

**M. Sc. (Environment Science and Technology) Sem - I (CBCS)  
(2013 Course) : WINTER - 2017**

**SUBJECT: ENVIRONMENTAL MICROBIOLOGY**

Day: **Wednesday**  
Date: **22/11/2017**

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

**W-2017-0983**

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**N.B.:**

- 1) Answer any **FIVE** questions.
  - 2) Figures to the right indicate **FULL** marks.
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**Q.1 a)** Explain the various processes involved in the treatment of sewage. **(12)**

**OR**

**b)** What is biodegradation? Explain in details with example.

**Q.2 a)** Describe Lag and Log phase in bacteria. **(06)**

**b)** Discuss biological and morphological concept of species. **(06)**

**Q.3 a)** What are extremophiles? Discuss variety and variability found among any one group. **(06)**

**b)** Explain the effect of pH and temperature on the growth of bacteria. **(06)**

**Q.4 a)** Write a commonly used method for isolation of pure culture of bacterium. **(06)**

**b)** Describe plate count methods for enumeration of bacteria. **(06)**

**Q.5 a)** Discuss the role of Bio pesticides in biological control. **(06)**

**b)** Discuss different biofertilizers and add a note on their significance. **(06)**

**Q.6** Write short note son any **THREE** of the following: **(12)**

- a)** Vermicomposting
- b)** Bioremediation
- c)** Mechanism of Biogas production by microbes
- d)** Steps for purification of water

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