Function of two or more Variables:—

Let x, y be two independent variables if a variable z takes a value corresponding to a pair of values (x, y) then we say z is a function of two variables x, y and

we write $z = f(x, y)$

e.g $z = x^2 + xy$ is a function two variable

The above definition can be extended for more than two variables.

Partial differentiation :—

A partial differentiation of a function of two or more variables is the ordinary differention w.r to one of the variable when all the remaining variables are kept constants

Let $u = u(x, y)$ be a function two variables

hence u is dependent valiebles

& x, y are independent.

The partial differentiation of $u = u(x, y)$ w.r to x is the ordinary deeeivative of u w.r to x. keeping y is constant & of is denoted by

$\frac{\partial u}{\partial x}$, u_x and is known as.