PANIMALAR ENGINEERING COLLEGE

An Autonomous Institution

[JAISAKTHI EDUCATIONAL TRUST]

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Bangalore Trunk Road,Varadharajapuram, Poonamallee, Chennai- 600 123

TECHDIVATHON

Empower, Innovate, Elevate: Code the Future Together

Domain: E WASTE

Problem Statements:

Sno	Title	Problem Statement	Description
1	Smart E-Waste Sorting Machine	Manual sorting of e-waste is inefficient and prone to errors.	An automated machine equipped with sensors to detect and sort materials like metal, plastic, and glass, improving recycling efficiency.
2	Portable E-Waste Recycling Unit	Small electronics often go unrecycled due to the lack of accessible facilities.	A compact device that can recycle small electronic devices into reusable raw materials, enabling on-site recycling.
3	E-Waste Monitoring and Collection Bin	Overflowing e-waste bins lead to improper disposal.	A smart bin equipped with IoT sensors to monitor waste levels and send alerts when it's time for collection.
4	Energy Recovery System from E-Waste Batteries	Residual energy in discarded batteries is often wasted.	A system to extract and store leftover energy from used batteries, reducing energy waste.
5	Compact Circuit Board Separator	Separating components from circuit boards is labor-intensive.	A compact device designed to safely extract reusable components from e-waste circuit boards.
6	Portable Tool for Component Extraction	Valuable parts in e-waste often go unrecovered.	A handheld tool for safely removing valuable components like chips and capacitors from discarded electronics.
7	IoT-Enabled E-Waste Collection Unit	E-waste management systems lack real-time tracking.	A smart collection unit that monitors e-waste levels and schedules pickups automatically.
8	E-Waste Compactor	Storing large volumes of e-waste is space-consuming.	A compactor that compresses e-waste, optimizing storage and transportation logistics.
9	Material Identification Scanner	Identifying materials in e-waste is challenging without specialized equipment.	A handheld scanner that uses sensors to detect and classify materials in electronic waste.
10	Solar-Powered E-Waste Sorting Machine	Sorting machines often rely on non-renewable energy sources.	A machine that operates on solar power, sorting e-waste into material categories efficiently.
11	E-Waste Collection and Recycling App	Users often lack information about local recycling options.	An app that connects users with nearby e-waste recycling centers and schedules pickups.

12	AI-Driven E-Waste Valuation System	Determining the resale value of old electronics is difficult.	A system that uses AI to assess the value of e-waste based on condition, age, and market trends.
13	Blockchain-Based E-Waste Tracking System	There's a lack of transparency in the recycling process.	A decentralized platform to track e-waste movement from disposal to recycling, ensuring accountability.
14	E-Waste Awareness Game	Many users are unaware of proper e-waste recycling methods.	A gamified app that educates users about e-waste management through interactive challenges.
15	Lifecycle Analysis Tool for Electronics	Electronic devices are often discarded prematurely.	A tool that tracks the usage of devices and predicts optimal recycling times based on lifecycle analysis.
16	Digital Marketplace for Refurbished Electronics	Refurbished electronics are underutilized in the consumer market.	An online platform for buying and selling refurbished electronic devices, promoting reuse.
17	Waste Management Dashboard	Municipalities lack insights into e-waste trends.	A dashboard for monitoring e-waste collection volumes and recycling performance metrics.
18	E-Waste Pickup Scheduling App	Users face difficulty arranging e-waste pickups.	An app that allows users to book e-waste collection services based on their availability.
19	Educational E-Waste App	Users often lack knowledge about dismantling electronics safely.	An app that provides tutorials on dismantling electronics to recover reusable parts safely.
20	Recycling Incentive Tracker	People are less motivated to recycle without rewards.	A system that rewards users with points or discounts for recycling e-waste at certified centers.
21	Smart E-Waste Recycling Kiosk	Recycling kiosks lack engagement and incentivization features.	A kiosk that accepts e-waste and rewards users with points or discounts for recycling.
22	AI-Powered E-Waste Disassembly Robot	Manual disassembly of e-waste is slow and inefficient.	A robot equipped with AI to identify and disassemble e-waste into recyclable components.
23	IoT-Based E-Waste Management Network	Cities struggle with efficient e-waste management.	A network connecting smart bins and collection points to monitor recycling progress and optimize logistics.
24	Smart Sorting Conveyor System	Sorting e-waste materials manually is error-prone and slow.	A conveyor belt system with integrated sensors and software for efficient e-waste sorting and material recovery.
25	Automated Recycling Plant with AI Integration	Recycling processes lack precision and optimization.	A fully automated plant that uses AI to identify, sort, and recover materials from e-waste with minimal human intervention.

Reviewer's Digital Signature

Reviewer's Name:
Position:
Organization:
Date:

Digital Signature: