

B Sc Ist Year
SEMESTER –II
BIOINFORMATICS

**PAPER: - BIOINFORMATICS SOFTWARE, PROGRAMMING AND
GENERAL MICROBIOLOGY**

UNIT-I

1. Study of BLAST.
2. Search Algorithms, Important features of Algorithms.
3. Sequence search, Domains within a protein structure.
4. Scheme program.

UNIT-II

1. What is Perl and Bioperl- Advantages and its Applications.
2. Operating system used for Perl, Variable loops and Subroutines.
3. What is CGI script, writing and running, CGI programming.
4. GPCRDB-Data Content.

UNIT-III

1. Introduction to Java script-History and Features.
2. Variables, Functions, control statement (if...else, For loop, While, Do While)
3. TRRD- Format, Description of Expression.
4. The system for Internet-based data input to the TRRD database.

UNIT-IV

1. Ultra structure of bacterial cell.
2. Impact of environmental parameter on growth of microorganism.
3. Growth curve, Types of culture media.
4. Method of testing antimicrobial substance and Drug resistance.

UNIT-V

1. Staining method of specimen preparation.
2. Transduction and transformation.
3. Classification and Economic importance of fungi.
4. Protoplast and Spheroplast.

LISTOF PRACTICALS

1. Write a note on Autoclave.
2. Write a note on Hot Air Oven.
3. Write a note on Laminar Air Flow
4. Write a note on Incubator.
5. An Experiment to Prepare Nutrient Agar Media.
6. Perform Gram Staining and Indentify Between Gram Positive and Gram Negative Bacteria.
7. Write documentation on GPCRDB.
8. To perform sequence similarity using BLAST.
9. Find sequence Similarity using Needleman Wunch Algorithm.
10. Write program to print "Name of Amino acid".

Spotting: As per the syllabus

LIST OF BOOKS

- 1. Basic Bioinformatics** **S.Ignacimuthu,S.J**
- 2. Fundamental of Computer** **Murthy,C.S.V.**
- 3. Bioinformatics** **C.S.V. Murthy**
- 4. Bioinformatics** **M.M.Ranga**
- 5. Bioinformatics method & application** **S.C. Rastogi**
- 6. Dictionary of Bioinformatics** **Karuna Saree**
Kakollu
- 7. Hand Book of Bioinformatics** **S.N. Mukhopahay**
- 8. Instant notes in Bioinformatics** **David, Wesherd**
- 9. Encyclopedia of Bioinformatics'** **C. kuprsurmy**
- 10. Bioinformatics: Theory and Practice** **Chikhale&Gomase**
- 11. Genomic Perl** **Rex A. Dwyer**