RESEARCH METHODOLOGY

The research process will include following phases for accomplishing the Objective of Research to study and analyse various vulnerability issues in Security in Cloud Computing with an attempt to suggest a model of security implementation, which will cover the advantages of the available process used to handle the vulnerabilities in Security of Cloud Computing and will be able to provide more reliable aspect for implementation of Security in Cloud Computing Environment:

Phase I: Study

The study phase will emphasis on studying the various vulnerability issues in Security of Cloud Computing Environment. The current status, limitations, implementation issues specially concerned to vulnerabilities, advantages and disadvantages of the available security measures will be studied and a comparison will be made in order to find out the lacking area in the terms of vulnerabilities in Cloud Computing Security.

Phase II: Analysis

In the next phase an analysis will be made to categorize and classify the vulnerability issues associated with Security of Cloud Computing to investigate the feasibility specifications for the proposed implementation framework of Cloud Computing Security. The deliverable result at the end of this phase will be a document identifying the specifications to implement various vulnerability issues in Security of Cloud Computing.
Phase III: Design and Development

In this phase the proposed implementation framework model of accomplishing the vulnerability issues in Cloud Computing Security will be placed. This phase will use the requirement specification document and will convert the requirements into framework. The framework will define the components, their interfaces and behaviors. The deliverable design document will be the architecture that describes a plan to implement the vulnerability issues. It represents the “How” phase.

Phase IV: Testing

This phase will include various tests and experiments that will help to discover potential errors and limitations in the proposed less vulnerable and more Secure Data Transmission in Cloud Computing Environment. Testing is the process with specific intent of finding errors prior to delivery to the end user. Strategy for testing comprises of test case design methods and provides guidance describing the steps to be conducted as part of testing, plan when and where they need to be imposed and how much effort, time and resource will be required.

Phase V: Implementation

In this phase the proposed implementation model will be implemented in a simulated environment to achieve the objective of the system so that the model can be referred to the Real Data Security in Cloud Computing of to implement the vulnerability issues. This phase uses the architectural document from the design phase and the requirement document from the analysis
phase, to obtain and use the model. The implementation phase deals with issues of quality, performance, maintenance etc.

**The Study Plan**

The study will be divided into two parts. The first part of the study would deal with the theoretical review of literature on cloud computing and growth and present status in relation to security technologies. The second part contains the empirical analysis of collected data. On the whole, the study would be dealt in seven different chapters.

**Chapter-I** would deal with the Introduction, objectives and scope, methodology, period, sources of data and review of literature for the study.

**Chapter-II** will be concerned with genesis, development and growth of cloud computing, Progress and performance of security technologies in this chapter.

**Chapter-III** will be deal with VPN(Virtual Private Network) to implement cloud services.

**Chapter-IV** would describe history, growth and present status of secure cloud computing and its performance operating on internet.

**Chapter-V** would envisage comparative study of Tunneling and network control protocol.

**Chapter-VI** would encompass the summary of the findings, conclusions, limitations, and scope for further extension of the study.

**Chapter-VII** Would be Bibliography.