

Mid-Term Exam MSE-313

- Q.1 a) Draw Fe-Fe<sub>3</sub>C and Fe-C phase diagrams.  
b) Explain critical transformation temperatures for this diagram.
- Q.2 Calculate for 0.2 wt % C  
a) Amount of primary ferrite  
b) Amount of pearlite  
c) Amount of cementite  
d) Total amount of ferrite  
e) Draw microstructure
- Q.3 What is bainite.? Explain the difference between upper and lower bainite microstructures.
- Q.4 What are allotriomorphic ferrite and Widmannstatten ferrite.
- Q.5 a) List main pieces of optic microscopes.  
b) Explain by drawing the principles of polarized light microscope.
- Q.6 Explain Compression (hot) Mounting.
- Q.7 Explain chemical etching and grain formation in a sigle phase alloy.
- Q.8 List names of structures in macro-etching and explain on eof them.
- Q.9 Explain briefly following stuctures.