1) For Fe-Cu thermocouple the neutral temperature is 285^{o}C when the cold junction temperature is 0^{o}C. Calculate the temperature of inversion if the cold junction temperature is -30^{o}C.

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

3) For Fe-Cu thermocouple, when one of the junction A is at 273^{o}K, the thermoelectric current is found to be zero. When other junction B is at 843^{o}K. 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 250^{o}K

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

$a_{Sb\text{-}Pb}$ = 35.58 µV/°C ; $b_{Sb\text{-}Pb}$ =- 0.146 µV/°C

$a_{Au\text{-}Pb}$ = 2.90 µV/°C ; $b_{Au\text{-}Pb}$ = 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 .