

Printed Pages : 2



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EBT022

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 154654**

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**B. Tech. (Semester-VI)****Even Sem. THEORY EXAMINATION, 2014-15****BIOPHYSICS***Time : 2 Hours]**[Total Marks : 50***Note:** Attempt all questions. All questions carry equal marks.

1. Attempt any two parts of the following:  $7\frac{1}{2} \times 2 = 15$ 
  - (a) Explain the concept of UV-visible spectroscopy and its applications in biological study.
  - (b) Name different types of Microscope. How Electron Microscopy is better than Light Microscopy? Explain.
  - (c) Discuss the working principle of capillary electrophoresis and its application.
2. Attempt any two parts of the following:  $2 \times 5 = 10$ 
  - (a) What is Adsorption Chromatography? Describe its working principle and applications.

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- (b) Discuss SDS-PAGE along with suitable application.
  - (c) Briefly describe X-ray diffraction method for protein structure determination.
3. Attempt any three parts of the following:      3x5=15
- (a) What is Chemical Shift? Explain working principle of NMR Spectrometer with suitable diagram.
  - (b) Describe the working principle and instrument design of Circular Dichroism.
  - (c) Explain the working principle of any cell sorting technique.
4. Attempt any two parts of the following:      2x5=10
- (a) Describe the working principle of Atomic Force Microscopy and its applications.
  - (b) Describe the working principle and applications of Scanning Electron Microscope (SEM).
  - (c) Explain the working principle and mechanism of Nuclear Magnetic Resonance (NMR).

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