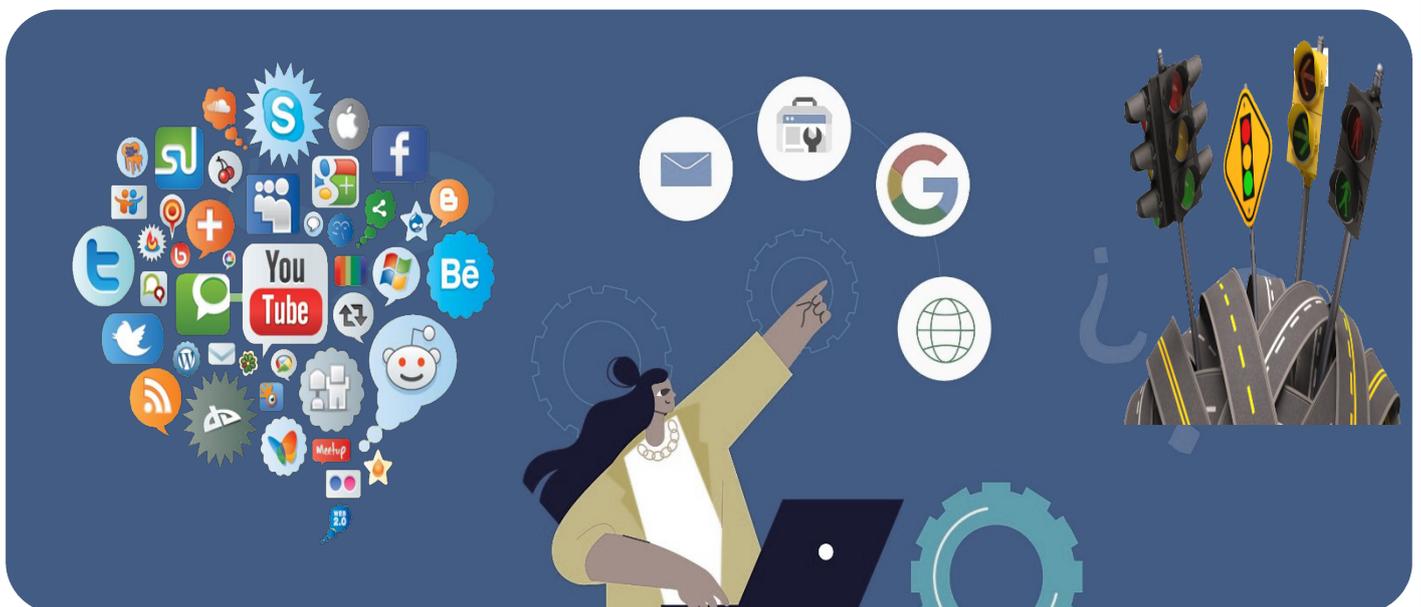


# JIGNASA STUDENT STUDY PROJECT 2022-2023

DEPARTMENT OF MATHEMATICS  
Government Degree College, Hayathnagar  
Ranga Reddy district, Telangana  
(Affiliated to Osmania University)

## WORLD OF ALGORITHM





## **JIGNASA STUDENT STUDY PROJECT -2023**

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### **How have Algorithms changed the world in an effective way**

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## **ABSTRACT:**

This project entails us about how have algorithms changed the world. Algorithm plays an important role in today's technical world. In the current world the digital world has a wealth of data which such as internet data, social media data, business data, daily life intelligence, etc. To intelligently analyze these data the key factor behind this is Algorithm. In this project we present a comprehensive view on various real-world application domains that can be applied to enhance the development of country. Overall, this project aims to serve as a reference point for How have algorithms changed the world in an effective way.

