Metals and their Compounds
Lecture 4.6
Sample questions

Q. Perovskite (a mineral) is composed of Ca^{2+}, Ti^{4+} and O^{2-} ions. It has a cubic unit cell with the Ca^{2+} ions at the corners, the O^{2-} ions in the faces and the Ti^{4+} ion in the center
(a) draw the unit cell
(b) what is the formula of perovskite ?

Q. Aluminium crystallizes in the face-centred cubic cell. The radius of Al is 1.43 Å.
(a) how many atoms of Al are there in a cell ?
(b) what is the coordination number of the Al ?
(c) what is the length of the unit cell ?
(d) calculate the density of Al

Avagodro's number = 6.023×10^{23}
Atomic weight of Al = 26.982