

$$\psi\psi^* = a^2 + b^2$$
$$\psi\psi^* = \psi^*\psi = \text{Real values.}$$

$$\psi\psi^* = |\psi|^2$$

$|\psi|^2$ is called \downarrow Probability density.

Probability density ($|\psi|^2$).

Probability of finding the particle in a given region of space at any instant of time is called Probability density.

$$\int_V \psi_m \psi_n^* dV = \int_a^b \psi_m^* \psi_n dx dy dz \quad / 3-D$$

$$\int_0^1 \psi_m \psi_n^* dx \quad / 1-D$$

Properties of wave function:

(i) Single valued:-

A wave function is a single valued.

A function having same value in different region of space is called single valued function.