SUMMARY AND CONCLUSIONS

PERFORMANCE OF POLYMER BLEND MATRIX EPOXY/ 5% UNSATURATED POLYESTER AND NATURAL FABRIC "HILDEGARDIA POPULIFOLIA" FOR USAGE IN GREEN COMPOSITES
SUMMARY AND CONCLUSIONS

The dissertation consists of seven chapters. In the first chapter, a brief introduction about the polymer composites in general and the green composites in particular is given. In the same chapter, the literature surveyed by the author in the field of research is presented. The aim, and scope and the future plan of work are also presented in the same chapter.

Chapter - II deals with the materials and methods employed in the present piece of research. In this chapter, a brief description of the instruments used by the author is given.

In chapter-III, the studies on the miscibility of the blend epoxy/Unsaturated polyester are presented. The author used the viscosity, ultrasonic velocity, and refractive index methods for the study of the miscibility of the blend to be used as the matrix material.

Chapter-IV, deals with the performance of the epoxy resin. This chapter deals with the tensile properties of epoxy coated *Hildegardia* fabric with and without coupling agent.

Chapter-V deals with the performance of the unsaturated polyester resin. In this chapter, the tensile properties of unsaturated polyester coated *Hildegardia populifolia* fabric with and without alkali treatment are presented. In the same chapter, the spectral analysis, Polarizing optical microscopy, and Scanning electron micrograms of *Hildegardia* fabric are also presented.

Chapter-VI presents the results on the performance of the blend matrix. In this chapter, the tensile strength and chemical resistance properties of both the coated and uncoated bamboo fibres are presented.
Chapter-VII deals with the thermogravimetric analysis of bamboo fibre. In this chapter the author presented the initial degradation temperature, final degradation temperature, inflection point, integral procedural degradation temperature of bamboo fibres.

At the end of the dissertation, the list of papers published and accepted for publication is given along with the reprints received. As future plan of work, the author wants to make the green composites using the two matrix materials and the natural fabric of *Hildegardia populifolia*.

*Summary and Conclusions*