Code No: 07A72301 **R07** **Set No. 2**

IV B.Tech I Semester Examinations,NOVEMBER 2010
INDUSTRIAL BIOTECHNOLOGY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Discuss social and ethical issues on the following:
   (a) System cell research.
   (b) cloning.
   (c) technology transfer.
   (d) patent on life. [16]
2. What is brewing? Explain the different steps observed in the brewing process? [16]
3. Discuss about the ethical and social impact of bio-technology on developing world. [16]
4. Discuss about the mechanism of following chromatography:
   (a) Adsorption.
   (b) Ion exchange. [8+8]
5. How can you isolate Interferon's CDNA? Explain. [16]
6. In what ways is product cost estimation done? Explain. [16]
7. How can you transfer ferrying genes into mammalian cells? [16]
8. Define biological diversity? Discuss about microbial diversity in the context of future prospects in their utilization in biotechnology. [16]

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Code No: 07A72301 **R07** **Set No. 4**

IV B.Tech I Semester Examinations,NOVEMBER 2010
INDUSTRIAL BIOTECHNOLOGY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Describe the basic steps of bioengineering in biotechnological processes? [16]
2. Explain the applications and uses of the following Enzymes used in the production of monoclonal antibodies?
   (a) DNase 1.
   (b) Alginate lyase.
   (c) Phenyl alanine ammonia lyase. [5+5+6]
3. Discuss the factors involved in final economic analysis and in detailed engineering design of plant design project. [16]
4. Discuss the displacement and elution processes for desorption of the solute from stationary phases. What are their advantages and disadvantages? [16]
5. What is filtration? Explain the procedure for cross-flow membrane filtration and illustrate using a labelled diagram. [16]
6. Discuss the consequences of promotion of genetically modified varieties in the third world countries. [16]
7. Discuss in detail about the patenting of biotechnology discoveries. [16]
8. How can you produce marker free transgenic plants? [16]

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Code No: 07A72301 **R07** **Set No. 1**

IV B.Tech I Semester Examinations,NOVEMBER 2010
INDUSTRIAL BIOTECHNOLOGY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. What is bio ethics? Discuss ethical issues related to biotechnology. [16]
2. Explain the following:
   (a) Callus culture.
   (b) Somaclonal variation.
   (c) Somatic embryogenesis. [5+5+6]
3. What is ATPS? State the reasons of using it for extracting biologically active polymers. What is the basic principle involved in aqueous bi-phase extraction. [16]
4. Why ethanol as a motor fuel is attractive. List the improvements required in its traditional batch fermenter process. Write the important modification in ethanol production. [16]
5. Discuss the advantages and disadvantages of promotion of new varieties in the third world. [16]
6. Explain the applications of human genetic recombinant DNA technology? [16]
7. Describe the structure and function of different types of antibodies? [16]
8. Explain the process of micro encapsulation. Draw the flow diagram of enzyme micro encapsulation? [16]

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Code No: 07A72301 **R07** **Set No. 3**

IV B.Tech I Semester Examinations,NOVEMBER 2010
INDUSTRIAL BIOTECHNOLOGY
Chemical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. The adoption of bio-technology will improve the efficiency of agriculture but it may now improve the international trade. Discuss it. [16]
2. Discuss about Preliminary evaluation of economics and market and development of economic data required for final design. [16]
3. What is gene transfer? Explain the process of direct gene transfer? [16]
4. Differentiate between biotechnology and molecular biotechnology? [16]
5. Discuss the elution process in detail for desorbing the solute from stationary phases. [16]
6. What is TRIPS? State the important articles of TRIPS, which are relevant to intellectual property. Discuss. [16]
7. What is DNA finger printing? How is it used to characterize traces of DNA in forensic samples? [16]
8. Name five important enzymes produced commercially by microorganisms? What are their uses? [16]

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