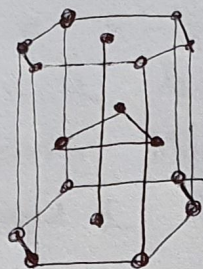
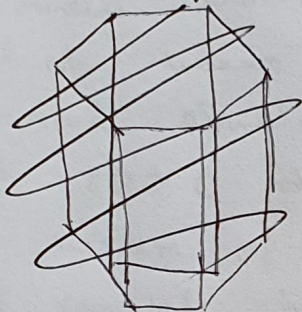


HCP - Hexagonal closed packed structure



The unit cell is of hexagonal geometry and is generated by the stacking of close-packed planes of atoms.

So top and bottom faces consists of 6 atoms that form regular hexagons and surround a single atom in the centre. Another plane provides 3 additional atoms. Coordination n° 12.

c) packing ratio for of HCP = 0,78
BCC = 0,68

d) At 1800°C the mixture would be in liquid state, the melting point is at 1670°C . *
As the mixture starts cooling down will get into the $\beta + L$ phase at 1650°C which means it won't be pure liquid anymore and will contain solid titanium (β) as well.
* At 1670°C it crosses the liquidus line and starts to solidify.
Around 1500°C it crosses the solidus line which means under this line the system becomes completely solid.