



ELECTRONIC WASTE MANAGEMENT – ISSUES AND CHALLENGES

PROF. BRAJESH KUMAR DUBEY

Department of Civil Engineering
IIT Kharagpur

TYPE OF COURSE : Rerun | Elective | PG

COURSE DURATION : 4 weeks (24 Jan' 22-18 Feb' 22)

EXAM DATE : 27 March 2022

PRE-REQUISITES : Environmental Sciences, Introduction to Environmental Engineering

INTENDED AUDIENCE : Disciplines of Engineering, Science, Humanities and Management

INDUSTRIES APPLICABLE TO : E Parisaraa, Ecoreco Recycling, Earth Sense, Attero Recycling, EWRI, WEEE Recycle, J. S. Pigments Limited. In addition ULBs across the country will be interested in this course, so as professionals from SPCB and CPCB.

COURSE OUTLINE :

This course will discuss the overall scenario of E-Waste management in India in comparison with other countries around the globe. At first, the present scenario of E-Waste management in India will be discussed along the role of various stakeholders. Then, the effects of recycling and management of Electronic Waste on human health, environment and society will also be presented. This will be followed by the risk assessment owing to pollutants released from E-Waste recycling in soil, air and water. The possible option of extraction of Rare-Earth Minerals will also be discussed in this course. The E-Waste management Rules of India and around the World will be compared. Finally a Life-Cycle Analysis approach will be employed for a possible sustainable solution of E-Waste Management for cutting the ill-effects of informal recycling.

ABOUT INSTRUCTOR :

Prof. Brajesh Kr. Dubey has his Bachelors Degree in Civil Engineering (Hons) from Indian Institute of Technology (IIT) Kharagpur, India and PhD in Environmental Engineering Sciences, University of Florida, Gainesville, Florida, USA. He is presently Associate Professor (Integrated Waste Management and Sustainable Engineering) in the Division of Environmental Engineering and Management at Indian Institute of Technology (IIT), Kharagpur, India. Dr. Dubey has more than 17 years of research, teaching, training and industrial outreach experience in the areas of Integrated Solid and Hazardous Waste Management, and Sustainable Engineering and Application of Life Cycle Assessment techniques. He also works in the area of Life Cycle Analysis and Sustainable Engineering. He has been teaching courses in the area of Solid Waste Management, Hazardous Waste Management. Dr. Dubey has authored/co-authored more than 200 publications in his area of expertise and have presented at several national and international conferences. He has worked as Waste Management Expert for UN agencies and World Bank.

COURSE PLAN :

Week 1: Overview of the course

Week 2: Exposure pathway of pollutants emitted from Recycling of E-Waste

Week 3: E-Waste Management Rules of India (2011 and 2016 Rules)

Week 4: E-waste Management: Case Studies and Unique Initiatives from around the World