

Code No: RR312305

<b>Set No. 1</b>
------------------

**III B.Tech I Semester Regular Examinations, November 2006**  
**ENVIRONMENTAL BIOTECHNOLOGY**  
**(Bio-Technology)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

\*\*\*\*\*

1. Differentiate between trickling filters and activated sludge process. [16]
2. Distinguish between aerobic and anaerobic wastewater treatment. [8+8]
3. Write short notes on: [8+8]
  - (a) In-situ bioremediation.
  - (b) Biostimulation.
4. Write short notes on: [8+8]
  - (a) Landfarming
  - (b) Composting.
5. Write notes [8+8]
  - (a) Direct leaching
  - (b) Indirect leaching
  - (c) Microbes in mining.
6. What are Biofuels? How these are produced? Explain with examples. [3+8+5]
7. Write a detailed account on biodegradation of Xenobiotics? [16]
8. Detoxification of xenobiotics is achieved by using biological methods ?what are the methods. [16]

\*\*\*\*\*

**III B.Tech I Semester Regular Examinations, November 2006**  
**ENVIRONMENTAL BIOTECHNOLOGY**  
**(Bio-Technology)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

\*\*\*\*\*

1. Write short notes on (any two): [8+8]
  - (a) Operational problems in trickling filters and their remedies.
  - (b) Biochemical oxygen demand.
  - (c) Acidity and Alkalinity.
2. Write short notes on (any two): [8+8]
  - (a) Primary treatment of wastewater.
  - (b) Secondary treatment of wastewater.
  - (c) Tertiary treatment of wastewater.
3. "Bioremediation is emerging as the most ideal alternative technology for removing environmental pollution". Justify the statement. [16]
4. Write short notes on: [8+8]
  - (a) Soil piles.
  - (b) Prepared beds.
5. What are the advantages and disadvantages of using microbes in metal recovery? [16]
6. Write short notes on any two: [8+8]
  - (a) Natural gas.
  - (b) Solar energy.
  - (c) Biogas .
7. Write a detailed account on biodegradation of Xenobiotics? [16]
8. What is the importance of pseudomonas putida in hazardous waste control? [16]

\*\*\*\*\*

Code No: RR312305

**Set No. 3**

**III B.Tech I Semester Regular Examinations, November 2006**  
**ENVIRONMENTAL BIOTECHNOLOGY**  
**(Bio-Technology)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

\*\*\*\*\*

1. What are stabilization ponds? Explain the difference between aerobic and anaerobic stabilization ponds. [4+12]
2. Explain the following: [8+8]
  - (a) Sludge drying and sludge conditioning
  - (b) Sludge lagooning.
3. Write a note on bioremediation of polluted sites. [16]
4. Write short notes on: [8+8]
  - (a) Landfarming
  - (b) Composting.
5. What is microbial transformation of metals? Enumerate and describe the importance of micro organisms involved in it. [4+12]
6. Write short notes on any two: [8+8]
  - (a) Natural gas.
  - (b) Solar energy.
  - (c) Biogas .
7. Explain the importance of controlling pollutants? What are the advantages of using biosystems in this process? [8+8]
8. Explain the various biotechnological approaches of hazardous waste management? [16]

\*\*\*\*\*

Code No: RR312305

**Set No. 4**

**III B.Tech I Semester Regular Examinations, November 2006**  
**ENVIRONMENTAL BIOTECHNOLOGY**  
**(Bio-Technology)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

\*\*\*\*\*

1. What are stabilization ponds? Explain the difference between aerobic and anaerobic stabilization ponds. [4+12]
2. Write short notes on (any two): [8+8]
  - (a) Sloughing of filter.
  - (b) Sludge thickening and drying.
  - (c) Underdrainage system of filters.
3. How is bioremediation helpful in cleanup of oil spills? [16]
4. Write short notes on: [8+8]
  - (a) Landfarming
  - (b) Composting.
5. What are the microbial strains used in bio leaching of metal extraction? Explain their mode of action? [8+8]
6. What are Biofuels? How these are produced? Explain with examples. [3+8+5]
7. Compare how different toxic compounds can be degraded using different strains of microbes. [16]
8. Write various examples of biotechnological applications of waste management?[16]

\*\*\*\*\*