

**BTECH**  
**(SEM VIII) THEORY EXAMINATION 2018-19**  
**ENVIRONMENTAL BIOTECHNOLOGY**

**Time: 3 Hours****Total Marks:100****Notes:** Assume any Missing Data.**SECTION – A**

- 1. Attempt all parts. All parts carry equal marks.** **[2x10=20]**
- a) How does municipal waste contribute to air pollution?
  - b) What is hydrolysis?
  - c) Name at least three alternative fuels?
  - d) Write the two ways by which microbial strain improvement for anaerobic process could be done?
  - e) Differentiate between Biomagnification and Bioaccumulation?
  - f) Define biodegradation?
  - g) Give 5 advantages of Activated Sludge Process?
  - h) What is expanded bed reactor?
  - i) What are biomarkers? Write its types also.
  - j) Write short note on BOD & COD.

**SECTION – B**

- 2. Attempt any 3 parts. All parts carry equal marks.** **[3x10=30]**
- a) Write two different aspects which involve study of reaction kinetics?
  - b) Give a brief account about the design of bioreactors for liquid waste treatment?
  - c) Write the role of Biotechnology in Biodegradation?
  - d) What are the minimum national standards for waste disposal?
  - e) Write down about biochemical aspects of anaerobic digestions?

**SECTION – C**

- 3. Attempt any one part** **(10 marks)**
- a) Write a brief account on availability of waste material?
  - b) What is recombination? Write down some popular recombination methods?
- 4. Attempt any one part** **(10 marks)**
- a) Explain trickling filter with the help of diagram?
  - b) How anaerobic treatment of wastewater is done?
- 5. Attempt any one part** **(10 marks)**
- a) Describe activated sludge process?
  - b) Give a brief note about the microbiology of pollution abatements?
- 6. Attempt any one part.** **(10 marks)**
- a) With the help of neat and labeled diagram, explain the working of anaerobic contact digestors?
  - b) What is the role of baffles in anaerobic baffled digestors? Explain with the help of a diagram?
- 7. Attempt any one part.** **(10 marks)**
- a) Define Environment and give a brief account of Environmental Pollution?
  - b) Write a short note on landfill bioreactors?