?1.3 Mild Steel (MS) ?The corrosion of iron and steel, two commonly used metals, occurs in various environments, including most outdoor settings.Special appreciation is extended to Dr. Jeenat Aslam for her exceptional supervision and guidance during this endeavor; her expertise and insights have significantly contributed to its success.These strategies include the use of non– corrosive metals like stainless steel or aluminum, ensuring the metal surface is clean and dry, applying a barrier or coating material such as paint, oil, or grease, utilizing sacrificial anodes to provide a cathodic defense system, and using corrosion inhibitors.Industries such as chemical plants, gas pipelines, and boilers utilize acidic solutions for pickling, descaling, cleaning, and oil well acidizing.It is utilized in a wide range of applications, from vehicle manufacturing to household items, protective equipment, refrigerators, cargo ships, and medical instruments.?1.4 Acid Medium ?Steel is particularly susceptible to corrosion when exposed to aqueous conditions due to its inherent thermodynamic instability in such environments.This susceptibility is more pronounced in acidic mediums, which are commonly used in various industrial applications.These methods can collectively help prolong the lifespan of assets and equipment in ?5.