# SYNTHESIS AND CHARACTERIZATION OF POLY-ANILINE FILM BY OXIDATIVE- POLYMERIZATION AND SOL-GEL TECHNIQUE FOR THE ELECTRONICS APPLICATIONS.

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**Abstract :**

In the present paper an attempt has been made to investigate the electrical, optical and structural properties of conducting polymer Polyaniline (PANI). The Polyaniline were synthesized by oxidative polymerization using chemical synthesis route. The Polyaniline were synthesized using optimized concentration of monomer Aniline, Hydrochloric acid as dopants and by using Ammonium Peroxidisulphate as an oxidant. The film was deposited by the Sol Gel technique using DMF solution as a solvent for the formation of gel and the film is formed using Spin coating technique. The formation of PANI films shows a good uniform surface morphology. The change in conductivity is studied by the two probe method. The I-V characterization of PANI film shows ohmic behavior and we have achieved better conductivity of the films. PANI thin films were characterized by analyzing UV-Visible, and FTIR spectroscopy. The study reveals that the thin film of Polyaniline provide a very good uniformity in surface, and very high conductivity, which are desired for active layers in sensor, chemiresistors in gas sensing applications.

**Key Words :** PANI, Chemical Synthesis, Sol-Gel.

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