

# IQRA BCA COLLEGE

## ASSIGNMENT –I

DATE: 12-07-2016

PAPER: 301

FACULTY: DIVYESH JADAV

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SUBJECT: STATISTICAL METHOD

SEM: SYBCA (SEM-III)

1. The following results are obtained from bivariate sample of 25 pairs.

	X	Y
Average	25	40
S.D	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.

2. 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

3. The following data relate to the Ages of husband and Wife.

Ages of Husband	25	28	30	32	35	36	38	39	42	45
Ages of Wife	20	26	29	30	25	18	26	34	35	46

Obtain the two regression equation and determine the most likely age of husbands for age of wife is 25 years, and most likely age of wife for the age of husband 39 years.

4. Information about advertisement and sales of some consumer product given below:

	Advertisement expenditure (X) (Rs. Crores)	Sales (Y) (Rs. Crores)
Means	20	120
S.D	5	25

Correlation Coefficient = 0.8

(a) Calculate the two regression lines.

(b) Find the likely sales when advertisement expenditure is Rs. 25 crores.

5. The following data relate to the scores obtained by 9 salesman of a company in an intelligence test and their weekly sales. (in Rs. 1000's)

Salesman:	A	B	C	D	E	F	G	H	I
Test Scores:	50	60	50	60	80	50	80	40	70
Weekly Sales:	30	60	40	50	60	30	70	50	60

- (a) Obtain the regression equation of sales on intelligence test scores of the salesman.  
 (b) If the intelligence test score of a salesman is 65, what would be his expected weekly sales.
6. You are given the following information about advertising expenditure and sales:

	Advertisement (X) Rs.in lakh	Sales (Y) Rs. in lakh
Arithmetic Mean	10	90
Standard deviation	3	12

Correlation coefficient = 0.8

- (a) Obtain two regression equations.  
 (b) Find likely sales when advertisement budget is Rs. 15 lacs.
7. With the ten observations on price (x) and supply (y), the following data were obtained.  
 $\sum x = 130, \sum y = 220, \sum x^2 = 2288, \sum y^2 = 5506, \sum xy = 3467$ .  
 Obtain the line of regression of y on x and estimate the supply when price is 16 units.
8. The following calculations have been made for prices of twelve stock (x) at the Calcutta Stock exchange. On a certain day along with the volume of sales in thousands of shares (y). from these calculations, find the regression equation of price of stocks on the volume of sales of shares.

$$\sum x = 580, \sum y = 370, \sum x^2 = 41658, \sum y^2 = 17206, \sum xy = 11494.$$

9. The following data give the experience of machine operators and their performance ratings given by the number of good parts turned out per 100 pieces.

Operators:	1	2	3	4	5	6	7	8
Experience (x):	16	12	18	4	3	10	5	12
Performance (y):	87	88	89	68	78	80	75	83

Calculate the regression lines of performance ratings on experience and estimate the probable performance if an operator has 7 years experience.