

**GUJARAT TECHNOLOGICAL UNIVERSITY****B. E. Sem-VI Examination May 2011****Subject code: 160403****Subject Name: Environmental Biotechnology****Date: 19/05/2011****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)** Draw a sketch of rotating Biological contactors, label it and enlist the performance parameters. **07**

**(b)** Briefly discuss about ISO-14000 and EMS. **07**

**Q.2 (a)** What are the types of waste water treatment? **07**

**(b)** How toxic waste is treated? Discuss SPIC strategy on biotreatment. **07**

**OR**

**(b)** Explain the process of methanogenesis with major features. **07**

**Q.3 (a)** Give your views on naturally occurring plants for phytoremediation. **07**

**(b)** With a neat diagram, explain contact stabilization process for waste water. **07**

**OR**

**Q.3 (a)** Write a note on biodegradation of pollutants. **07**

**(b)** What are factor affecting biogas yields? Discuss. **07**

**Q.4 (a)** Discuss views on how to reduce environmental impacts on current agricultural practices. **07**

**(b)** State the commercial applications of biological waste gas purification **07**

**OR**

**Q.4 (a)** Describe cleaner technologies with respect to fermentation, paper and plastics industries. **07**

**(b)** Describe briefly the various sources of Biomass. **07**

**Q.5 (a)** What are the available models of gobar gas reactors? Describe Indian model with sketch. **07**

**(b)** State the applications of anaerobic fermentation of wet and semidry garbage waste fractions. **07**

**OR**

**Q.5 (a)** Explain how microorganisms are utilized for improving soil fertility? **07**

**(b)** Discuss the energy and fuel using microorganisms **07**

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