Research Methodology:

4.1 Research Area: The research area is in the field of software testing. In software testing, it is more concentrated on testing of database applications. Geographically, there are no limitations as the proposed research is practical based, in which an application interacting with database is required. The size of application may be around 500 line of code.

4.2 Research Design: The research design used in the proposed research is of empirical type. As empirical research is a way of gaining knowledge by means of direct and indirect observation or experience. In fact this research is also studying empirical evidence (the record of one's direct observations or experiences) to analyze quantitatively or qualitatively. Through quantifying the evidence or making sense of it in qualitative form, so though this study I am trying to answer empirical questions about the effective adequacy criteria for testing database applications which is clearly defined and answerable with the evidences of collected data. The research design is of quantitative type as research is beginning with a research question (e.g., "Does particular criteria for testing database application have an effect on quality of database software?") which is tested through experimentation in a lab. I am also comparing various criteria for determining adequacy in software testing which is usually a major concern in IT industry. Here in this research type we make some certain prediction for getting the answer of the research question. These predictions can then be tested with a suitable experiment. Depending on the outcomes of the experiment, the theory on which predictions were based will be supported or no.

As I am also comparing the various criteria for testing of database applications so I may use “T test” or “ANOVA for appropriate and accurate comparison.”