1. Determine the basis vectors of the primitive unit cell of the graphite crystal. What Bravais lattice underlies this lattice? Specify the Cartesian coordinates of the basis vectors and all atoms inside the primitive elementary cell. Determine the space group number for the graphite lattice (use https://www.cryst.ehu.es/). Calculate the volume of a primitive elementary cell.

2. Effective mass approximation (explanation).

3. Hartree-Fock method (explanation).

4. Don't forget to include the results of the VASP calculation.