



**Q. 4. Answer in detail (Any Two)**

**(20)**

1. In an agricultural experiment on the study of depth of water in the soil (x) in feet on yield of the crop in quintal per plot (y) the following data were obtained.

X	1.8	1.9	2.5	1.4	1.3	2.1	2.3
Y	200	370	450	160	90	440	380

Obtain the equation of line of regression of Y on X and estimate the yield when the depth of Water in the soil is 2 ft.

2. Compute Laspeyre's Passche's and Fisher's Index number for price from the following data given –

Commodity	P <sub>0</sub>	q <sub>0</sub>	P <sub>1</sub>	q <sub>1</sub>
A	100	10	120	12
B	120	08	150	10
C	250	09	380	15
D	500	04	700	10
E	650	06	750	12

3. Find Karl Pearson's Correlation Coefficient for the following Data:

X	14	16	18	12	13	23	27	11	19	16
Y	28	22	21	29	20	30	24	25	21	20

**Q. 5. Case study (Any One)**

**(15)**

- 1.

The number of items of an industrial product sold by two salesman A and B in ten months in an year are given below. From these data –

A	128	132	143	140	152	145	135	129	130	145
B	142	150	160	130	120	125	135	145	140	142

- i) Calculate Mean of A & B.
- ii) Estimate C.V. of both series A& B.
- iii) Compare both C.V
- iv) Write your result.

2. Given data –

X = advertising expenses ('000)

Y = Sales ( lakhs )

X	39	65	62	90	82	75	25	98	36	78
Y	47	53	58	86	62	68	60	91	51	84

Estimate the Karl Pearson's correlation coefficient and write your decision.

- i) Calculate mean.
- ii) Estimate covariance.
- iii) Estimate Correlation coefficient
- iv) Write your decision.