<u>Summary</u>

- Correlation analysis tests the closeness with which two or more phenomena co-vary; regression analysis measures the nature and extent of the relation, thus enabling us to make predictions
- The dictionary meaning of the term regression is the act of returning or going back. The term regression was first used by Francis Galton towards the end of nineteenth century while studying the relationship between the height of fathers and sons.
- Regression analysis is a branch of statistical theory that is widely used in almost all the scientific disciplines. In economics it is the basic technique for measuring or estimating the relationship among economic variables that constitute the essence of economic theory an economic life
- In the field of business this tool of statistical analysis is very widely used. Businessmen are interested in predicting future production, consumption, investment, prices, profits, sales etc.
- Broadly speaking, regression can be studied either graphically or algebraically
- By the study of regression analysis we are able to obtain the most probable values of one variable from the known values of another variable
- The theory formulates exact functional relationship among the variables. But dealing with common data even an ordinary investigator will feel that all observations do not fall exactly on a straight line or any other the smooth functions. The best we can expect is that the observed quantities will be closer to the line, that is, why our regression model requires extension and stochastic disturbance term. The introduced term is known as disturbance or error term, because it represents the effects of all those factors which are not suspected by the investigator
- In general, the data are scattered around the regression line. Each datum will have a vertical residual from the regression line; the sizes of the vertical residuals will vary from datum to datum. The RMS of the vertical residuals measures the typical vertical distance of a datum from the regression line