The manuscript demonstrated an annealing technique to modulate the thermoelectric properties of GeSeIn thin films grown on Si substrate by thermal evaporation. The grown samples were annealed at various temperatures from 600-800 0C in air using programmable furnace to variation in Seebeck coefficient and power factor. The XRD data confirmed the amorphous nature of GeSeIn glasses because no XRD peak was observed in as grown sample. But annealing process developed a temporary crystalline phase of GeSe having (016) plane which again disappeared at annealing temperature 900 0C. Raman spectroscopy measurements revealed a strong peak at 520 cm-1 due to Si substrate along with the couple of other peaks which are related to GeSeIn structure. The Seebeck data suggested that as grown sample has highest value of Seebeck coefficient (120μV/0C) but it decreased from 110-20 μV/0C as the annealing temperature increased from 600-800 0C. The decreased in Seebeck coefficient with annealing temperature is due to decrease of carrier concentration. The Hall measurements demonstrated that the value of electrical conductivity remains almost constant (110-115 S/cm) for all samples annealed at various

September 02, 2022; September 05, 2022; December 05, 2022