Sr. No	Lecture Title	Description	Category	Duration
	Segment 5: Biological Data Visualization via ggplot2 in R			
1	Introduction to ggplot2 for Biological Datasets	• A detailed introduction to ggplot2 package in R programming. • Describes different ways to install ggplot2 package. • Describes how ggplot2 can be utilized for the visualization to represent the particular dataset	Data Visualization: ggplot2	10:46
2	ggplot2: Key components	• Introduction to ggplot2 library in R. • Describes different components and functions of ggplot2 package. • Describes the type of graphics to map against a particular dataset.	Data Visualization: ggplot2	8:25
3	ggplot2: Human Mitochondrial Proteome & Aesthetics (Size, Shape, Color)	• Introduction to ggplot2 library in R programming. • Describes mapping of Biological datasets utilizing ggplot2 package. • Using mitochondrial proteome dataset to visualize data utilizing different functions and components of ggplot2 library.	Data Visualization: ggplot2	26:02
4	ggplot2: Facetting of Human Genome	• Introduction to ggplot2 library in R programming. • Describes facetting of biological dataset using ggplot2 library. • Describes facetting functions and applying these functions to facet datasets. • Analyzing results of facetting for a particular dataset.	Data Visualization: ggplot2	22:25
5	ggplot2: Smooth Out the Biological Data	• Introduction to ggplot2 library in R programming. • Describes smoothing out the biological data in ggplot2 package. • Describes parameters to smooth out the dataset.	Data Visualization: ggplot2	8:43
6	ggplot2: Boxplots for Human Mitochondrial Proteome	• Introduction to ggplot2 library in R programming. • Creating different boxplots to visualize the biological dataset.	Data Visualization: ggplot2	7:55
7	ggplot2 :Histograms for Human Mitochondrial Pattern Finding	• Introduction to ggplot2 library in R programming. • Describes histograms in ggplot2 library or R. • Utilization of geom_histogram() function to visualize biological dataset.	Data Visualization: ggplot2	6:02
8	ggplot2: Frequency Plots for Human Mitochondrial Information Frequency Mining	• Introduction to ggplot2 library in R programming. • Describes the frequency polygons in ggplot2 package. • Describes the utilization of geom_freqpoly() function to visualize biological dataset.	Data Visualization: ggplot2	6:12
9	ggplot2: Bar Charts Human Mitochondrial Knowledge Mining	• Introduction to ggplot2 library in R programming. • Describes the use of bar charts in ggplot2 library. • Describes to utilize the geom_bar() function to visualize the biological dataset.	Data Visualization: ggplot2	10:43

10	ggplot2 - Scaling and Limiting Data Visualization	• Description of ggplot2 package in R. • Visualize data utilizing different functions and components of ggplot2 library. • Scaling and limiting biological data visualization using various functions of ggplot2	Data Visualization: ggplot2	3:53
11	ggplot2 - Changing Labels and Finalizing Visualization	• Description of ggplot2 package in R. • Visualize data utilizing different functions and components of ggplot2 library. • Changing labels and Finalizing visualizations.	Data Visualization: ggplot2	8:41
12	ggtree - Phylogenetic Tree Visualization	• Introduction to ggtree package in R. • Generating phylogenetic tree using ggtree library. • Descibes different functions, formats and parameters for generating phylogenetic tree.	Data Visualization: ggplot2	5:41
13	ggplot2 - Saving the Visualizations in High Resolution		Data Visualization: ggplot2	
14	Volcano Plot Visualization - Finding Differentially Experessed Genes	• Applications of Volcano Plot • Visualization of Differentially Expressed Gene Datasets	Data Visualization: ggplot2	
15	Heatmap Visualization - Plotting Distances Between Samples	• Constructions and applications of distance matrix datasets	Data Visualization: ggplot2	
16	PCA Plot - Visualizations of Princple Components	• Construction of PC components and plotting PCA plot		