RESEARCH METHODOLOGY AND CHAPTERWISE DETAILS

A. Research Methodology
   I. Research Design Parameters:
      The following design parameters are considered for the proposed research
   a) Type and Size of Industry:
      Classification of Software Industries based on size and revenues
      ✓ Large (known as Tier-1)
      ✓ Medium (known as Tier-2)
      ✓ Small (known as Tier-3)
   b) Type of Software Development Life Cycle used by the industry
      ✓ Agile
      ✓ Waterfall
      ✓ Spiral
      ✓ Iterative
   c) Type of IT Infrastructure used by the industry for their software development process
      ✓ Cloud based
      ✓ Outsourced
      ✓ In-house
   d) Sustainability Parameters
      ✓ Will be arrived based on the Global Sustainable Performance Measurement Standards like GRI, UNGC etc

II. Design Data Sampling
   e) Industry data
      The following sample size will be used to collect data from various industries
      ✓ Large or Tier -1 (15 to 20 companies)
      ✓ Medium or Tier -2 (10 – 20 companies)
      ✓ Small or Tier -3 (10 – 15 companies)
   f) Sustainability parameters
      ✓ Performance measures used for comparison (10 to 20)

III. Data Analysis
   a) Data Analysis will be done with the help of Statistical/ Analytical Tools

IV. Improvement methodologies
   a) Based on the theoretical research through industry standards
b) Various improvement measures taken by benchmarked industries in the domain

V. Recommendations/Conclusions

B. Research Data Collection Methods
   a) Primary Data collection through
      ✓ Questionnaires
      ✓ Interviews
      ✓ Sustainability reports published by the companies on their web sites
   b) Secondary Data collection through
      ✓ Research Journals
      ✓ Books
      ✓ Magazines
      ✓ Web-sites
      ✓ Published Reports

C. Study Plan of proposed research
The study will be primarily divided into two parts. The first part consists of literature review and present state of industry on Software Development Life Cycles used for their software product development and the measurement of sustainability parameters in various stages of product development processes. Second part contains the analysis of data collected, theoretical study of various methodologies for reduction of carbon emissions and recommending improvement suggestions for the software industry. The research report will be structured in various chapters as specified below:

1. Introduction
2. Literature Review
3. Selection & Justification of the topic
4. Objectives of the study & hypothesis
5. Data Collection, Data Analysis & Interpolations
6. Findings
7. Suggestions & Recommendations
8. Conclusion & Scope for further research
9. Limitations of the study
10. Bibliography

D. Expected duration of the work:
   Within 24 months (from July 2011 to June 2013)

E. Facilities available for the work
(Detail of facilities available duly attested by the principal/HOD university department be enclosed)