

RECESS BSE 2301 QUESTION ASSIGNMENTS 2018

- 1. What is the R syntax and constructs?.**
 - a. Variable initialization and types?.**
 - b. What are the different features of R studio and how and what are they used for?.**
 - c. How do we get help in Rstudio (using the R help system)?.**
- 2. R Vectors**
 - a. How are they defined and created in R ?**
 - b. How do we access elements of the vector?**
 - c. When do we use vectors?**
 - d. Demonstrate.**
- 3. Data frames**
 - a. How are they defined and created in R ?**
 - b. How do we access elements of Data frames?**
 - c. When do we use Data frames?**
 - d. Demonstrate.**
- 4. Lists**
 - a. How are they defined and created in R ?**
 - b. How do we access elements of a List?**
 - c. When do we use Lists?**
 - d. Demonstrate.**
- 5. R Matrix**
 - a. What is a matrix in R and when is it used?**
 - b. Explain and demonstrate the following as related to matrices in R**
 - i. Construction of a matrix**
 - ii. Transpose of a matrix**
 - iii. Combining matrices**
 - iv. Deconstruction**
- 6. Functions in R**
 - a. How do you create functions in R?.**
 - b. When do you know you have to create a function in R?.**
 - c. Give 7 examples of useful R functions that have already been created for you, when and how are they used?.**
- 7. Random Generators in R**
 - a. What is Random generation in R**
 - b. When is it used.**
 - c. How is it done in R (what R functions can you use), demonstrate.**
- 8. R Packages**
 - a. What are Packages in R**
 - b. How do you import Packages in R and where do you import them from?.**
 - c. Demonstrate how a package is imported.**

d. What is CRAN?.

9. Git with RStudio

a. What is Git

b. Explain the Git workflow

c. What are the basic Git commands

d. How do you integrate Git with R-studio to import a project from Git

10. Data Processing

a. What kind of Data sets can you import in R?.

b. How do you import data into R?.

c. What is data cleaning?.

d. Why do we clean data?.

e. How do we clean data?.

11. Data Visualization

a. What is data visualization?

b. Why do we visualize data?.

c. Explain the following visualization techniques stating when they are used:-

i. Histogram

ii. Bar / Line chart

iii. Box Plot

iv. Scatter plot

12. Advanced Data Visualization

a. Explain the following visualization techniques stating when they are used:-

i. Heat Map

ii. Mosaic Map

iii. Map visualization

iv. Correlogram

13. What are Objects in R

a. When are they used

b. Demonstrate their use.

14. What are Modes and attributes in R

a. When are they used .

b. Demonstrate their use.

15. Ordered and Unordered factors

a. Define what they are

b. When are they used.

c. Demonstrate use.