1. Managing Electronic Waste

Context:

- The Information Technology industry has been one of the major drivers of change in the economy since last decade and has contributed significantly to the digital revolution in every aspect of our daily lives.
- However, consequence of its consumer oriented growth combined with rapid product obsolescence and technological advances are a new environmental challenge-the growing menace of 'electronic wastes' that consists of obsolete electronics devices.

Impact of e-Waste on Environment:

- Electronic products actually are a complex mixture of several hundred tiny components, many of which contain deadly chemicals thereby threatening human health and the environment.
- Most of the components in e-devices contain lead, cadmium, mercury, polyvinyl chloride, brominated flame retardants, chromium, beryllium, etc.
- These e-wastes when improperly disposed (incinerated/land filled instead of recycling) with domestic waste, without any controls, can contaminate the soil, water and air.
- One of the **most common effects of e-waste on air is through Air Pollution.** When improperly disposed, these heavy metals leach through the soil to reach groundwater channels which eventually run to the surface as streams or small ponds of water.
- Burning of e-waste in open landfill for obtaining gold and other precious metals produces fine particulate matter and cause cardio-vascular and pulmonary ailments in children.
- Since, these chemicals are not biodegradable; they persist in the environment for long time, increasing the risk of exposure.

Some solutions to Addressing the Issue:

- E-waste can be contained by minimising its generation. The product designers must ensure the longevity of the products through their re-use, repair and upgradeability features.
- Stress should be laid on use of less toxic, easily recoverable, and recyclable materials which can be refurbished, disassembled and remanufactured.
- Recycling and reuse of material are the next options to reduce generation of e-waste. Recovery of metals, plastic, glass and other materials reduces the magnitude of e-waste.

- Clear regulatory instruments adequate to control the both exports and imports of e-wastes and ensuring their environmentally sound management should be in place.
- To address the loopholes in the prevailing legal framework to ensure that e-wastes from developed countries are not dumped in our country for disposal.
- All vendors of electronic devices shall provide take-back and management services for their products at the end of life of those products.
- Collection systems are to be established so that e-waste is collected from the right places ensuring this directly comes to the recycling unit.

Challenges Ahead:

- Only **1.5% of e-waste generated in India gets recycled.**
- Lack of awareness about e-waste and its recycling as well as the role of the unorganized sector are the added challenges to the problem.
- The base metals which can be reused are lost and result in soil contamination due to unorganized and crude dismantling.
- Often, information is not provided along with the product packing about the e-collection centre for the product sold.
- The responsibility of the consumers is not specified along with the Product.