

M. Sc. (Biotechnology) Sem-III (2012 Course)(Choice Based Credit System) : WINTER - 2018

SUBJECT : ENVIRONMENTAL BIOTECHNOLOGY

Day : Tuesday
Date : 23/10/2018

W-2018-1210

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

N.B.:

- 1) **Q.No.1** and **Q.No.5** are **COMPULSORY**. Out of the remaining questions attempt **ANY TWO** questions from each section.
 - 2) Answers to both the sections should be written in **SEPARATE** answer books.
 - 3) Draw neat and labeled diagrams **WHEREVER** necessary.
 - 4) Figures to the right indicate **FULL** marks.
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SECTION – I

- Q.1** Attempt **ANY FIVE** of the following: **[10]**
- a) Define the term Xenobiotics.
 - b) Write the effects of noise pollution in human health.
 - c) Write the basic concepts of environment.
 - d) Mention any four methods of water pollution monitoring.
 - e) Write about aerobic biofilms.
 - f) Explain sources of air pollution and their control.
- Q.2** Answer the following: **[10]**
- a) Write an account of biotechnological approaches for reducing environmental impact of pesticides.
 - b) Discuss the conventional methods of primary and secondary treatment of sewage.
- Q.3** Explain the following: **[10]**
- a) Drinking water standards used in India.
 - b) Detection and control of microorganisms in fresh water.
- Q.4** Write short notes on **ANY TWO** of the following: **[10]**
- a) Activated sludge process.
 - b) Aerated lagoon.
 - c) Microbes in wastewater treatment

SECTION – II

- Q.5** Attempt the following: **[10]**
- a) What is hazardous waste? Discuss their impact on human health.
 - b) Describe the genetically modified organisms for improving the environment.
- Q.6** Answer **ANY TWO** of the following: **[10]**
- a) Define acid rain. Write about the causes and effect of acid rain.
 - b) Discuss the merits and demerits of bioremediation.
 - c) Describe the methods of composting of solid waste.
- Q.7** Write short note on the following: **[10]**
- a) Carbon credit.
 - b) Biostimulation.
- Q.8** Answer the following: **[10]**
- a) What is meant by solid waste management? Discuss the process with respect to characteristics features, types and treatment options.
 - b) Define desalination. Mention various techniques used in this process. Add a note on byproducts and industrial application of desalination.