Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – SUMMER • 2014

Subject Code: 160403 **Date: 23-05-2014**

Subject Name: Environmental Biotechnology

Time: 10:30 am - 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.**

Q.1	**(a)**	Define compost and State the quality requirements of compost that must be met in order to use it as a soil conditioner.	**07**
	(b)	Describe contact stabilization process for wastewater treatment.	**07**
Q.2	**(a)**	Summarize briefly on secondary wastewater treatment. Give all processes and steps through charts.	**07**
	(b)	Prepare a summary on "Bio gas production methods".	**07**
		OR	
	(b)	What is biomonitoring? Explain the uses of biosensors in environmental monitoring.	**07**
Q.3	**(a)**	Comment on naturally occurring plants for phytoremediation.	**07**
	(b)	How environmental impact of agricultural practices can be reduced? Explain with examples.	**07**
		OR	
Q.3	**(a)**	Discuss plant biology of heavy metal accumulation.	**07**
	(b)	Give a contribution of transgenic plants for phytoremediation.	**07**
Q.4	**(a)**	Summarize the steps for reducing environmental impact of industrial effluents.	**07**
	(b)	How does toxic site reclamation help in saving environment?	**07**
		OR	
Q.4	**(a)**	Give an overview of the environmental risks associated with biotechnological innovations.	**07**
Q.4	**(b)**	Write a note on: ISO 14000	**07**
Q.5	**(a)**	How are the microorganisms being utilized for improving soil fertility?	**07**
	(b)	Can stress tolerance plant contribute to save environment? Justify with technical comments.	**07**
		OR	
Q.5	**(a)**	Narrate different strategies for biological waste gas purification.	**07**
	(b)	Define: BOD and COD. Discuss its impact in ground water and surface water. Suggest the treatments of resources to keep it in permissible range.	**07**

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