

III B.Tech. I Semester Supplementary Examinations, May -2005
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.
2. Explain the following:
 - (a) Sludge drying and sludge conditioning
 - (b) Sludge lagooning.
3. Write a note on bioremediation and discuss its constraints and priorities.
4. Write short notes on:
 - (a) Landfarming
 - (b) Composting.
5. Write notes
 - (a) Direct leaching
 - (b) Indirect leaching
 - (c) Microbes in mining.
6. Write short notes on any two:
 - (a) Algal fuel.
 - (b) Oil industry in India.
 - (c) Gasohol programme
7. Write short notes on any two:
 - (a) Mixed microbial degradation
 - (b) Cam plasmid
 - (c) Biodegradation of halogenated compounds.
8. Write different types of xenobiotic compounds, their toxic effects caused in the ecosystem? Explain their biodegradation.

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1. Discuss the characteristics of wastewater? Explain the various biological processes used in the treatment of wastewater.
2. Write short notes on (any two):
 - (a) Sludge digestion.
 - (b) Sludge thickening.
 - (c) Septic tank.
3. What is bioremediation? Differentiate between intrinsic and engineered bioremediation.
4. Write in detail about composting and the factors affecting it.
5. "Leaching offers the greatest potential of metal recovery " Justify the statement.
6. Explain how microbes are useful in recovery of oil from oil wells.
7. Write a detailed account on biodegradation of Xenobiotics?
8. Write different types of xenobiotic compounds, their toxic effects caused in the ecosystem? Explain their biodegradation.

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1. Discuss the characteristics of wastewater? Explain the various biological processes used in the treatment of wastewater.
2. Explain the following:
 - (a) Sludge drying and sludge conditioning
 - (b) Sludge lagooning.
3. What is bioremediation? Differentiate between intrinsic and engineered bioremediation.
4. Write short notes on:
 - (a) Landfarming
 - (b) Composting.
5. What are the advantages and disadvantages of using microbes in metal recovery?
6. What are Biofuels? How these are produced? Explain with examples.
7. What is biological detoxification? Explain its significance with examples?
8. What are the biological agents used in hazardous waste management?

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1. Differentiate between trickling filters and activated sludge process.
2. Write short notes on (any two):
 - (a) Sloughing of filter.
 - (b) Sludge thickening and drying.
 - (c) Underdrainage system of filters.
3. Write a note on bioremediation of polluted sites.
4. Write short notes on:
 - (a) Microbial methods of soil improvement.
 - (b) Biofertilizer.
5. "Leaching offers the greatest potential of metal recovery " Justify the statement.
6. What are Biofuels? How these are produced? Explain with examples.
7. Write short notes on any two:
 - (a) Industrial effluents.
 - (b) Mercury Toxin
 - (c) Detoxifying microbes
8. Explain the various biotechnological approaches of hazardous waste management?
