



Unique Science Academy, 60 – D Nawab Town, Lahore

Statistics 12 Monthly Test

(Chapter 14 – Simple Linear Regression & Correlation)

08 July 2024

Allowed Time : 40 minutes

Total Marks: 20

Question: The following data is given as follows:

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

Marks

- (i) Calculate Regression coefficients. (3)
- (ii) Fit a straight-line using X as independent variable. (2)
- (iii) Estimate linear line using Y as independent variable (2)
- (iv) Estimate Y when $X = 20$. (0.5)
- (v) Estimate X when $Y = 32$. (0.5)
- (vi) Calculate the fitted / trend values for \hat{Y} . (5)
- (vii) Prove that $\sum_{i=1}^n Y_i = \sum_{i=1}^n \hat{Y}$. (2)
- (viii) Compute coefficient of correlation and interpret the result. (4+1)