THE ANSWERS MUST BE ATTEMPTED ON THE ANSWER SHEET PROVIDED

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

I.   Differentiate between descriptive statistics and inferential statistics.
II.   Name at least 4 sources of primary data.
III. What is the difference between a histogram and a bar chart?
IV.   Differentiate between population and sample.
V.   Differentiate between symmetry and skewness.
VI.   Differentiate between median and mode.
VII. Define the term "variance" and explain how it is calculated.
VIII. Differentiate between sampling error and non-sampling error.
IX.   Differentiate between one-way classification and two-way classification.
X.   Define the term probability.
XI.   What is the difference between probability sampling and non-probability sampling?
XII. Define the term Poisson distribution.
XIII. Define simple correlation.
XIV. Define normal distribution and write down its two properties.
XV.   Explain type-1 error with one example.

Answer the following questions.   **(3x10=30)**

Q2.   Draw all possible samples of size 2 with replacement from a population consisting of 3, 6, 9. Compute sampling distribution of sample means and verify:

(i) $E(\overline{X})=\mu$ (ii) $Var(\overline{X})=\dfrac{\sigma^2}{n}$

Q3.   The height and weight of 10 persons are given in the following table. Estimate the correlation coefficient between X and Y.

Height (X)	45	46	47	48	49	50	51	52	53	54
Weight (Y)	110	111	111	115	116	118	120	121	124	128

Q4.   Compute the Coefficient of Variation of the following data:

Classes	14-16	17-19	20-22	23-25	26-28	29-31	32-34
Frequency	7	9	3	8	6	4	2