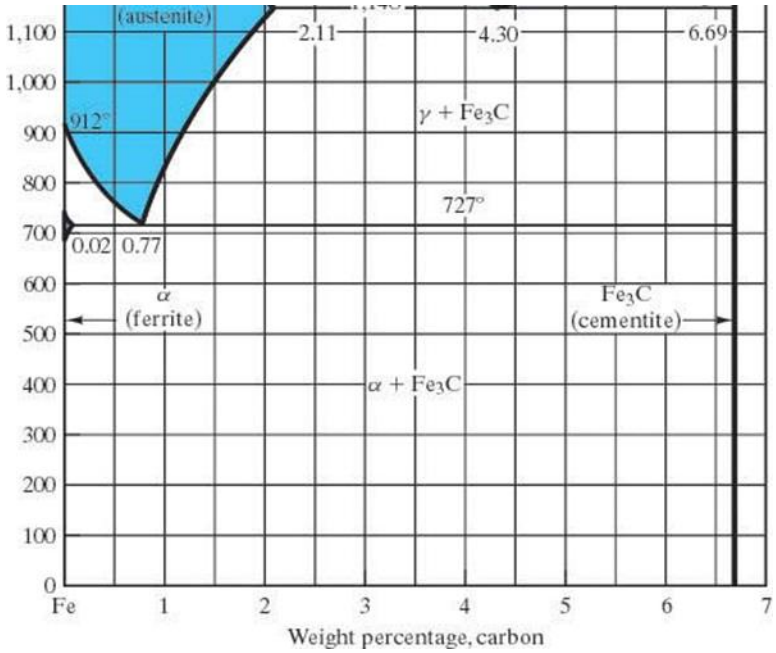
1. Use the equilibrium phase diagram for steel to determine the following.



a. Given that it is 1035 steel, what is the carbon content?
b. Is this a hypo or hyper-eutectoid steel? Identify the eutectoid point on the phase diagram.
c. What phases exist at room temperature (assume slow, equilibrium cooling)?
d. What are the relative proportions of phases at room temperature (assume equilibrium microstructure)?
e. What constituents exist at room temperature (assume slow, equilibrium cooling)?
f. What are the relative proportions of constituents at room temperature (assume equilibrium microstructure)?
g. Sketch and label the microstructure (include grains, phases and constituents).