N.B. :-   i)   **Attempt any Three questions.**
      ii)   **Figures to the right indicate marks.**

Q.1 A)   Present the following information in Tubular Form In 1975 out of a total of   5
4000 workers in a factory 3300 were members of trade union. The no. of
women workers employed was 500 out of which 400 did not belong to the
union.

     In 1974 the number of workers in the union was 3450 of which 3200
were men. The number of non-union workers was 760 of which 330 women.

B)   **Find coefficient of correlation for the following data**   5

Marks I \ Marks II	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
20 - 30	4	6	10	—	—
30 - 40	2	5	9	4	—
40 - 50	—	6	15	10	4
50 - 60	—	1	7	12	3
60 - 70	—	—	5	8	2

Q.2 A)   The following data relate the price & quantities of certain commodities construct
Fisher's Index Number using the following data   5

Commodity	1996 Quantity	Price	1995 Quantity	Price
A	50	32	50	30
B	35	30	40	25
C	55	16	50	18

Check whether fisher's Index No. satisfies time Reserval test

B)   A random sample of 5 college students is selected and treir grodes in high
school mathematics courses and college algebra caurses are find.

Student	1	2	3	4	5
High school grade	85	60	73	40	90
College grade	93	75	65	50	80

    5

Calculate Speerman's Rank correlation coefficient

Q.3 A)   Find the mean values of the variables x & y (ie $\overline{X}$ & $\overline{Y}$) and the correlation
coefficient from the following regression equations
$$2y - x - 50 = 0 \quad \& \quad 3y - 2x - 10 = 0$$
    6

B)   Fit a curve of the type $y = ax^b$ to the following data

    X   1   2   3

Q.4 A) A rupee spent on khadi is distributed as follows.

Farmer	20
Carder & Spirmer	35
Weaver	27
Washer man dyer & printer	8
Administrative agency	10

Represent this information with a pie gram

B) Below is given the frequency distribution of weights of a group of 60 students in a class find Quartile deviation.

Weight	31 - 35	35 - 39	39 - 43	43 - 47	47 - 51	51 - 55
No. of students	5	5	12	18	14	6

Q.5 A) If $\Sigma F = 1000$, $\Sigma fx = 420$, $\Sigma fx^2 = 1320$, $\Sigma fx^3 = 3320$, $\Sigma fx^4 = 12010$ find μ_2, μ_3, β_1, r_1

B) Find whether attributes A & B are independent, positively associated or negatively associated in each of the following cases

i) $N = 200$ $(A) = 60$ $(B) = 110$ $(AB) = 66$

ii) $(AB) = 33$ $(A\beta) = 27$ $(\propto B) = 77$ $(\propto\beta) = 63$

+-+

call boy