



Indraprastha College for Women University of Delhi

Work Plan for ODD SEMESTER – 2026

Course Name:	Generic Elective Course (GEC)
Paper Title:	Green Technologies
Unique Paper Code:	2184001003
Semester:	VII
Faculty:	Dr. Shanta Kumar
Year:	July, 2026

Work Plan			
Unit No.	Learning Objective	Lecture No.	Topics to be Covered
I	Understand the scope and relevance of green technologies	1-2	Course introduction and learning objectives; orientation and identification of green practices on campus
I	Explain core green concepts and assess resource use	3-4	Green energy, infrastructure, economy and chemistry; survey of energy and resource consumption
I	Apply sustainable consumption and community-participation practices	5-6	Sustainable consumption and participation; plan for composting and waste segregation
I	Apply the 3Rs and product life-cycle thinking	7-8	Reduce, Reuse and Recycle; cradle-to-cradle and cradle-to-grave; household product life-cycle analysis
II	Explain the need and ecological basis of green buildings	9-10	Green buildings: history, need and relevance; case study of a commercial green building
II	Evaluate green-building performance and certification	11-12	Construction, costs, benefits and LEED certification; ecological principles in green buildings
II	Apply certification and green-planning principles	13-14	Eco-mark, green cities, land-use planning and green belts; green plan for a college or residential area
II	Analyze urban waste management and sustainable transportation	15-16	Waste management, informal sector and public transportation; study of green practices in an Indian industry
II	Relate green-economy instruments to industrial sustainability	17-18	Green economy, REDD+, cap-and-trade and green banking; comparison of Indian and international industries

III	Assess opportunities for improving energy efficiency	19-20	Energy-efficient lighting, fume hoods and thermostats; campus energy audit
III	Explain and plan greenhouse-gas reduction measures	21-22	GHG reduction, carbon capture and storage, offsets and green transport; carbon-credit plan
III	Recommend pollution-control and waste-to-wealth measures	23-24	Methane reduction and reuse; physical, chemical and biological pollution control; cleaner production
IV	Apply the principles of green chemistry	25-26	Introduction and principles of green chemistry; replacement of conventional processes with green alternatives
IV	Compare conventional, biodegradable and emerging green products	27-28	Biodegradable and bio-accumulative products, green nanotechnology, green reagents and photodegradable plastics
V	Develop strategies for a sustainable and innovative green future	29-30	Green development, ecological footprint, conservation practices and innovation; action plan for a sustainable future
	Communicate learning and demonstrate completion of practical work	31-32	Student presentations; practical file evaluation

S. No.	Name of Authors/Books/Publishers
1.	Allen, D. T. (2012). Sustainable Engineering: Concepts, Design, and Case Studies. Pearson.
2.	Anastas, P. T. and Warner, J. C. (1998). Green Chemistry: Theory and Practice. Oxford University Press.
3.	Arceivala, S. L. (2014). Green Technologies: For a Better Future. McGraw-Hill Publications.
4.	Baker, S. (2006). Sustainable Development. Routledge Press.