**IDEA TITLE:**

Efficient E-Waste Management by Ensuring Sustainable Development to Promote 5R’s.

**ABSTRACT:**

Electronic waste, or E-WASTE, is a term for electronic products that have become unwanted, non-working or obsolete, and have essentially reached the end of their useful life. With proven records of hazards for the environment, E-WASTE management is a great concern. We are devising a solution that will provide detail idea for E-WASTE management as it contains vital process starting from the collection of E-WASTE, their segregation, shredding, electromagnetic separation, Eddy current separator then metal detection and air jet. Efficiency of his approach is much better than Valuable metals like gold and silver will be separated at the segregation stage and can be recovered and reused.

E-WASTE recycling is necessary, but it should be conducted in a safe and standardized manner.

The by-product advantage of our system is that it will generate employment, as labour force will be needed at various stages. Also, the method employed is comparatively much eco-friendly and effective than the existing methods.

**IDEA DESCRIPTION**

According to a 2020 report by the Central Pollution Control Board, India generated 1,014,961 tonnes of E-WASTE in FY 2019-2020 of this, the report found that only 3.6% and 10% were actually collected in the country.

In December 2020, Prime Minister Narendra Modi had spoken on the virtue of using electronic items to the fullest and discarding old items carefully and the need to better handle electronic waste.

More recently, in August 2021, he announced a ‘Waste to Wealth’ mission, focusing on utilizing waste for better use. But to this day, E-WASTE management in India remains plagued with ineffectual implementation.

As the living standard of people is rising and with new technologies being available in market the use of electronic products will keep on rising which will simultaneously increase E-WASTE, so its proper management is a must, which we have tried to achieve using our model.

These six materials are under rising threat of extinction from increased use of electronics :- Indium(used in solar cells, LCD screens, computer chips, LEDs and solar panels), Tantalum(used in the electronics industry for capacitors and high power resistors), Silver(solder, electrical contacts, and printed circuit boards), Arsenic (A compound of arsenic, gallium arsenide (GaAs), is also used to make light-emitting diodes (LEDs), Yttrium(used to produce phosphors that are used in cell phones and larger display screens as well as general lighting), and Gallium(Gallium arsenide (GaAs) and gallium nitride (GaN) are valuable compounds employed in advanced semiconductors for microwave transceivers, DVD's, laser diodes in compact discs and other electronic applications).

We have developed an effective and eco-friendly solution for proper management and disposal of E-WASTE we have followed circular economy principle so that not only does the waste gets managed, but also revenue is generated, employment is being provided and pollution that arises due to this is also controlled and diminished.

We have decided to form contracts with industries which generates E-WASTE in huge amount and also with current collectors of E-WASTE, also a website will be made through which we will collect E-WASTE from general populace and all this collected waste will be sent to our central hub.

Further through manual separation E-WASTE is sorted into refurbished and recyclable waste, now through various processes iron, steel, copper, aluminium, other precious metals and plastic will be collected for recycling.

These recycled materials can be then sold as either raw materials or products can be made from these recycled materials like metal benches, rods, plastic keyboards, mouse, bottles etc to generate revenue.

By following this approach properly, we can curb the growing E-WASTE, pollution, provide employment, save rare metals and also generate a massive income to help the country’s economy.