GANPAT UNIVERSITY									
FACULTY OF SOCIAL SCIENCES AND HUMANITIES									
Programme	Bachelor of Commerce					Branch / Spec.	General		
Semester	IV					Version	1.0.0.0		
Effective from Academic Year		2025-26				Effective for the Batch Admitted in			July 2024
Subject Code	BVAC205		Subject Name			Waste Management			
Teaching Scheme						Examination Scheme (Marks)			
(Per week)	Lecture (DT)		Practical (Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	02	00	00	00	02	Theory	25	25	50
Hours	02	00	00	00	02	Practical	00	00	00

Pre-requisite:

Objective:

The aim of the course is to provide students an introduction about Waste Management.

Learning Outcomes/Course Outcomes:

On successful completion of the course, the students will be able to:

CO1- Understand the principles of waste management and sustainability.
CO2- Learn about different types of waste and their impact on the environment.
CO3- Explore waste management techniques, policies, and technologies.
CO4- Develop problem-solving skills for waste reduction and resource recovery.

Mapping of PO-CO and PSO-CO:

Course Outcome (CO) No.	PO-CO Mapping								PSO-CO Mapping					
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	2	1	2	2	1	2	2	2	2	1	1	2	3
CO2	3	2	1	2	2	1	3	3	2	2	2	1	2	3
CO3	3	2	1	2	3	1	3	3	2	3	3	2	3	3
CO4	3	2	1	2	3	1	3	3	3	3	3	2	3	3

Theory Syllabus

Unit	Content	Hrs.
1	**Fundamentals of Waste Management** Introduction to Waste Management: Definition, scope, and importance; Classification of waste; Sources of waste. Waste Generation and Characterization: Composition and properties of different wastes; Factors affecting waste generation; Waste auditing and assessment. Collection, Storage, and Transportation of Waste: Methods of waste collection; Storage techniques (bins, segregation, transfer stations); Transportation and logistics in waste management. Environmental and Health Impacts of Waste: Effects of improper waste disposal; Public health concerns; Climate change and pollution. Waste Management Policies and Regulations: National and international waste management policies; Role of government and NGOs.	15
2	**Waste Treatment and Sustainable Practices** Waste Treatment and Disposal Methods: Landfilling - Types and impacts; Incineration and thermal treatment; Composting and anaerobic digestion. Recycling and Resource Recovery: Recycling of paper, plastics, metals, and e-waste; Circular economy and sustainable material management; Waste-to-energy technologies. Hazardous and Biomedical Waste Management: Classification and handling of hazardous waste; Biomedical waste disposal methods; Safety regulations and protocols. Sustainable Waste Management Strategies: Zero waste initiatives; Role of 3Rs (Reduce, Reuse, Recycle). Emerging Trends and Future of Waste Management: Smart waste management systems; Role of AI and IoT in waste tracking	15
	Exam: Theory 100%,	

Text Book:

Introduction to Waste Management: A Textbook by Syed E. Hasan

Reference Books:

Nemerow, N.L., “Industrial Waste Management”, Addison-Wesley Publishing Company, Philippines.

	Household Recycling and Consumption Work by Kathryn Wheeler; Miriam Glucksmann Sustainable Solid Waste Management By Syeda Azeem Unnisa, S. Bhupatthi Rav (1st Edition) Ronald E. Hester Roy M. Harrison 2007 Nanotechnology: Consequences for Human Health and the Environment. J. Glynn Henry and Gary. W. Heinke, "Environmental Science and Engineering", Pretice Hall of India, 2004
Online Resource:	
	https://archive.nptel.ac.in/courses/105/106/105106056/ https://onlinecourses.nptel.ac.in/noc24_ce77/preview https://nptel.ac.in/courses/105106056