

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2170409****Date: 03/12/2018****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.

		MARKS
Q.1	(a) Write down the composition of biogas.	03
	(b) Explain the working of trickling filters for aerobic treatment of wastewater.	04
	(c) Discuss the contact stabilization process with diagram.	07
Q.2	(a) How can environment impact of agricultural practices be reduced?	03
	(b) What is the contribution to environment by toxic site reclamation?	04
	(c) Explain the anaerobic methanogenesis process.	07
	OR	
	(c) Discuss the wastewater composition and treatment strategies for fruit juice and beverage industries.	07
Q.3	(a) Give the steps towards cleaner Technologies with respect to plastic Industry.	03
	(b) Explain how GEM is useful in detecting PAH in soil?	04
	(c) Narrate the process of heavy metal accumulation by plants.	07
	OR	
Q.3	(a) Enlist the microorganisms participating while wastewater treatment.	03
	(b) What are the energy crops? Make its list and write its uses.	04
	(c) Discuss on restoration of degraded lands with methods in detail.	07
Q.4	(a) What are the functions of Xylanases for its contribution in energy sector?	03
	(b) What does ISO 14000 brings about for environment?	04
	(c) Give an account of renewable energy sources.	07
	OR	
Q.4	(a) What is petrocrops?	03
	(b) Compare thermophilic and mesophilic anaerobic fermentation process operations of waste fractions.	04
	(c) Make a list of selection criteria between aerobic and anaerobic treatment.	07
Q.5	(a) "Hydrogen can be promising fuel for future.": do you agree? Why?	03
	(b) Give the overview of the basic design and working of a rotating biological contactor.	04
	(c) Give an account on naturally occurring plants for phytoremediation and transgenic plants for phytoremediation.	07
	OR	
Q.5	(a) Draw a flow chart representing treatment steps for biowaste.	03

- (b) Give your views on the development of stress tolerant plants. 04
(c) With a neat diagram, composting process and its methods. 07
