

**M. SC. (ENVIRONMENT SCIENCE AND TECHNOLOGY) SEM -  
I (CBCS) (2013 COURSE) : SUMMER - 2018  
SUBJECT : ENVIRONMENTAL MICROBIOLOGY**

Day : **Wednesday**  
Date : **11/04/2018**

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

**S-2018-1098**

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**N. B. :**

- 1) Answer **ANY FIVE** questions.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.

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- Q.1 a)** What are various methods of measurement of bacterial biomass? Discuss any two methods in detail. **(12)**
- Q.2 a)** Elaborate on the factors which decide the effectiveness of a disinfectant. **(06)**
- b)** Explain with example microbial indicator organisms. **(06)**
- Q.3 a)** Discuss the processes involved in secondary treatment of sewage water. What are the processes which are responsible for the breakdown of organic matter? **(06)**
- b)** Elaborate microbial succession during composting. **(06)**
- Q.4 a)** How does temperature affect the activity of oxidation pond? **(06)**
- b)** Differentiate acidophiles from alkaliphiles. Describe the adaptation of these organisms which can survive in acidic and alkaline environment. **(06)**
- Q.5 a)** Write an essay on microbial diversity. What are barophiles? How are they adapted to life under pressure? **(06)**
- b)** Enlist methods used to study microbial growth and describe any two in details. **(06)**
- Q.6** Write short notes (**ANY THREE**) **(12)**
- a)** Microbial Indicators of air pollution
  - b)** Production of bacterial biofertilizers
  - c)** Steps for purification of water
  - d)** Batch and continuous culture
  - e)** Mechanism of biogas production by microbes

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