## ABSTRACT

One of the optical amplifier that used for long haul communication is Raman Amplifier. Raman Amplifier does the amplification in optical domain that uses optical non-linearity behaviour called Raman scattering. Raman scattering that occurred because of laser injection will amplify the signal. This phenomenon called Stimulated Raman Scattering (SRS), and becomes basic principle of Raman Amplifier. Signal amplification is occurred in optical fiber and there is no energy conversion. Along the fiber the amplification is occurred and compensate the intrinsic attenuation.

The purpose of this final assignment is to analyze the use of Distributed Raman Amplifier in WDM technology with limitation only 20 dB gain. For wavelength in range 1550nm-1560nm, the Raman gain that resulted is almost flat. The G.652 and G.655 give 9 dB differences in gain for 100km distance. Small noise in G.652 gives 10 dB better than G.655.