Bioinformatics "B" level (BI-B) Syllabus:

COURSE STRUCTURE OF THE "B LEVEL (BIOINFORMATICS)"

S. No.   Paper Code   Title
Semester I
1.   B1.1   IT Tools and Application
2.   B1.2   Basic Mathematics, Probability and Statistics
3.   B1.3   Programming and Problem solving through C
4.   B1.4   Basic Bioinformatics
5.   B1.5   Foundation Course in Modern Biology

Semester II
6.   B2.1   Introduction to Database and Web enabling technologies
7.   B2.2   PERL/PYTHON Programming and applications to Bioinformatics
8.   B2.3   Introduction to Object Oriented programming through JAVA
9.   B2.4   Elements of protein Sequence, Structure and modelling
10.   B2.5   Basics of Genomics and Proteomics

Semester III
11.   B3.1   Computer Organization and Distributed computing
12.   B3.2   Probability and Information theory
13.   B3.3   Computational methods in Biomolecular sequence analysis
14.   B3.4   Discrete Mathematics

Semester IV
15.   B4.1   Statistical methods in Bioinformatics
16.   B4.2   Biomoleculer Structure and Dynamics
17.   B4.3   Data Structure and Algorithms
18.   B4.4   Computational Genomics

Semester V
19.   B5.1   Optimisation, Machine Learning and Computational Intelligence
20.   B5.2   Object Technology for Bioinformatics
21.   B5.3   Computational Proteomics and Gene Expression studies

Optional Course
22.   B5.4.1   Computer aided Molecular Modeling and Drug Discovery
                        (OR)
          B5.4.2   Chemoinformatics

Semester VI   **Project**

Note: Theory = 60 hours and Practical = 60 hours

Practicals:

Each course module has a practical component and the same will be carried out with software recommended by DOEACC from time to time.