Describe an experimental procedure to grow single crystals;

Draw a possible centric and primitive unit cell on the picture below and show the symmetry operators for the centered cell:

Explain the difference between a tetragonal and a monoclinic lattice.

Explain with a simple drawing what is the difference between an orthorhombic P and F cell.

Explain the meaning of the symbol P21/m used to define one of the possible space groups of the monoclinic lattice.

Explain the difference between a Ka and La X-ray radiation.

Explain in a few words and with some drawings how to index an X-ray reflection.

Explain what is the information which can be extracted from the Bragg's law.
Index the following reflection:

List the symmetry operator for NH₃

List the symmetry operators for the tetragonal unit cell

List in simple words the stages of crystal structure solution

Index the reflection below and predict its intensity (weak or strong)
Explain the meaning of occupancy of an atom

Explain the meaning of a thermal ellipsoid in the final molecular diagram (ORTEP)

Explain why it is difficult to detect the position of H atom in a crystal structure by using X-ray. Suggest a possible solution.

Explain in simple words the concept of systematic absences and its use.