Code No: RR322302 **Set No. 1**

III B.Tech II Semester Regular Examinations, Apr/May 2006
ANALYTICAL TECHNIQUES IN BIOTECHNOLOGY
(Bio-Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. What is Bright Field Microscopy? [16]
2. What are the differences between microscopes using light and those using electrons as illumination source? [16]
3. Write about the classification and biological roles of lipids. [16]
4. What is the role of SDS in SDS − PAGE? [16]
5. Discuss the importance of Elution time; volume and Capacity factor in Chromatography. [16]
6. How is PCR used in RNA analysis? [16]
7. Write a note on Electroimmunodiffusion. [16]
8. What is the difference between BOD and COD? [16]

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Code No: RR322302 **Set No. 2**

III B.Tech II Semester Regular Examinations, Apr/May 2006
ANALYTICAL TECHNIQUES IN BIOTECHNOLOGY
(Bio-Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Describe a Fluorescent Microscope. [16]
2. Explain -
   (a) Cryopreservation
   (b) Numerical aperture

   [8+8]
3. Write about the classification and biological roles of lipids. [16]
4. Describe the different types of gels used in Electrophoresis. [16]
5. Explain the basic principle behind all forms of Chromatography [16]
6. What is Agglutination? Explain its importance. [16]
7. Differentiate between direct and indirect immunofluorescence. [16]
8. Explain the terms -
   (a) Dissolved Oxygen (DO)
   (b) Dissolved Carbon dioxide (DCO_2)
   (c) Oxygen transfer rate (OTR)
   (d) Oxygen uptake rate (OUR) [4+4+4+4]

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Code No: RR322302 **Set No. 3**

III B.Tech II Semester Regular Examinations, Apr/May 2006
ANALYTICAL TECHNIQUES IN BIOTECHNOLOGY
(Bio-Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Write in detail the description of a typical microbiological light microscope. [16]
2. Describe the construction of a SEM. [16]
3. Write about the classification and biological roles of lipids. [16]
4. What is meant by Isoelectric point of a protein? [16]
5. Write short notes on
   (a) Restriction Enzymes
   (b) Nitrocellulose filters [8+8]
6. What are automated DNA sequencers? [16]
7. Why is RIA considered as a competitive binding Immunoassay? [16]
8. Discuss the kinetics of substrate uptake in cell culture. [16]

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Code No: RR322302 **Set No. 4**

III B.Tech II Semester Regular Examinations, Apr/May 2006
ANALYTICAL TECHNIQUES IN BIOTECHNOLOGY
(Bio-Technology)

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

Answer any FIVE Questions
All Questions carry equal marks

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1. Explain the following terms associated with Fluorescent Microscope.
   (a) Barrier filter
   (b) Heat filter
   (c) Fluorochromes
   (d) Exciter filter

   [4+4+4+4]

2. What do you mean by specimen preparation of TEM? [16]

3. Which tests distinguish between monosaccharides and disaccharides? [16]

4. Explain capillary Electrophoresis. [16]

5. Explain Northern Blotting. [16]

6. Write short notes on -
   (a) Restriction endonucleases
   (b) cDNA [8+8]

7. Write a note on Electroimmunodiffusion. [16]

8. What is meant by flow injection analysis? [16]

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