Code No: RR322304 **Set No. 1**

III B.Tech II Semester Regular Examinations, Apr/May 2006
BIOPROCESS ENGINEERING-II
(Bio-Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Write short notes on: [16]
   (a) The aeration system
   (b) The agitator
   (c) Baffles
   (d) foam control.
2. Write short notes on: [4+4+8]
   (a) advantages of Batch sterilization
   (b) advantages of Continuous sterilization
   (c) Del factor.
3. "Fed batch culture as the paradigm for many efficient microbial processes" Justify it? [16]
4. Outline the methods employed for measuring Chemical process parameters and explain about them? [16]
5. Discuss in detail about computer interfaces and peripheral devices. [16]
6. Explain the guide lines for choosing Host-Vector system. [16]
7. Write Short Notes On: [16]
   (a) Monoclonal antibodies.
   (b) Immunobiological Regulators.
   (c) Virus Vaccines.
   (d) Hormones.
8. Discuss in detail about a Morphologically structured kinetic model for Cephalosporin C production. [16]

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Code No: RR322304 **Set No. 2**

III B.Tech II Semester Regular Examinations, Apr/May 2006
BIOPROCESS ENGINEERING-II
(Bio-Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Write in brief about the following: [4× 4]
   (a) Temperature control
   (b) pH Control
   (c) DO-stat
   (d) Antifoam Control.
2. Write short notes on: [4+4+8]
   (a) advantages of Batch sterilization
   (b) advantages of Continuous sterilization
   (c) Del factor.
3. Explain CSTR designs for Enzyme catalyzed reactions with neat sketches? [16]
4. Explain the methods involved in measurement of process variables such as pH and dissolved oxygen? [16]
5. (a) Discuss in detail about ON-Line Sensor.
   (b) Discuss in detail about OFF-Line Analytical Methods [8+8]
6. Discuss in detail the control and information sequences in DNA guide the transcription and transaation process which result in gene expression. [16]
7. Discuss in detail the scale-up of animal cell cultivation using BHK. [16]
8. Discuss in detail about a Morphologically structured kinetic model for Cephalosporin C production. [16]

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Code No: RR322304 **Set No. 3**

III B.Tech II Semester Regular Examinations, Apr/May 2006
BIOPROCESS ENGINEERING-II
(Bio-Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. How can you classify the bioreactors based on the operational mode and explain about them ? [16]
2. Write short notes on: [16]
   (a) Non-Ideal Tubular reactor
   (b) Non-Ideal CSTR.
3. "Fed batch culture as the paradigm for many efficient microbial processes" Justify it? [16]
4. Write in detail about the methods employed in measuring the following process variables. [8+8]
   (a) Temperature
   (b) Pressure.
5. (a) What do you mean by sensor?
   (b) Mention different sensor for Medium and gases [4+12]
6. Explain the guide lines for choosing Host-Vector system. [16]
7. Explain the integration of major metabolic pathways in an animal cell. [16]
8. Discuss in detail about growth cycle phases for batch cultivation. [16]

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Code No: RR322304 **Set No. 4**

III B.Tech II Semester Regular Examinations, Apr/May 2006
BIOPROCESS ENGINEERING-II
(Bio-Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Write short notes on the following: [16]
   (a) Macro nutrients
   (b) Micro nutrients
   (c) Growth media
2. Explain the design of Batch sterilization process and its advantages ? [16]
3. List out the cardinal rules to be followed in design of a fermentor and its construction materials for successful operation? [16]
4. Write in detail about the Flow cytometer and its applications with a neat sketch? [16]
5. Discuss in detail about gas analysis system based on a microcomputer with schematic diagram. [16]
6. Explain about split genes and mRNA modification in Eucaryotes. [16]
7. Discuss in detail the scale-up of animal cell cultivation using BHK. [16]
8. Discuss in detail about growth cycle phases for batch cultivation. [16]

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