

Code No: 09A52303

R09

Set No. 2

III B.Tech I Semester Examinations, December 2011
BASIC INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY
Bio-Technology

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Distinguish in situ from ex situ when it comes to strategies for remediation of a contaminated sub-surface site. Compare the advantages and disadvantages of each. [15]
2. What are biopolymers? What are their characteristics? Name and explain stages in production of any one of biopolymer. [15]
3. Write a short note on:
 - (a) Rotating biological contractors.
 - (b) Fluidized bed reactors. [7+8]
4. Draw the flow chart of streptomycin production and discuss the various steps in purification. [15]
5. Write a brief note on
 - (a) Functional specificity of interferons.
 - (b) Production of interferons.
 - (c) Applications of interferons. [15]
6. Discuss the production of lactic acid highlighting the following steps
 - (a) Organisms used
 - (b) Production
 - (c) Recovery. [15]
7. Write short note on the following:
 - (a) Waste stream clean up.
 - (b) Wood treatment site clean up.
 - (c) PLB degradation.
 - (d) Chemical manufacturing wastes.
 - (e) Ground water treatment. [15]
8. Write in detail about the class of enzymes used in the paper industries. [15]

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Set No. 4

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Bio-Technology

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Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Briefly explain about the process of industrial production of lactic acid. [15]
2. What is Bioremediation? Give an overview of bioremediation with few illustrations. [15]
3. Write short note on the following:
 - (a) Aerobic activated sludge process.
 - (b) Anaerobic treatment of sewage. [7+8]
4. Write in detail about various biotechnological approaches towards hazardous waste management. [15]
5. Discuss the importance of recombinant proteins in human health care. [15]
6. Describe in detail about biopolymer production with relevant examples. [15]
7. Explain the down stream processing of penicillin with the help of a flow chart. [15]
8. List the specific enzymes used in the dissolution of blood clots and also give its large scale production. [15]

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Set No. 1

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BASIC INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY
Bio-Technology

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Describe in detail the production of lactic acid and its applications. [15]
2. What can you explain about the term "Hazardous waste"? Write about the different sources and types. [15]
3. Explain the steps involved in the production and purification of penicillin from the microbial broth. [15]
4. Explain in detail about the following aspects of biofilm ecology
 - (a) Gene transfer.
 - (b) Predation and Competition.
 - (c) Interactions with pathogenic organisms. [15]
5. Enumerate the various enzymes that find commercial application in food industry. [15]
6. How can the bioremediation of Xenobiotics be done. [15]
7. What is the role of biotechnology in the treatment of industrial effluents. [15]
8. Differentiate between the conventional and recombinant vaccines. Give the advantages and disadvantages. [15]

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Set No. 3

III B.Tech I Semester Examinations, December 2011
BASIC INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY
Bio-Technology

Time: 3 hours

Max Marks: 75

Answer any FIVE Questions
All Questions carry equal marks

1. Describe the various steps involved in insulin production by recombinant microbial species. [15]
2. Write in detail about the large scale production of phenylalanine and add a note on its applications. [15]
3. Describe in detail about the stages in domestic waste water treatment. [15]
4. What are microbial insecticides and explain in detail about mode of action of Bacillus thuringensis, Bacillus sphaericus, Bacillus papilliae. [15]
5. Describe the various types of bioremediation and give advantages for each one of them. [15]
6. Describe the production and purification of cephalosporins industrially adding a note on its mode of action. [15]
7. The pharmaceutical industry employs many microbial species for large scale production of enzymes. Give two examples along with their advantages. [15]
8. How do we go for hazardous waste packaging and labeling. [15]
