1) For Fe-Cu thermocouple the neutral temperature is 285oC when the cold junction temperature is 0oC. Calculate the temperature of inversion if the cold junction temperature is -30oC.

2) The thermo emf of a Cu-Fe thermocouple of 2160µV when the cold junction is 0oC and the hot junction at 250oC. Calculate the constants a and b if the neutral temperature is 330oC.

3) For Fe-Cu thermocouple, when one of the junction A is at 273oK, the thermoelectric current is found to be zero. When other junction B is at 843oK. On further increasing the temperature of junction B the current is found to change its direction of flow. Calculate the temperature at which maximum E.M.F, is obtained and the temperature of inversion of cold junction temperature is 250oK

4) Calculate the EMF of Sb-Au thermocouple whose junction are at 0oC and 100oC. Given the Seebeck coefficient a and b for Sb and Au as,

aSb-Pb = 35.58 µV/°C ; bSb-Pb =- 0.146 µV/°C

a Au-Pb = 2.90 µV/°C ; bAu-Pb = 0.009 µv/°C

5)The thermo- electric power of iron is 17.5 micro Volt/ degree C at 0 C and 5 micro Volt/ degree at 125 C.The thermo electric power of cadmium is 3 micro Volt/ degree C at 0 C and 15 micro Volt/ degree C at 150 C .Calculate the neutral temperature of Iron Cadmium junction.

6)The emf of an Iron lead thermo couple ,where one junction is at 0 C and other is at 100 C is 1185 micro V.When the second junction is at 300 C the emf is 675 micro V.Similar readings with silver lead thermo couple are 371 and 1623 micro volts respectively .Calculate the neutral temperature for iron-silver thermo couple .