Chapter 5: Research Methodology

5.1.1: Field study method: In line with the definition of quality (Chapter 1.1.2) investigation was carried out to identify the parameters indicating quality of education imparted by an institute, as perceived by the faculty and students of engineering colleges (Hypothesis I). Initial discussions and interviews were conducted with the faculty and a questionnaire was designed to conduct a survey. To generalize such a faculty perception about these parameters, the survey was conducted in geographically different locations in the State of Maharashtra, where institutions have a standing for about twenty years. The questionnaire is enclosed in Annexure A.

5.1.2: Field study method: A questionnaire was also designed and circulated in various engineering colleges to understand the perception of the students about parameters indicating quality of education imparted by the institute. This survey was carried out for students of engineering colleges in rural as well as urban sector. The same questionnaire was also tested with teaching faculty. The questionnaire is enclosed in Annexure B.

5.2: Case study method: In order to understand the relationship of the University examination results (academic performance) of the U.G. students for the entire duration of the program of four years to their marks at qualifying examination (12th) at the entry level, a study was carried out for all the students joining a leading technical institute in the State of Maharashtra, having a standing of about 20 years, Vishwakarma Institute of Technology, Pune, over a period of five consecutive years, beginning with academic year 2001-02 to 2005-06 (Hypothesis II).

5.3: A model IPRinternalise™ was implemented in the same institute, Vishwakarma Institute of Technology, Pune, under study as a case above, to integrate innovation process in the technical education by way of using intellectual property rights and in particular patenting aspects. The intellectual property rights process is integrated in students project at an early stage so that the student gets exposed to the significance of prior art searches, analysis of prior art in the context of the problem they are solving, developing solutions that are novel, have tailored
inventive steps and are useful to industry. This approach enhances learning ability of the students (Hypothesis III).