

Subject : Material science and engineering

Question : Syllabus of phase diagrams

Answer :

Equilibrium of Diagrams : Experimental methods of construction of equilibrium diagrams, Isomorphous alloy systems, equilibrium cooling and heating of alloys, Lever rule, coring miscibility gaps, eutectic systems, congruent melting intermediate phases, peritectic reaction.

Transformations in the solid state – allotropy, eutectoid, peritectoid reactions, phase rule, relationship between equilibrium diagrams and properties of alloys.

Study of important binary phase diagrams of Cu-Ni-, Al-Cu, and Fe-Fe₃C.