* Lattice Parameter OR lattice Constant:-

It is the characteristic of particular lattice.

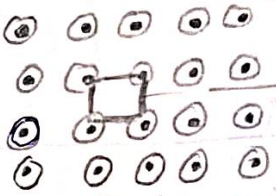
* Distance between two consecutive lattice point is lattice parameter or lattice constant.

eg. In 3-dimension a (along x), b (along y), c (along z) are lattice parameter or lattice vector. $\vec{R} = a\hat{x} + b\hat{y} + c\hat{z}$.

* Unit Cell:-

Unit cell is smallest unit of crystal lattice which on continuous repetition can generate the whole lattice.

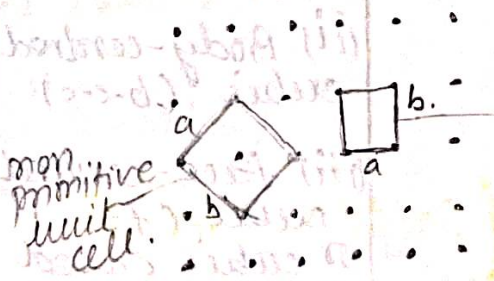
Unit cell is representative of crystal structure.



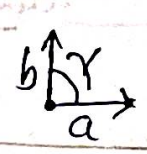
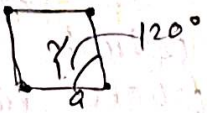
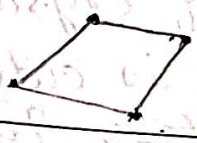
It is categorised in to two type.

(1) Primitive:- If effective no. of lattice point per unit cell is one it primitive unit cell.

(2) Non Primitive:- If effective no. of lattice point per unit cell is more than one it is non-primitive.



⇒ Type of Crystal System in 2-D:-

	Crystal System	Bravais Lattice	Condition.
(1)	Square	(i) Square	$a=b$, $\gamma=90°$ 
(2)	Rectangular	(i) Retangular primitive (ii) Rectangular centered.	$a\neq b$, $\gamma=90°$ 
(3)	Hexagonal.	(i) Hexagonal.	$a=b$ $\gamma=120°$ 
(4)	Oblique	(i) Oblique	$a\neq b$, $\gamma\neq 90°$ 

Note:- For 2-D we have 4 types of crystal lattice and 5 types of Bravais lattice.

⇒ **Types of the system in 3-D :-**

	Crystal System	Bravais lattice	Condition.
(1)	Cubic	(i) Simple cubic (Primitive) (ii) Body-centred cubic (b-c-c). (iii) face-centred cubic (f-c-c) or cubic closed packed (c-c-p).	(i) $a=b=c$, $\alpha=\beta=\gamma=90°$