

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024

Subject Code:3173522

Date:19-11-2024

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) Explain sustainable agriculture and its benefit.	03
	(b) Explain the domains of sustainable development.	04
	(c) Describe the application of nanotechnology in environment engineering.	07
Q.2	(a) Define: Phytoremediation, Pytoextraction and Pytostabilization.	03
	(b) Explain internal and external barriers of CP.	04
	(c) List out and explain sustainable farming practices.	07
	OR	
	(c) Describe biofuels for sustainable development.	07
Q.3	(a) What are the goals of sustainable agriculture?	03
	(b) Explain MFC technology.	04
	(c) Describe CP case study for creation of wealth from high TDS waste stream through “waste recovery plant”.	07
	OR	
Q.3	(a) What is the need of green technology?	03
	(b) Explain green synthesis of ecofriendly nanoparticles and their application.	04
	(c) Explain CP tools in detail.	07
Q.4	(a) What is the role of phytoremediation in maintaining environmental sustainability?	03
	(b) Why the agriculture has to be sustainable? Explain in relevance to population growth.	04
	(c) Explain ZLD in detail.	07
	OR	
Q.4	(a) What is the importance of nitrogenous fertilizer? Give their advantages and disadvantages in detail.	03
	(b) Explain biodegradable polymers.	04
	(c) Describe the concept of cleaner production.	07
Q.5	(a) Describe some examples of sustainable development.	03
	(b) Enlist application of MFC.	04
	(c) Explain recycling and reuse of liquid industrial waste in chemical industries.	07
	OR	
Q.5	(a) What are the techniques for good waste minimization practice?	03
	(b) Describe advantages and limitations of phytoremediation.	04
	(c) Describe sustainable development goals in detail.	07
