



R workshop agenda

Date: 27th and 28th February, 2020

Venue: Lemon Tree Hotel, Hi-Tec City, Hyderabad

Day 1	Introduction to R Programming and R Graphics
8:30 am onwards	Registrations
9:15 am – 11:00 am	Session 1
11:00 am – 11:15 am	- Tea Break -
11:15 am – 1:00 pm	Session 2
1:00 pm – 1:45 pm	- Lunch break -
1:45 pm – 3:30 pm	Session 3
3:30 pm – 3:45 pm	- Tea break -
3:45 pm – 5:15 pm	Session 4 and closing for Day 1
Day 2	Analyzing Clinical Trial data with R - Case Studies
9:00 am – 10:30 am	Session 1
10:30 am – 10:45 am	- Tea Break -
10:45 am – 12:45 pm	Session 2
12:45 pm – 1:30 pm	- Lunch break -
1:30 pm – 3:00 pm	Session 3
3:00 pm – 3:15 pm	- Tea break -
3:15 pm – 4:00 pm	Session 4
4:00 pm – 4:30 pm	Closing and valedictory

List of topics that will be covered during the 2 days*:

- Introduction
 - Installing R and R Studio
 - R REPL
 - Simple illustrations
 - R vs SAS philosophy
 - Reproducible documents
- R Basics
 - Variables
 - Atomic vectors, lists
 - Data frames
 - Data import / export

- Indexing / subsets
 - Matrices and arrays
 - Functions
 - The class system
 - Documentation
- Statistics in R
 - Data manipulation
 - Statistical models / tests
 - Data visualization
- Case studies

Below mentioned are the Pre-requisites:

Familiarity with standard structured programming concepts such as variables, types, functions, logical operations, branching. Preferably experience with a standard programming language such as C / Java / Python.

Participants will be expected to have R installed on their laptops. Specifically, install

- Install R (from <https://cran.r-project.org>)

- Install R Studio Desktop (from <https://rstudio.com/products/rstudio/>).

Additionally, install the `sas7bdat` package by running the following from R : `install.packages("sas7bdat")`

If prompted to choose a mirror, choose the first one from the list.

R comes with a vast library of add-on packages which substantially enhance the R ecosystem. We will deliberately use such packages in this introductory workshop, and stick to the "base + recommended" packages that come with the default installation of R.

Note: Please carry your own laptop for the workshop.

All participants must download datasets etc from this link:

<https://www.isid.ac.in/~deepayan/ctw/>