# UNIT-I

## Multiple integrals :-

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## Double integral :-

The integral $\int_a^b \int_c^d f(x,y)\,dx\,dy$ is called a double integral. If $a, b, c, d$ are constants, then the integration can be carried out in any order.

i.e $\int_a^b \int_c^d f(x,y)\,dx\,dy = \int_c^d \int_a^b f(x,y)\,dy\,dx$

**Note:** In the integral $\int_a^b \int_c^d f(x,y)\,dx\,dy$, if $c$ and $d$ are functions of $x$, then we have to integrate the above integral with respect to $y$ first and then with respect to $x$.