

**Advanced Thermodynamics**  
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**Eutectoid reaction**

**Questions:**

1. Draw the Free energy – composition diagrams for Fe-Fe<sub>3</sub>C phase diagram at temperature 50°C above A1 temperature, at the A1 temperature and 50°C below A1 temperature?
2. How does one get the free energy of an alloy in a two phase field?
3. Using G-X diagram at a temperature below the eutectoid temperature, please show the driving force for the reaction for the eutectoid alloy.