A) General Information: -

1. **Name of the Institute:** DIET, Dilshad Garden
2. **Details of the Investigator(s):**

Name	Designation	Place of posting at the time of project completion	Present place of posting	Contact no	E-mail
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3. **Project/ Study Conducted Academic Session:** 2017

4. **Institute where Project/Study submitted:** DIET, Dilshad Garden

5. **Theme of the Project/Study: Educational Technology**

6. **Level of the study: school level**

B) Summary of the Conducted Research work/Project/Study: -

1. **Title:** Effectiveness of ICT Tools in Teaching of Mathematics and Science at Upper Primary Level

2. **Introduction:** 21st century is the century of dynamic changes i.e changes that keep changing further. Skills that are demand in this century are creativity, analytical/critical thinking, innovative problem solving and so on. Mathematics and Science as a subject is poised to inculcate all such skill in the learner and make them ready for 21st century. The ability to explore, discover, try to find a creative solution and make mistakes, create new knowledge rules based on one's own experiences etc., are some aspect of learning which the curriculum is highlighting and focusing.

   Teaching method comprises the principles and methods used by teachers to enable student learning. The approach of Teaching and Learning strategies can be classified

as Lecturing, Demonstrating, Collaborating, Classroom discussion, Debriefing, Learning through problem, Open ended question, Group work, Peer learning, Projects, Cooperative learning, Games

Earlier computer have been used as learning tools in education. CAL provided a better learning environment in education. At present the dynamic and interactive websites related to Mathematics teaching and learning can be easily reached through the Internet. All the bodies related to education encouraged teaching Mathematics and Science by using ICT.

Information and Communication Technology (ICT) is an important tool for bridging the gap of procedural and conceptual knowledge of learner that include any communication devices or application such as radio, television, cellular phones, computer and network hardware and software, satellite system such as videoconferencing and distance learning.

ICT as a tool should be used with care so that it serves to bridge the social division and equalize opportunity. The efforts should be initiated to utilize ICT at the school level to prepare children to face the challenges of a society that is fast transforming into information driven society. To find the factor behind these differences the researcher took an initiative to study the Effectiveness of ICT Tools in Teaching of Mathematics and Science at Upper Primary Level.

3. **Research Objectives:** The purpose of this study is to determine effectiveness of ICT tools in teaching of Mathematics and Science at upper primary level. Its specific objectives were: i) to study the achievement level of class VI student before and after treatment, ii) to study the achievement level of class VI Boys and Girls before and after treatment, iii) to find out the relationship and difference of class VI students in terms of boys and girls students in their achievement level before and after treatment, iv) to find out the relationship & difference of class VI students in terms of Traditional Group and CAL Group in their achievement level before and after treatment, v) to find out the relationship & difference of class VI girls/boys students in terms of Traditional Group and CAL Group in their achievement level before and after treatment.
4. **Research Design:**

- **Research method(s):** Pre-test-Post-test control group eexperimental design under experimental research was used in this study.
- **Tools and techniques used:** "Pre & Post Achievement Test on Science and Mathematics" developed by researcher was used to collect data.
- **Statistical techniques:** Percentage, Mean and t-test were used for analysis

5. **Research findings:** The main findings of the study were: i) the result of the pre-test showed that there was no significant difference in the achievements of the two groups, ii) post-test showed that there is significant difference between the achievements of the students taught by CAL and Traditional instruction method, iii) the findings of the effectiveness of CAL on achievement suggest that CAL is more effective than traditional

instruction, iv) there is significant difference between pre-test and post-test scores in respect to all girls, v) achievement level of the boys and girls increase after teaching or intervention, vi) result showed that CAL is effective method for understanding the topics of science, vii) achievement level of boys for both groups in Mathematics subject.

6. **Educational implications:** Effective use of multimedia or interactive Web-based modules can increase student learning. It is recommended to use a combination of CAL and Traditional instructional method at upper primary level

7. **Scope of the study:** A further study is needed to see whether ICT impact students learning outcomes in other subjects. In addition future research should compare student's perception of teaching other subjects with ICT. Similar research can be conducted with other sample also.