

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019****Subject Code: 2170409****Date: 30/11/2019****Subject Name: Environmental Biotechnology****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. Notations used in this script have conventional meaning and needs no clarification.

		MARKS
Q.1	(a) State principle of trickling filters.	03
	(b) How is the concept of cleaner Technology for paper industry, fruitful?	04
	(c) What are the considerations for choice of aerobic and anaerobic wastewater treatment?	07
Q.2	(a) Give a principle of composting of an organic waste.	03
	(b) Write on methods of biological waste gas purification.	04
	(c) Explain the commercial applications of waste gas purification.	07
	OR	
	(c) Write a note on: Nitrification and denitrification systems with reference to wastewater treatment.	07
Q.3	(a) Write the basic parameters for anaerobic semi dry and wet garbage fractions.	03
	(b) What is the role of micorrhizae in reforestation?	04
	(c) Clearly suggest the ways to reduce pollution caused by industrial effluents.	07
	OR	
Q.3	(a) Write the characteristics of plastic industry wastes.	03
	(b) What is the concept behind reclamation of toxic sites?	04
	(c) Write a detail account on: anaerobic treatment of wastewater.	07
Q.4	(a) Enlist the methods of phytoremediation.	03
	(b) Narrate the sequestration of heavy metals using GEMs.	04
	(c) Explain bioconversion process to convert biomass into energy and useful products.	07
	OR	
Q.4	(a) How do biohydrolysis process, developed by SPIC, is useful?	03
	(b) What is the relation between plant roots and fungi?	04
	(c) Discuss the removal of spilled oil and grease deposits.	07
Q.5	(a) Discuss the Petrocrops.	03
	(b) Give the main highlights of hydrolysis of lignocellulosic materials.	04
	(c) Discuss on Biomass as a source of energy.	07
	OR	
Q.5	(a) What is the normal composition of biomass resourced from plants?	03
	(b) Justify the use of bio-fuels in current times, technically.	04
	(c) Explain how the wastes can be treated as sources of energy?	07
