SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc – Information Technology (Integrated)
Semester: VII
Syllabus with Effect from: June-2015

Paper Code: PS07EIIT02	Total Credit: 4
Title Of Paper: Bioinformatics	

Unit	Description in Detail	Weightage (%)
I	**Introduction to Bioinformatics:** Biology in the Computer Age, Computational Approaches to Biological Questions	25%
II	**Tools for Bioinformatics:** Biological Research on the Web, Sequence Analysis, Pairwise Alignment and Database Searching, Multiple Sequence Alignments, Trees, and Profiles	25%
III	**Protein Structure and Prediction:** Visualizing Protein Structures and Computing Structural Properties, Predicting Protein Structure and Function from Sequence, Tools for Genomics and Proteomics	25%
IV	**Databases and Visualization** Building Biological Databases, Visualization and Data Mining	25%

Basic Text & Reference Books:-

- Cynthia Gibas & Perl Jambeck: "Developing Bioinformatics Computer Skills: An introduction to Software Tools for Biological Applications", O'Reilly Publications, 2005
- Zhumar Ghosh & Bibekanand Mallick: "BIOINFORMATICS Principles and Applications", Oxford Publications, 2008
- Jean-Michel Clarverie, Cedric Notredame: "Bioinformatics- A Beginner's Guide", Willey Publication, 2003