M.Sc. Bio-Informatics - 3rd Sem.

(2118)

Paper: BI-635

Introduction to data Analysis using R Programming

Time allowed: 3 hrs.   Max. Marks: 75

Section A

Section A is compulsory.   1.5X10 = 15

1) What is R Interpreter?
2) What are operators in R? Give example.
3) What is Vector in R?
4) Explain Data Frames.
5) What is the difference between Function and script?
6) What do you understand by Scatter plot?
7) What is lattice Graphics?
8) How do you find Quartile using R?
9) What is R Base?
10) What is Bioconductor?

Section B

Answer one question from each unit   15X4 = 60

Unit 1

1) Explain Objects, Expression and arrays in R with one example each.
2) Discuss control structures in R with examples.

Unit 2

1) What are function and arguments? Create a function which can print "I am R". Add an argument to determine how many times it has to be printed.
2) How a text file is read in R? Explain function read.table and read.fwf with an example.

Unit 3

1) Create a table containing name of any five genes and their length (arbitrary name and length can be used). Calculate average length using R.
2) Discuss hierarchical clustering and its application using R.

Unit 4

1) Explain use of Bioconductor for DNA sequence analysis using any three examples.
2) Discuss use of R in analysis of RNA-Seq data.

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