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. (10 marks)

3. Attempt any one part
   a. Write a brief account on availability of waste material?
   b. What is recombination? Write down some popular recombination methods?

(10 marks)

4. Attempt any one part
   a. Explain trickling filter with the help of diagram?
   b. How anaerobic treatment of wastewater is done?

(10 marks)

5. Attempt any one part
   a. Describe activated sludge process?
   b. Give a brief note about the microbiology of pollution abatements?

(10 marks)

6. Attempt any one part.
   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?

(10 marks)

7. Attempt any one part.
   a. Define Environment and give a brief account of Environmental Pollution?
   b. Write a short note on landfill bioreactors?