**ECO 476; Test#01 ; Total Point 10; Date: 14/08/2022**

Students ID: Name:

Instructions:

(i) You either answer by opening an R-session on your personal computer, or you can write the answer and codes in the blank space of this question. Either mode is acceptable if the answers look excellent and legible.

(ii) This is an open book/note/materials test. You may use your class notes, books, and other open sources. Please save your work with your name as mentioned in Q1 and submit your work separately, or email to masudalam-eco@sust.edu. Good Luck!

**Q1.** What is R-studio (max one sentence)?

Q2.Open your Rstudio, create a new R script file,set your working directory,save your new R-script file to your directory (give a file name to it ..something like YourFirstName\_studentID.R); Write some comments at the top of the script indicating what the script is for (e.g., #“this is my Eco476\_test01, my id is....”),

What command you will use to check your current working directory?

How do you set your new working directory? Clearly mention what codes you will write to do so.

How many sub-windows/panes/quadrants you have on your R studio and what are their names?

**Q3.** Create a numeric vector 'Myvec1' with 10 elements using either concatenate or seq function.

Write R code that will create the following four vectors (length is 4 for each vector) below:

Logical vector X1 ,

Numeric vector X2 using the **concatenate** function, X2 will produce a vector of double precision numeric values.

Integer vector X3 ;

Character/string vector X4 ;

Write a function to demonstrate that each of the vectors was created correctly.

Q4.Create a character vector '**MyFavMovie**' with five names/string elements(such as Notebook, PrettyWoman, GeekCharming, NottingHill, TheDuff ).

**Q5**. Create a numeric vector called 'Rating'(random five numerical values of your choice) whose elements contain the names of five movie you mentioned in 'MyFavMovie' in question 4,

Now create the table using MyFav, Rating and Year listed in the table below.(Hints: named vector, you will need to create Year vector as well)

MyFavMovie Rating Year

Notebook 7.8 2004

PrettyWoman 7 1990

GeekCharming 6.4 2011

NottingHill 7.2 1999

TheDuff 6.5 2015

Q6. Write R code that will create the 6x6 matrix (any random elements of your choice) of A and the 6x3 matrix (any random elements) of B.

Use the cbind function to create a new 6x9 matrix named C whose first six columns are equal to A and the last three columns are equal to B.

Q7. Write R code that will create a data frame **MyTopChart** for the data given in the table below:

Name Income Age Type Rating

Tyga 6 32 Rapper 7

Drake 23 40 Rapper 5

Bieber 45 25 Pop 6

Taylor 36 29 Pop 4

JayZ 23 21 Rapper 2

Carrie 18 36 Country 3

The column headings should be used as column names in the data frame object. The **type** and **name** column should be treated as a string/character.

Write a code to examine that you have created the data frame correctly.