• **INTRODUCTION:**

The main purpose of geography teaching is not to explain particular geographical events and to measure how much of them were memorized via exams by the students. Geography teaching is more than that for individuals, society and the world in terms of its roles and aims. The students learning features of the world and human systems, for their needs, realizing their limitations and the width of universe, meeting their needs with sustainable sources and living in a happy and prosperous atmosphere can be possible with geography knowledge. Students have the chance to learn the necessity to live together, providing social solidarity and the reasons why social development is so crucial in a society through geography education. It also gives students the conscious of social, financial and cultural improvement of a country by getting the knowledge of individuals and societal problems and the skills to find out solutions to the problems. Geography education also helps to whole people of the world to provide sense of use resources in sustainable manner for keeping in view of future generation. This feeling in individuals develops unity in culture acquiring an attitude to struggle together for the common global problems of the world.

In order to meet the aims of teaching geography, the teachers that have sufficient knowledge, skills and necessary equipment should be conscious and have feeling of responsibility. Providing geography teaching in accordance with the expectations in the society will be possible with reflecting the most recent methods, audio visual aids and technology to the lessons. So the teachers should be in a good level in geography science and have the skills to teach these skills with suitable methods. In present Indian education system teachers are found many times lacking in using proper techniques and technologies in their geography lessons. While delivering the lecture to the students in a suitable way they should choose the right methods and techniques of the subject. So, the researcher is focusing on this scenario through the present study and tried to finding out suitable & effective way to transfer the knowledge and necessary skills to the students in teaching of geography lessons at secondary school.

• **GEOGRAPHICAL INFORMATION SYSTEM (GIS):**
“GIS is a set of integrated software programs designed to store, retrieve, manipulate, analysis and display geographical data-information concerning people, places and the environment” Fitspatrick and Maguire 2000.

“The goal of GIS must be to take raw data and transform it via overlays and other analytical operations into new information which can support the decision making process”.

GIS is a system of hardware and software used for storage, retrieval, mapping, and analysis of geographic data. Practitioners also regard the total GIS as including the operating personnel and the data go into the system. Spatial features are stored in a coordinate system which references a particular place on the earth. Descriptive attributes in tabular form are associated with spatial features. Spatial data and associated attributes in the same coordinate system can then be layered together for mapping and analysis. GIS can be used for scientific investigations, resource management and development planning.

• WHY GIS IN GEOGRAPHY TEACHING?

The Geographical Information System (GIS) offers a wide range of service to educators in teaching and learning for different subjects in schools. GIS has been long known and utilized in different disciplines, especially in geography at the university level.

However, its recognition at the secondary school curriculum is begun in foreign countries like USA, Canada and number of European Countries in 1990 where as in the curriculum of Indian secondary schooling education system is now started introducing about GIS concept. Using GIS in the lessons, gives students opportunity to grasp the lesson better and being able to improve social, mental and technical skills. Students can learn the geographical themes using GIS, they load the necessary data to the computer and make relevant analysis. This kind of learning is based on “Learning by Doing” but not memorizing. Another most important function of GIS is assisting students in developing multi dimensional skills in relation with their lessons. A student using GIS can improve several skills through the study.

Though the GIS multi skills can improves like data gathering, data production, making a research, using data gathering tools, developing data gathering methods, working both individually and in group verification of the data, using computer and technology, loading data into computer, developing statistical computation skill, making, observations, turning the observations into data, establishing relation between data, comparing, finding the similarities and
differences, making analysis, producing new data using the present data, critical thinking, developing analysis methods, improving alternative methods, finding out trustable and short ways in solving the problem, turning the data into maps, graphs and tables, commenting on maps, graphs and tables, being able to do spatial analysis, cause-result analysis, evaluating the results etc. GIS is being used in geography, planning & management, space program, security, public health & agriculture, crime analysis, emergency management, transportation, natural resource management and other field commonly used. In accordance to constructivist teaching approach, through GIS technique in geography teaching is knowledge building and keeps students being active in the classroom, which will have positive influence over learning skills.

- **NEED OF THE STUDY:**

  Researcher was visited schools while observing practice teaching lessons in the schools and observed that in most of the schools teaching learning process is done through the traditional way for teaching geography. However, many students dislike the subject and considers as a boring subject. Teacher fails to make this subject interesting by using innovative and interactive tool. Though, on internet most sites are provides free GIS software’s and related techniques for teaching-learning purpose. Today, there is demand all over the world for the GIS trained peoples and it has a great scope to offer a wide-range of jobs in future. Researcher also found that the awareness about the GIS techniques and use of technology in teaching learning process is more lacking amongst the teachers. This is mainly because of no GIS education at secondary and higher education. In most of schools geography teachers is B. A. B. Ed. they have not completed their post graduation in the subject and qualification criteria of Government of Maharashtra to teach at secondary level is also B. A. B. Ed.. So, this all creates the lack of awareness about GIS techniques among the teachers. If they complete their post graduation in geography subject they have come to know about the GIS in geography. At post graduation level in most universities of India they offer GIS as a special subject or incorporated in other subjects. In teacher training colleges also it is not been incorporated as a special subject but included as a point in geography method.

  Therefore, researcher has gone through many research papers and thesis report related to this topic and found that this type of study is carried out foreign countries. After all they came to know that GIS is a great potential tool and now it is being commonly used by teachers to teach
geography subject in secondary schools. Though, GIS is a potential tool to study geographical phenomena and have application in every field of study still it is not been popular in many countries. So, researcher thought that ‘Why this type of experiment cannot be done in India?’ By keeping in view above scenario researcher has decided to study how GIS techniques would be an effective tool in teaching of geography at secondary school.

• **IMPORTANCE OF THE STUDY:**

  GIS has been brought a great revolution in finding, locate and manage resources for decision making for planners. GIS itself is a tool to study and provide the latest information about geographical phenomena. GIS has a wide scope to use in all sector. GIS is a basically computer based technique, where all data is stored, analyzed, manipulated and displayed. If the students learn this technique, definitely this will be help in future to all students in their choose profession.

  The present study will help to understand how the GIS technique will help to student to develop his more understanding in geography and achieve more score in geography subject. This can be also helpful in increasing overall percentage. It can help pupils to develop the graphical, statistical, spatial analysis skills and mapping skills. Perspectives towards the geography subject of students will be also change and they do like the subject.

  Teachers will get the effective tool to deliver subject knowledge, especially spatial information and achieve lesson objective. They can make teaching-learning process more effective and interesting. They can also encourage the students to do the career in geography. They can also develop interest of the students in geography subject.

  School administrator can identify the benefits of GIS techniques in teaching-learning process and human resource development. They can made available necessary tool to develop the same and to enhance the school standard. Board of study can change the existing curriculum structure and restructure the curriculum according to the todays and futures need. Teacher education and training colleges can introduce a new topic as techniques in teaching of geography and also could find applications of GIS techniques in other subjects too for effective teaching. GIS technique is a very useful technique for teaching geography at secondary schools. It could help the children to learn through concrete material in a very efficient way.
It helps to save lots of time in learning geographical concept. Students can enjoy the learning geography which otherwise is considered as a boring and dull subject. Teaching-learning process will become more effective than the traditional way. Students will adapt the skills related computer which is good opportunity to self employed in future. GIS skills are useful in each and every field, hence this would be a very helpful in the future perspective. GIS can provide lots of opportunities to the teachers to do the productive work and experimental work. This will definitely help to the teacher make efficient and effective for teaching.