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

III B.Tech II Semester Supplementary Examinations,
November/December 2005
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. Write in detail the description of a typical microbiological light microscope. [16]
2. Explain -
   (a) What is the difference in the lenses used in Light Microscopes and those used in Electron Microscopes?
   (b) Electron source in Electron Microscope [8+8]
3. Differentiate between
   (a) Reducing and non-reducing sugars
   (b) Mono, di and poly saccharides [8+8]
4. What are the differences between horizontal and vertical Electrophoresis units?[16]
5. Differentiate between Southern, Western and Northern Blot techniques. [16]
6. List out the different antigen-antibody reactions, and explain Agglutination in detail. [16]
7. Discuss the role of enzyme labeled antibodies in Immunoassays. [16]
8. What is meant by computerized data acquisition in any bioprocess? [16]

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

III B.Tech II Semester Supplementary Examinations,
November/December 2005
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 "Phase shift" in Phase Contrast Microscopes? [16]
2. What is freeze fracture or freeze Etching technique? [16]
3. How is blood sugar measured? [16]
4. How is Isoelectric focusing done in protein samples? [16]
5. Explain the principle in Southern Hybridization. [16]
6. Write short notes on -
   (a) Restriction endonucleases
   (b) cDNA [8+8]
7. Write a note on Electroimmunodiffusion. [16]
8. Discuss product formation kinetics in cell culture. [16]

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

III B.Tech II Semester Supplementary Examinations,
November/December 2005
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. Write the importance of the special condensers used in Dark Field Microscopy. [16]
2. Discuss image formation in scanning electron microscope. [16]
3. How are the different types of sugars differentiated? [16]
4. How is pulse field Electrophoresis done? [16]
5. How is protein blotting done? [16]
6. What are the uses of Monoclonal antibodies? [16]
7. Which is the most commonly used Radio Isotope for radio labeling antibodies? Describe it. [16]
8. How is water quality checked by BOD and COD methods? [16]

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

III B.Tech II Semester Supplementary Examinations,
November/December 2005
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 "Phase shift" in Phase Contrast Microscopes? [16]
2. What do you mean by specimen preparation of TEM? [16]
3. How is blood sugar measured? [16]
4. Write notes on
   (a) Stacking and Separation gels
   (b) Sample loading in Electrophoresis [8+8]
5. Explain Northern Blotting. [16]
6. Explain the advantages and disadvantages of doing PCR based analysis. [16]
7. Differentiate between single and double Electroimmunodiffusion. [16]
8. What does COD mean? How is it determined? [16]

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