DEPARTMENT OF CED

Mid Term Examination (*Fall-2020*)

Subject:	Probability & Statistics	Duration:	180 Minutes
Instructor:	Anwar Shamim	Total Marks:	30
Semester:	MS Civil		

Note: Attempt all questions. Manage your time properly.

Q.No. (01) *05+05*

a. Compute the least squares regression equation of Y on X for the following data. What is the regression co-efficient? Also find trend values for X= 5,6,8,10,12,13,15,16,17

X	5	6	8	10	12	13	15	16	17
Y	16	19	23	28	36	41	44	45	50

b. Calculate the coefficient of correlation between X and Y from the following data.

X	5	6	8	10	12	13	15	16	17
Y	16	19	23	28	36	41	44	45	50

Q.No. (02) *05+05*

a. A school Teacher measured the pencil weight in grams of 25 pieces of apple pencil that were recorded. The resulting data were:

170	167	174	179	179	187	179	183	179
156	163	156	187	156	167	156	174	170
183	179	174	179	170	159	187		

The School Teacher hypothesized that the mean pencil weight in grams of all such apple pencil is greater than 170. Therefore, he was interested in testing the hypotheses.

b. The amount of a certain trace element in blood is known to vary with a standard deviation of 14.1 ppm (parts per million) for male blood donors and 9.5 ppm for female donors. Random samples of 75 male and 50 female donors yield concentration means of 28 and 33 ppm, respectively. What is the likelihood that the population means of concentrations of the element are the same for men and women?

Q.No. (03) *05+05*

a. Discuss the steps of testing of hypothesis with data example.
b. Differentiate the Concept of Regression and Correlation with data results.