In this article, the mechanical performance and exergy of a one-ton split type air conditioning system by using the mixture of two different refrigerants of different proportions have been investigated. It has become necessary to find an alternative of Chlorodifluoromethane (R22) as it has high ODP (Ozone Depletion Potential) and GWP (Global Warming Potential). Propane (R290) has a lower ODP and GWP and in this project, it was considered with R22 for making different blends. Here, two different mixtures of R22 and R290 (respectively), were prepared and denoted as X6 and X7. After conducting a test run for several hours, evaporator temperature, condenser temperature, compressor suction and discharge pressure, and enthalpy at different points (obtained from REFPROP) were measured. By using experimentally obtained data, power consumption and Coefficient of Performance (COP) were calculated for different refrigerants. Different characteristic graphs were drawn establishing relation among various parameters. It was found that during the same observation period, the mixture X6 and X7 consumed less electric power than R22. Moreover, the COP was also found to be higher for X6 and X7 than that of R22. Finally, total exergy destruction in all components was calculated for different refrigerants and comparative analysis was made.