

BIOTECHNIQUES

UNIT I

Principles and applications of Microscopy – light and electron microscope – sample preparation for microscopy – Fixatives and Fixation – Microtome and Sectioning – Stains and Staining – Mounting and Labelling.

UNIT II

Principle and Applications of Centrifuge – Ultracentrifuge -Principle and Applications of Chromatography - Paper, Thin layer, Gas, Ion exchange and HPLC.

UNIT III

Principle, Working mechanism and Applications of Electrophoresis - PAGE & SDS-PAGE - Principle, Working mechanism and Applications of radioactivity - Auto radiography, Geiger Muller counter and Scintillation Counter.

UNIT IV

Principle, Working mechanism and Applications of Colorimeter and UV-visible spectroscopy – Principle and Applications of calorimeter.

UNIT V

Principle - Working mechanism and Applications of X ray diffraction, Mass, NMR and ESR Spectroscopy.

Reference Books:

1. Vasantha pattabhi and N. Gautham, Biophysics, Narosa publishing house, 2002.
2. Upadhyay., Upadhyay and K.Nath, Biophysical Chemistry. Himalaya Publishing House, 1993.
3. Daniel M., Basic Biophysics for Biologists. Wiley International, New Delhi, 1992.
4. Ackerman E., Biophysical science, Prentice Hall, New Delhi, 1962.
5. Das D., Biophysics and Biological chemistry, Academic Publishers, Calcutta, 1996
6. Sahay, K.B. and Saxena. R.K., Biomechanics, Wiley Eastern, New Delhi, 1971.