CHAPTER 4

OBJECTIVES

4.1 Aim of the Research

The impartial of present work is an attempt to finding out the feasibility of making a over cut on carbon fiber electrode by electrochemical machining. While machining carbon fiber a composite, with a cathode tool of copper, three major parameters like tool feed ratio, process electrolysis flow rate and power supply are adjusted to its maximum optimum to reach an excellent surface finish over the composite. The following are the main objectives of conducting this experiment.

1. To establish Electro-Chemical Machining is one of the ideal methodology for machining, carbon fiber composite

2. To prove Copper tool at the point of Cathode is ideal to machine the Carbon fiber where fixed at Anode.

3. To set the standards in parameters to obtain a best value of SR for carbon fiber composite.

4. To identify a suitable electrolyte for machining Carbon fiber in ECM among NaCl, NaNO$_3$ and NaClO$_3$ by conducting experiment in all three solutions in a same standard and tool.
5. By applying ANOVA statistical methods, selected parameters are analyzed for its contribution in the machining process to align for better results.

6. After completing each machining system, the Carbon fiber’s layer changes have to be observed to check the variation in its mechanical properties. Also like to analyze the difference of surface changes occurred in the three various ECM processes with different electrolytes.