4. WORK PLAN AND METHODOLOGY

Research Work to be carried out is planned as per the pattern mentioned below:

1. Year 2011
   Phase – I:  (i) Course Work
              (ii) Literature Review - It includes study and review of
                  Papers from Elsevier Journal
                  Papers from Science Direct Journal
                  Papers from Journal of Material Processing
                  Papers from International Journal of Tools
                  and Manufacturing
                  Certain Books related to the topic
   Phase – II: (i) Preparation and Experimental setup of Sheet metal component
              (ii) Publication of Paper in International Conference/ Journal

2. Year 2012
   Phase – I:  (i) FEM analysis of Sheet metal component
              (ii) Experimentation and obtaining readings
              (iii) Simulation
              (iv) Publication of Paper in International Conference/ Journal
   Phase – II: (i) Validation of Experimental Results with FEM
              Results / Theoretical Results
              (ii) Plotting Graphs
              (iii) Publication of Paper in International Conference/ Journal

3. Year 2013
   Phase – I  (i) Publication of Paper in International Conference/ Journal
(ii) Preparation of Summary of the Thesis

(iii) Thesis Writing

For this research work following methodology is adopted –

- **Mathematical Model:** This research would include a mathematical model for bulk metal forming process considering different input and output variables.

- **Software Use:** Different software’s like ANSYS, Pro Mechanica, MATLAB would be used for analysis, Sheet metal forming software and some statistical tools like Minitab software would be used for Design of Experiments and Simulation software would used for simulation Also different algorithms may be carried out for analysis point of view.

- **Experimental Setup:** For this research a experimental setup would be created for analyzing different input and output variables.