UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Third Semester – Spring 2022

Roll No. .....

Paper: Elementary Statistics **Course Code: STAT-211** **Time: 3 Hrs. Marks: 60**

THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

Q.1. Answer the following short questions: (15x2=30)

i) Define Inferential Statistics.

ii) Define Primary Data and Secondary Data.

iii) Define Classification.

iv) Define Tabulation.

v) Define the following (a) Mean (b) Mode

vi) Define Quantiles.

vii) Define Variance.

viii) Write down the two properties of Variance.

ix) Define Sampling with replacement.

x) Define the following (i) Sample (ii) Sampling frame

xi) What is level of significance?

xii) Define one tailed and two tailed test.

xiii) Define independent and dependent variable in a Simple Regression.

xiv) Define Regression Coefficient.

xv) Write down two properties of correlation coefficient.

Answer the following questions. (3x10=30)

Q2. The following frequency distribution gives the ages of 100 college Students:

Ages	14-15	16-17	18-19	20-21	22-23	24-25	Total
Number of Students	6	16	20	31	15	12	100

Compute Mean, Standard Deviation and Coefficient of variation.

Q3. The data of heights and weights is given below:

Height (X)	72	54	73	63	66	65	60	70	71	69
Weight (Y)	67	57	68	64	68	72	67	73	69	72

Find Regression Line of Y on X and Correlation Coefficient between X and Y.

Q4. Draw all possible samples of size n=2 with replacement from the population 3, 6, 9 and 12. Find the proportion of even number in the samples. Form a sampling distribution of the sample proportion. Verify that:

(a) $\mu_p = P$ (b) $\sigma_p^2 = \frac{P(1-P)}{n}$

where p is sample proportion and P is population proportion.