Final Exam MSE-313

Q.1 a) Draw Fe-Fe_3C and Fe-C phase diagrams.(15)
Calculate for 1 wt % C
b) Amount of primary cementite
c) Amount of pearlite
d) Amount of cementite (total)
e) Amount of ferrite
f) Draw microstructure

Q.2 Explain and list briefly ostenite stabilizer and ferrite stabilizer elements.?

Q.3 Explain martensite structure briefly.

Q.4 Explain Cold Mounting.

Q.5 List general characteristics (advantages) of gray cast iron.

Q.6 How many particles should we measure to obtain the relative error = $\pm$ 0.01 for Point Counting, Linear Analysis, and Areal Analysis.? (Vv=0.1)

Q.7 Using Jeffries Planmetric Method, calculate
a) Number of grains per square milimeter at 1X (N_A)
b) Average grain area (A)
c) Mean grain diameter (d)
d) ASTM grain size (g)

Q.8 Define ASTM grain size number.

Q.9 Explain briefly following stuctures. (15)