

Printed Pages: 01

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Sub Code: NBT602

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**B TECH  
(SEM VI) THEORY EXAMINATION 2017-18**

**ENVIRONMENTAL BIOTECHNOLOGY**

**(Time: 3 Hours)**

**(Total marks: 100)**

**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**

Note: Attempt all parts. All parts carry equal marks.

**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?