

(ii) Define mode and calculate mode from given data below :

Marks	0-10	10-20	20-30	30-40	40-50
No. of Students	9	12	14	7	8

(iii) Define mean and find the value of mean from the following :

Weight (kg)	60	61	62	63	64	65
No. of Workers	5	8	14	16	10	7

3 Answer the following questions : (any two)

(i) Calculate mean deviation from mean for the following data :

Class	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59
fi	3	5	10	20	12	6	3	1

(ii) The following data refer to the dividend (%) paid by two companies A and B cover the last seven years. Calculate the coefficient of variation and comment.

A	4	8	4	15	10	11	9
B	12	8	3	15	6	4	10

(iii) An analysis of daily wages of workers of two organizations A and B yielded the following results.

	Organization	
	A	B
Number of Workers	10	20
Average daily wages	Rs. 30	Rs. 15
Variance	25	100

Obtain the average daily wage and s.d. of wages of all the workers in two organizations taken together which organization is more equitable in regard to wages. 12

4 Answer the following questions : (any two)

(i) Calculate the standard deviation

Age less than	10	20	30	40	50	60	70	80
No. of year	15	30	53	75	100	110	115	125

(ii) The sales and expenditure of 10 companies are given below. Find coefficient of correlation between sales and expenditure.

Sales	50	55	55	60	65	65	65	60	60	50
Expenditure	11	13	14	16	16	15	15	14	13	13

- (iii) Find the equations of regression lines from the following data :

X	1	2	3	4	5	6	7	8	9
Y	9	8	10	12	11	13	14	16	15

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- 5 Answer the following questions : (any two)

- (i) Ten years data on price and sales of a commodity was observed as below. Find the coefficient of correlation between these two.

Price	55	57	90	62	64	67	69	72	74	77
LSales	50	55	54	58	62	65	70	57	60	65

- (ii) Two persons were asked to watch ten specified TV programmes and offer their evaluation by rating them 1 to 10. These ratings are given below : Calculate Spearman's Coefficient of correlation.

TV Programme	A	B	C	D	E	F	G	H	I	J
X	4	6	3	9	1	5	2	7	10	8
Y	2	3	4	9	5	7	1	10	8	6

- (iii) From the table given below calculate the coefficient of correlation between the ages of husbands and wives.

Age of Wives Y-series	Age of Husband X -Series					
	20-30	30-40	40-50	50-60	60-70	Total
15-25	5	9	3	-	-	17
25-35	-	10	25	2	-	37
35-45	-	1	12	2	-	15
45-55	-	-	4	16	5	25
55-65	-	-	-	4	2	6
Total	5	20	44	24	7	100

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6 Answer the following questions : (any two)

- (i) The following results are obtained from bivariate sample of 25 pairs.

	x	y
Average	25	40
Variance	9	36

Correlation of coefficient = 0.80

- (a) Find two regression lines
(b) Estimate value of y for x = 29 and x for y = 45.
- (ii) Obtain the regression equation of x and y and y and x for the paired data given below. Also compute the coefficient correlation :

Market Price of X	26	28	30	31	35
Market Price of Y	20	27	28	30	25

- (iii) The equations of regression lines of y on x and x on y are respectively as follows :

$$2x - 5y + 40 = 0, \quad 10x - 9y = 120$$

- (a) Obtain the means of x and y
(b) Estimate x when y = 40
(c) Estimate y when x = 60
(d) Obtain correlation coefficient between x and y.

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