



SCHOOL OF ADVANCED SCIENCES

DEPARTMENT OF MATHEMATICS

FALL SEMESTER 2020~2021

MAT2001 – Statistics for Engineers

Embedded Lab – R Statistical Software

L19+L20 Slot

Lab Experiment Wise Questions

Instructions:

- (i). Last Date for Submission of E-Record for Exp. No. – 2 : **26th August 2020.**
 - (ii). Format the E-Record as mentioned in the prescribed format uploaded in V-Top Course Page Menu and mention the Register Number, Name, Slot Details, Course Code and Course Title in the first page of the document. Also mention the Register Number and Name in every page of the document.
 - (iii). Submit the soft copy of E-Record for all the following questions as a single PDF document into V-Top Login properly on or before the mentioned last date.
-

Experiment No. – 2

Correlation, Rank Correlation, Linear Regression and Multiple Linear Regression

1. Write down the R code to compute the coefficient of correlation between X and Y from the following data:

$X :$	21	23	30	54	57	58	72	78	87	90
$Y :$	60	71	72	83	110	84	100	92	113	135

2. Write down the R code to find the rank correlation between the ranks of the variable X and Y from the following data:

$X :$	10	15	12	17	13	16	24	14	22
$Y :$	30	42	45	46	33	34	40	35	39

3. Write down the R code to obtain the equation of the regression line of X on Y from the following data:

$X :$	4.7	8.2	12.4	15.8	20.7	24.9	31.9	35.0	39.1	38.8
$Y :$	4.0	8.0	12.5	16.0	20.0	25.0	31.0	36.0	40.0	40.0

4. Write down the R code to obtain the equation of the regression plane of Y on X_1 and X_2 from the following data:

$X_1 :$	30	40	20	50	60	40	20	60
$X_2 :$	11	10	7	15	19	12	8	14
$Y :$	110	80	70	120	150	90	70	120

Mathematics – SAS – VIT