-ferrous metals consist of metals like copper, aluminium and precious metals like silver, gold, platinum, palladium and so on.⁶ The presence of elements like lead, mercury, arsenic, cadmium, selenium, hexavalent chromium, and flame retardants beyond threshold quantities make e-waste hazardous in nature.

Guidelines for Collection and Storage of E-Waste

After assessing their requirement of collection of e-waste, producers may devise a collection mechanism through collection from the department.

Collection centres for depositing of e-waste by the faculty, students, non-teaching staff take-back system

- Details of any incentive scheme for consumers / bulk consumers for returning of e-waste
- Details of authorised dismantlers/recyclers who can take-back e-waste on behalf of the producer. If dismantlers/recyclers are part of the take-back system.
- Refurbished e-waste may be store the e-waste for a period not exceeding one hundred and eighty (180) days
- Storage of end of life products may be done in a manner which does not lead to breakage of these products and safe to workers handling such products.

During storage of e-waste care may be taken:

- (i) To avoid damage to refrigerators and air-conditioners so as to prevent release of Refrigerant gases such as CFC, HFS, HCFC etc. and to prevent spillage of oils (mineral Or synthetic oil) and other emissions.
- (ii) To avoid damage to Cathode Ray Tube
- (iii) To avoid damage to fluorescent and other mercury containing lamps
- (iv) To avoid damage to equipment containing asbestos or ceramic fibres to avoid release of Asbestos or ceramic fibres in the environment.
- After collection of fluorescent and other mercury containing lamps, it should be sent only to a Recycler.
- Loading, transportation, unloading and storage of E-Waste / end of life products should be Carried out in such a way that its end use such as re-use after refurbishing or recycling or Recovery is unaffected.

- The storage area should have a fire protection system in place.

Guidelines for Collection Centre

- ✓ Collection centres or collection points are part of E-waste channelization, and can be established by producers, refurbishers, dismantlers and recyclers. Collection Centre may Collect and store e-waste, on behalf of producer / dismantler / recycler /refurbished and Transfer the same to authorised dismantlers / recyclers.
- ✓ Only those collection centres may operate which are specified in EPR(Extended Producer Responsibility) Authorisation of the Producers including the collection centres established by dismantlers / recyclers / Refurbishers and having agreement with Producers.
- ✓ If the collection centres are operating on behalf of many producers, then all such producers Should provide this information in their EPR application.
- ❖ Collection Centre should store e-waste product category wise.

Categories of E-Waste :-

1. Major appliances (Refrigerators, Washing Machines, Dryers etc.)
 2. Small appliances (Vacuum cleaners, Blenders, Iron etc)
 3. Computer and Tele-communication appliances (Laptops , PC, Telephonic, mobile phones etc.)
- ❖ Collection Centre should maintain the records of E-Waste collected and account the same to Respective producers and record.
 - ❖ Covered shed/spaces have to be used for storage of E-Waste.
 - ❖ Collection Centre should necessarily have adequate fire-fighting arrangement, escape route, For emergency exit.

Types of Electronic Waste with Its Each Definition

1. ICT and Telecommunications Equipment

Items classified into ICT include CPUs, screens, monitors, mice, printers, keyboards, networking equipment, laptops, audio amplifiers, CDs, DVDs, and video cameras. And this number is arguably the most in the current era because it is the easiest to obtain.

2. Office Electronics

Office use and the amount of trash in the world seem to be a problem. Office electronics include calculators, photocopying equipment, electrical, typewriters, telephones, fax machines, and facsimiles if they are still in the office.

3. Consumer Equipment

Items used for consumer use will also be included in the electronic waste sector. This category for consumers is all forms of activity that will be important to serve consumers. Many activities fall into this category.

4. Medical Equipment

And there are still many who are not aware that this waste is also included in medical matters. If this is added up, it can be calculated how much the amount of waste is. So, electronic equipment is involved in injury, treatment, prevention, and detection activities.

Guidelines for Transportation of E-Waste

Our institute is regularly connected with the e-Recyclebin agency. Institute e-waste is regularly collected by them.

- ✓ The sender of E-Waste, that may be a refurbisher and collection centre should identify transporter or make Arrangements for transporting e-waste in such a manner that environmental consequences of hazards associated with its transport could be kept at minimum.
- ✓ Transport of E-Waste should be carried out as per the manifest system as per the provisions Made in rule 19 of the E-Waste (M) Rules, 2016 and the transporter will be required to carry A document (three copies) as per form 6 of the rules provided by the sender. The Responsibility of safe transportation of E-waste shall be with the sender of E-Waste.
- ✓ Fluorescent and other mercury containing lamps may be transported to TSDF in the cases Where no recyclers of CFL are available
- ✓ The manufacturers and recyclers while transporting waste generated from manufacturing or Recycling destined for final disposal to a treatment, storage and

disposal facility will follow the Provisions under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

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1. Springer link 2021
2. EPR 2016
3. <https://www.mpcb.gov.in/waste> management/electronic-waste