

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VI EXAMINATION – SUMMER 2026

Subject Code:3160514

Date:26-05-2026

Subject Name: Green Technology and sustainable Development

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 the term green chemistry and its importance with suitable example.	03
	(b) Differentiate the green chemistry and green products with ordinary chemistry and products.	04
	(c) Illustrate the concept of process intensification with neat and clean diagram.	07
Q.2	(a) Define green synthesis with suitable example.	03
	(b) Discuss the microwave assisted reactions in detailed explanation.	04
	(c) Demonstrate the three principal dimensions of sustainable development with suitable examples.	07
	OR	
	(c) Write a brief note on, “synthesis of green reagents and their applications”.	07
Q.3	(a) Explain in brief. “Sustainability challenges and possibilities”	03
	(b) Classify the various green industrial processes.	04
	(c) Explain in detail. “The greener approach towards reduction of pollution for pharmaceutical industries”.	07
	OR	
Q.3	(a) Discuss in detail. “Green solvents”.	03
	(b) Justify the role of industry in cleaner production technology.	04
	(c) Explain in detail. “The greener approach towards reduction of pollution for polymer industries”.	07
Q.4	(a) Describe in detail. “The cleaner production tools”.	03
	(b) Write a brief note on “Good House Keeping”.	04
	(c) Justify the role of cleaner production in achieving sustainability	07
	OR	
Q.4	(a) Discuss in brief. “ The Cleaner Production and its principles”	03
	(b) Enlist the pros and cons of Cleaner Production.	04
	(c) Explain in detail about the Fluoride removal from wastewater via cleaner production technology.	07

Q.5	(a) Define the energy conservation as a tool for cleaner production.	03
	(b) Explain the Environmental Management Hierarchy.	04
	(c) Explain the greener approach towards reduction of pollution for Pharmaceutical and dyes industries.	07

OR

Q.5	(a) Justify the relation of cleaner production (CP) and environmental management system (EMS)	03
	(b) Discuss any one unit operation involved to generate a cleaner product.	04
	(c) Classify the energy audit methods in detail with suitable example.	07
