



Unique Science Academy, 60 – D Nawab Town, Lahore

Statistics 12 Monthly Test

(Chapter 15 and 16 – Association and Time Series)

07 August 2024

Allowed Time: 40 minutes

Total Marks: 25

Question 1: Test the association / dependence between Desired way of being asked out and Gender. (Data is on the backside of the page)

Marks

- (i) Use 5% Level of Significance. (5)
- (ii) Use 1% Level of Significance. (5)

Question 2: The following time series data is given as follows:

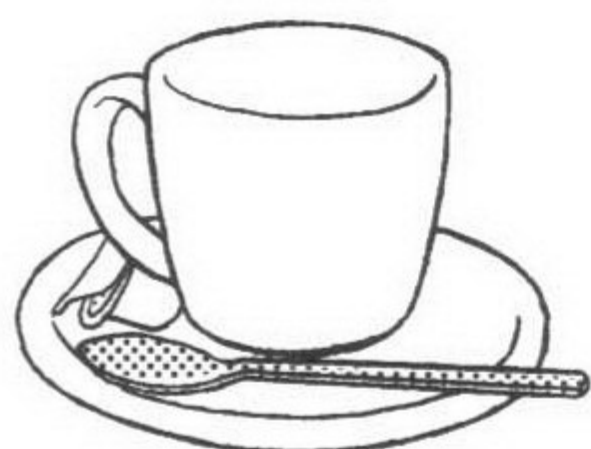
Year	1970	1971	1972	1973	1974	1975	1976	1977	1978
Values	12	23	37	48	41	37	48	61	70

(Marks)

- (i) Fit the line using semi – average method. (5)
- (ii) Calculate three years moving average. (5)
- (iii) Fit the straight line using least square method. (5)

2. THE CHI-SQUARE TEST OF INDEPENDENCE

NOW I WILL EXPLAIN
TODAY'S MAIN
TOPIC, A TEST OF
INDEPENDENCE.



I TOLD YOU THAT A TEST OF INDEPENDENCE
IS AN ANALYSIS TECHNIQUE USED TO ESTIMATE
WHETHER THE CRAMER'S COEFFICIENT FOR A
POPULATION IS ZERO.

YES, YOU
DID.

TO PUT IT DIFFERENTLY, IT
IS AN ANALYSIS TECHNIQUE
USED TO ESTIMATE WHETHER
TWO VARIABLES IN A CROSS
TABULATION ARE CORRELATED.

I SEE! THAT IS WHY IT
IS APPLIED TO SURVEY
ANALYSES.

		DESIRED WAY OF BEING ASKED OUT			SUM
		PHONE	E-MAIL	FACE TO FACE	
SEX	F	34	61	53	148
	M	38	40	74	
SUM		72	101	127	152

THIS TEST OF
INDEPENDENCE IS
ALSO CALLED A
CHI-SQUARE TEST.

NOT THAT
CHI-WHATEVER
AGAIN!