

6. (a) The following data relate to age of employees and the number of days they were reported sick in a month :

Age (X)	: 30	32	35	40	48	50	52	55	57	60
Sick days (Y)	: 1	0	2	5	2	4	6	5	7	8

Calculate Pearson's coefficient of correlation and interpret it. $9+2=11$

Or

- (b) From the following data, obtain the two regression equations using the method of least squares :

X	: 2	4	6	8	10
Y	: 5	7	9	8	11

7. (a) (i) Given below are two price index series. Splice them on the base 1974 = 100. By what percentage did the price rise between 1970 and 1975?

Year	Old price index for base (1965 = 100)	New price index for base (1974 = 100)
1970	141.5	
1971	163.7	
1972	158.2	
1973	156.8	99.8
1974	157.1	100.0
1975		102.3

- (ii) During a certain period the cost of living index goes up from 110 to 200 and the salary of a worker also raised from ₹ 325 to ₹ 500. Does the worker really gain and if so, by how much in real terms? $7+4=11$

Or

- (b) Using the following data, construct Fisher's ideal index number and show that it satisfies both time-reversal test and factor-reversal test : $7+4=11$

Commodity	Base Year		Current Year	
	Price	Expenditure	Price	Expenditure
A	2	40	5	75
B	4	16	8	40
C	1	10	2	24
D	5	25	10	60
