

**M. Sc. (Environment Science and Technology) Sem - I (CBCS) (2013
Course) : WINTER - 2018**

SUBJECT : ENVIRONMENTAL MICROBIOLOGY

Day : Wednesday
Date : 21/11/2018

W-2018-1227

Time : 10.00 AM TO 01.00 PM
Max. Marks : 60

N.B.:

- 1) Attempt any **FIVE** questions.
 - 2) Figures to the **RIGHT** indicate full marks.
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- Q.1 a)** Enlist methods used to study microbial growth and describe any two in detail. **(06)**
- b)** Describe symbiotic nitrogen fixation in detail. **(06)**
- Q.2 a)** Distinguish between continuous and synchronous cultures. **(06)**
- b)** Bio-fertilizer and microbial leaching. **(06)**
- Q.3** Explain the following: **(12)**
- a)** Batch and continuous culture
- b)** Molecular techniques for studying microbial diversity.
- Q.3 a)** Describe the role of microorganisms in organic matter decomposition. **(06)**
- b)** Explain the process of Biological nitrogen fixation. **(06)**
- Q.5 a)** Describe the diversity of microorganisms seen in alkaline environment. How are organisms adapted to life in alkaline environment? **(06)**
- b)** Write an essay on microbial diversity. What are barophiles? How are they adapted? **(06)**
- Q.6** Write short notes on any **THREE** of the following: **(12)**
- a)** Microbial indicators of air pollution
- b)** Production of bacterial bio-fertilizers
- c)** Steps for purification of water
- d)** Mechanism of Biogas production by microbes
- e)** Indicator organisms of faecal contamination of water.

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