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Name of the Scholar :	Shumaila Masood
Name of the Supervisor :	Prof. Nahid Nishat
Name of the Department/Centre :	Chemistry
Topic of research :	Synthesis, Characterization and Protective Application of Technical Cashew Nut Shell Liquid derived Eco-friendly Green Polymeric Coating Materials

Findings

The work of my Ph.D. thesis was focused on the development of polymers from renewable resources with other green co-reactants to estimate their prospects in protective coatings. Chapter 1 comprises of general introduction and literature survey on corrosion, its mechanism, methods for testing corrosion, various techniques to combat corrosion, renewable resource-based coatings, CNSL, its composition and its utilization as inhibition as well as in various coating formulations. Chapter 2 comprises of one-pot synthesis of polyamine (PA) resins-based coatings from cardanol (Col)-Formaldehyde and ethylenediamine via following the principles of "Green" chemistry. Corrosion inhibition properties of PA1 coatings were found to be superior to the reported Col-based epoxy (two-component) coatings. Chapter 3 reports the polymerization and crosslinking of virgin PhAA resin and its conversion to anticorrosive coatings for commonly used mild steel substrate. Chapter 4 dealt with the synthesis of urotropine (UT, 5-25 wt.%) modified methylolated technical Cashew Nut-Shell Liquid (tCNSL-Met-UT) to study the potential of tCNSL as polymeric alternatives to petroleum derived materials. Chapter 5 includes the synthesis of urotropine (UT, 5-25 wt.%) modified furfurylolated technical Cashew Nut-Shell Liquid (tCNSL-Fur-UT). It was concluded that tCNSL-Fur-UT15 has superior properties among all the other synthesized systems.