## **Keywords:**

Algorithms, ITLC algorithm

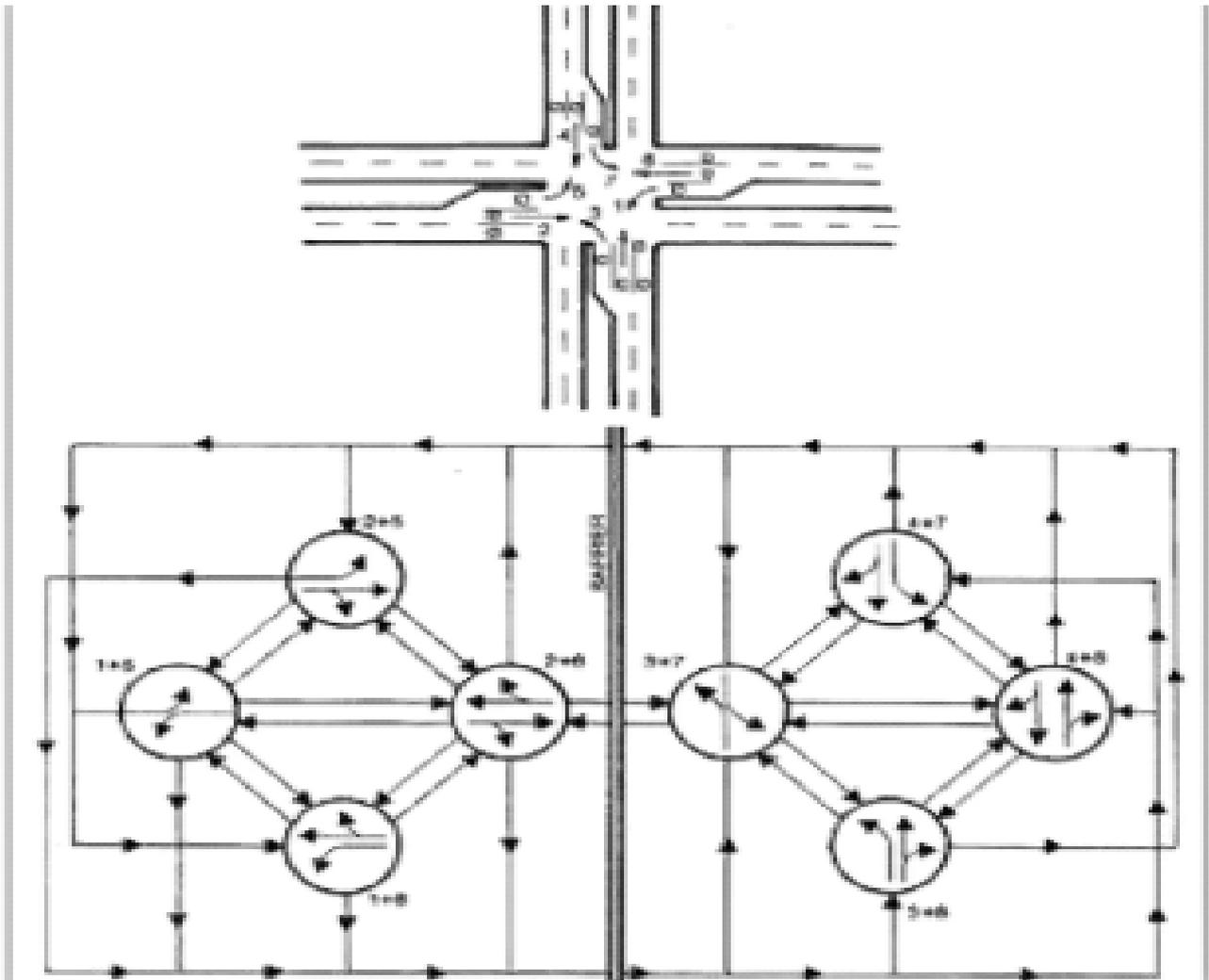
## **INTRODUCTION:**

Algorithms can be defined as discrete steps with step-by-step instructions written out. An algorithm is a procedure or set of guidelines that must be followed to finish a specific task. In accordance to mathematics and computer science an algorithm is a finite sequence used to solve a class of specific problems. Here in mathematics algorithm is all about finding an efficient way. Algorithms are in everything we do. They play a crucial part in computational thinking and problem solving in many areas of life. Algorithm thinking is a derivative of computer science and coding. And it allows students to breakdown problems and conceptualizes solutions in stage of discrete steps. In addition to being used by technology a lot of things we do on daily basis are similar to algorithms. Algorithms is involved in each and every need that we do in this technical world such as ATMs, computers, rockets, social media and some important features which are in built in Google, etc.

## **DISCUSSION ON APPLICATION:**

Here we mainly focused about a daily life application Traffic signal. Traffic signals work with an excellent algorithm called ITLC algorithm. This algorithm considers real time characteristics of each traffic flow that intends to cross the road intersection of interest, whilst scheduling the time phases of each traffic light. This reduces the queuing delay and increases the traffic fluency. The introduced algorithm aims at increasing the traffic fluency by decreasing the waiting time of traveling vehicles at the signalized road intersections. Moreover,

it aims to increase the number of vehicles crossing the road intersection per second. We report on the performance of ITLC and we compare ITLC to previous algorithms in this field for different simulated scenarios. From the experimental results, we infer that ITLC reduces the queuing delay and increases the traffic fluency by 25% compared to previous traffic light signal schedules. Furthermore, ITLC increases the throughput of each signalized road intersection by 30%.



## CONCLUSION:

Algorithm advantages this world in such a way that acts as a blue print of a program and helps during every application. The disadvantages which create a trauma are algorithms are time consuming, big tasks are difficult to put in algorithm and algorithms cannot understand complex logic. Though we have some disadvantages, algorithms are more beneficial than traumatic to this technical world. In this project we finally concluded most of our daily applications runs through algorithms which plays crucial role and without algorithms today's world cannot move forward. Finally algorithmic categorizations deepen divides the work and turns into machine code and runs today's technical world.

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  - (-The expanse of Algorithms
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**Jignasa Student Study Project team members and their Supervisor Dr T. Srinivasulu**