

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023****Subject Code:3173522****Date:01-12-2023****Subject Name: Sustainable development and Green Technology****Time: 10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

			MARKS
Q.1	(a)	Discuss the role of phytoremediation in maintaining environmental sustainability.	03
	(b)	Describe the principles of sustainable development.	04
	(c)	Explain the concept of cleaner production.	07
Q.2	(a)	What is the need of green technology?	03
	(b)	Highlight the objectives of sustainable development.	04
	(c)	Describe microbial fuel cell (MFC) technology.	07
OR			
	(c)	Explain green synthesis of ecofriendly nanoparticles and their applications.	07
Q.3	(a)	Define: Cleaner Production, Sustainability and Nanotechnology	03
	(b)	Describe advantages and limitations of phytoremediation.	04
	(c)	Describe the concept and application of recycling & reuse.	07
OR			
Q.3	(a)	What are the techniques for good waste minimization Practice?	03
	(b)	Enlist applications of nanotechnology.	04
	(c)	Describe the step and task of CP methodology.	07
Q.4	(a)	What are the domains of sustainable development?	03
	(b)	Explain internal and external barriers of CP.	04
	(c)	Describe sustainable development goals in detail.	07
OR			
Q.4	(a)	Explain biodegradable polymers.	03
	(b)	List out and explain sustainable farming practices.	04
	(c)	Describe biofuels for sustainable development.	07
Q.5	(a)	What are the goals of sustainable agriculture?	03
	(b)	What is the importance of nitrogenous fertilizer?	04
	(c)	Explain anyone case study related to cleaner production.	07
OR			
Q.5	(a)	Describe CP tools.	03
	(b)	Enlist application of MFC.	04
	(c)	Explain ZLD in detail.	07
