

Code No: 07A72301

R07

Set No. 2

IV B.Tech I Semester Examinations, MAY 2011
INDUSTRIAL BIOTECHNOLOGY
Chemical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. What is gene transfer? Explain the process of direct gene transfer? [16]
2. List and discuss in brief negative effects of biotechnology and international trade of its products and services. [16]
3. Explain:
 - (a) Inception.
 - (b) Final economic analysis.
 - (c) Procurement. [4+8+4]
4. Explain briefly about shuffling CDR sequences? [16]
5. How a developing countries will be more or less dependent on international trade by adopting bio-technological process. Discuss it How small farmers may be affected adversely by developed in plant breeding in developing countries. [16]
6. Explain the applications of human genetic recombinant DNA technology? [16]
7. What do you mean by elution process. Discuss different types of elution processes. [16]
8. Aflatoxins are produced by fungi Explain. Name some of them and explain one of them in detail, how it is harmful to human beings? [16]

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Set No. 4

**IV B.Tech I Semester Examinations, MAY 2011
INDUSTRIAL BIOTECHNOLOGY
Chemical Engineering**

Time: 3 hours

Max Marks: 80

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

1. What is nuclear cloning and explain the process? What is the advantage? [16]
2. (a) Discuss social and ethical impact of biotechnology.
(b) What are the useful questions regarding assessing the ethicity of an application? [8+8]
3. The adoption of bio-technology will improve the efficiency of agriculture but it may now improve the international trade. Discuss it. [16]
4. Discuss about the mechanism of following chromatography:
(a) Adsorption.
(b) Ion exchange. [8+8]
5. What are the different phases of somatic embryogenesis suitable for plant development? Why? [16]
6. Classify the biotechnological process economic analysis. Name the items for which specification must be provided in a detailed process flow sheet. Write the basis with examples on which economic analysis is done. [16]
7. Explain a few representative large scale, medium scale and small scale biotechnological process. Write their importance in the industry? [16]
8. Explain why it is hard to classify microorganisms by their evolutionary relationships? [16]

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Set No. 1

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INDUSTRIAL BIOTECHNOLOGY
Chemical Engineering**

Time: 3 hours

Max Marks: 80

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

1. "Solvent extraction of biological products is beset with several problem"- what are these problems? discuss. Name the bio products which can be recovered and purified by conventional solvent extraction. [16]
2. List the different stages of plant design. How inception arises and how economics are involved during inception. What detailed engineering design includes and it provides. Discuss it in brief. [16]
3. What is brewing? Explain the different steps observed in the brewing process? [16]
4. What is a typical cryopreservation procedure used for cell cultures? [16]
5. Bio-technology will improve the condition of agriculture in third world, but how it will affect adversely them. Discuss both. [16]
6. Describe the chemical composition of carbohydrates, lipids, proteins and nucleic acids? [16]
7. How is 'Chagas disease is currently diagnosed? How can the existing procedures be included in the diagnosis? [16]
8. Define IPR. State the important articles of TRIPS, which are relevant to intellectual properties. Discuss [16]

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R07**Set No. 3**

IV B.Tech I Semester Examinations, MAY 2011
INDUSTRIAL BIOTECHNOLOGY
Chemical Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Discuss the factors involved in final economic analysis and in detailed engineering design of plant design project. [16]
2. Write short notes on the following:
 - (a) Pasteur effect
 - (b) Koch postulates
 - (c) Vaccination
 - (d) Golden era of biotechnology. [16]
3. Discuss about the ethical and social impact of bio-technology on developing world. [16]
4. What are the parameters to be monitored and controlled in the optimized fermentation process? [16]
5. What is a pad log probe and how they are used? [16]
6. What do you mean by IPR? Classify different types of IPR and also discuss about them. What are criteria to be satisfied? [16]
7. What is the RAPD procedure? How can it be used to characterize plant cultivars? [16]
8. List the parameters to be considered in the selection of a chromatographic methods. Classify and discuss briefly the nature of interaction broadly between stationary and component to be separated in mobile phase. Give few examples of both categories. Discuss about affinity chromatography in brief. [16]
