

UNIT CELL :-

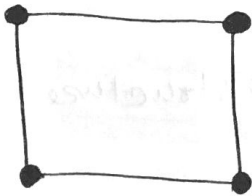
The parallelograms formed by the translation vectors may be regarded as building blocks for constructing the complete lattice and are known as unit cells of the lattice. For a three-dimensional lattice, the unit cells are of the form of a parallelepiped.

The unit cell may be defined as the smallest unit of the lattice, which, on continuous repetition, generates the complete lattice. Both primitive and non-primitive translation vectors may be used to construct a unit cell.

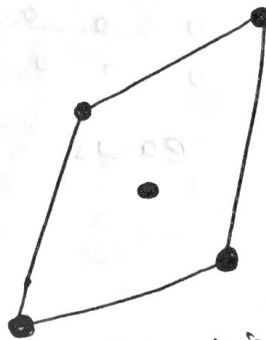
Primitive unit cell is the smallest volume cell. All the lattice points belonging to a primitive cell lie at its corners.

Therefore, the effective no. of lattice points in a primitive unit cell is one.

A non-primitive unit cell may have the lattice points at the corners as well as at other locations both inside or on the surface of the cell, and the effective no. of lattice points in a non-primitive cell is greater than one.



Primitive unit cell.



non-primitive unit cell.

$\frac{1}{4} \times 4 = 1$