

Certification Course for E-Waste Recycling & Circular Resource Management

An Employability-Focused Green Skills Program

TABLE OF CONTENT

MODULE 1: INTRODUCTION TO E-WASTE	4
1.1 What is EEE and E-Waste?	5
1.2 Types of E-Waste	5
1.3 Common E-Waste Items	7
1.4 Material Composition of E-Waste	7
1.5 Lifespan of Electronic Devices	9
End-of-Unit Assessment	9
MODULE 2: E-WASTE GENERATION & REALITY	11
2.1 What is E-Waste Generation?	12
2.2 E-Waste in India	13
2.3 Global Scenario	13
2.4 Sources/Generators of E-Waste	14
2.5 Why E-Waste is Increasing	15
End-of-Unit Assessment	17
MODULE 3: IMPACT OF E-WASTE	18
3.1 Hazardous Materials in E-Waste	19
3.2 Environmental Impacts	21
3.3 Health Impacts	21
3.4 How Pollution Happens	24
3.5 Real-Life Case Study	25
End-of-Unit Assessment	26
MODULE 4: SAFE HANDLING & DISMANTLING	27
4.1 Importance of Dismantling & Segregation	28
4.2 Tools & Equipment for Dismantling	28
4.3 Personal Protective Equipment (PPE)	29
4.4 Manual Dismantling Process	30
4.5 Mechanised Dismantling	31
4.6 Safety Measures & Accident Prevention	32
4.7 Colour Coding & Safe Storage	33
End-of-Unit Assessment	35
MODULE 5: MATERIAL SEPARATION & RECYCLING	37
5.1 Types of Materials in E-Waste	38
5.2 Segregation Techniques	39
5.3 Mechanical Recycling Methods	40
5.4 Recovery of Valuable Materials	41
5.6 4Rs: Reduce, Reuse, Repair, Recycle	43

End-of-Unit Assessment	45
MODULE 6: COLLECTION, STORAGE & INVENTORY	46
6.1 Collection Systems for E-Waste	47
6.2 Role of Collection Centers & Informal Sector	47
6.3 Segregation at Source	48
6.4 Storage and Handling Practices	48
6.5 Basics of Inventorization	49
6.6 Importance of Tracking E-Waste	50
End-of-Unit Assessment	51
MODULE 7: RULES, ROLES & RESPONSIBILITIES	52
7.1 Why Rules are Needed	53
7.2 Key E-Waste Rules in India	53
7.3 Digital Personal Data Protection (DPDP) Rules, 2025	54
7.4 Roles of Stakeholders:	57
7.5 Compliance and Responsible Practices	59
End-of-Unit Assessment	60
MODULE 8: DATA SECURITY & IT ASSET DISPOSAL	61
8.1 What is Data and Why it Must be Protected	62
8.2 Data Destruction Methods	62
8.3 Types of Storage Devices	62
8.4 Safe Disposal of IT Equipment	62
8.5 IT Asset Lifecycle	64
8.6 Sanitization of Data	64
End-of-Unit Assessment	68
MODULE 9: BUSINESS & ENTREPRENEURSHIP	69
By the end of this unit, you will be able to:	69
9.1 E-Waste as a Business Opportunity	70
9.2 Types of Business Models:	70
9.3 Setting up a Small E-Waste Business	71
9.4 Real Case Example	73
End-of-Unit Assessment	76
Appendix	
MODULE 10: SUSTAINABILITY & CIRCULAR ECONOMY	77
10.1 What is Circular Economy?	77
10.2 Linear vs Circular System	77
10.3 Resource Efficiency	79
10.4 Role of E-Waste in Sustainability	79
10.5 Importance for India	81

End-of-Unit Assessment

MODULE 11: ADVANCED TOPICS	83
11.1 ROHS Guidelines	84
11.2 Key International Treaties and Agreements	85
11.3 Exemplary E-Waste Management Legislation: Case Studies	87
Glossary of Key Terms	88