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# To Study Traffic Parameters on National Highway

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***Abstract:*** ***This paper is an attempt to study the basic problem of estimating traffic volume at road, but only a few hours and few days (peak period) of survey instead of hole year of survey. For all aspects of planning and designing of road(highways) Traffic Volume estimation is very important, with help of spot survey we can get accurate count of vehicle, in a moving observer survey counting oncoming vehicles coming opposite to lane passed in a specified length of road. This kind of volume studies are conducted to determine all parameter of road such as speed, density, lane distribution, no. of vehicles, load distribution etc.***
***Keywords: Spot Speed, Moving Observer, Comparison, Speed, Volume.***

## I. INTRODUCTION

Transport sector plays a very significant role in improving the economic development of any country. In India Transportation sector play an important role in which Road transportation is the major component , With help of road we can get maximum flexibility for travel with reference to route, direction, time and speed of travel. Traffic operation on highway is different than local road, it differ with speed, volume, density, overtaken and overtaking. The overtaking demand increases rapidly as traffic volume increases, while passing opportunities in the opposing lane decline as volume increases. Therefore, flow in one direction influences flow in the other direction. Therefore, flow in one direction influences flow in the other direction. The problem is more acute in case of mixed traffic flow when speed differential among different categories of vehicles is quite substantial. Important traffic conditions that affect capacity of a two-lane road are composition of traffic stream, directional split and presence of slow moving vehicles in the stream.

## II. CASE STUDY

*A. The Moving Observer Method (Dynamic Method)*

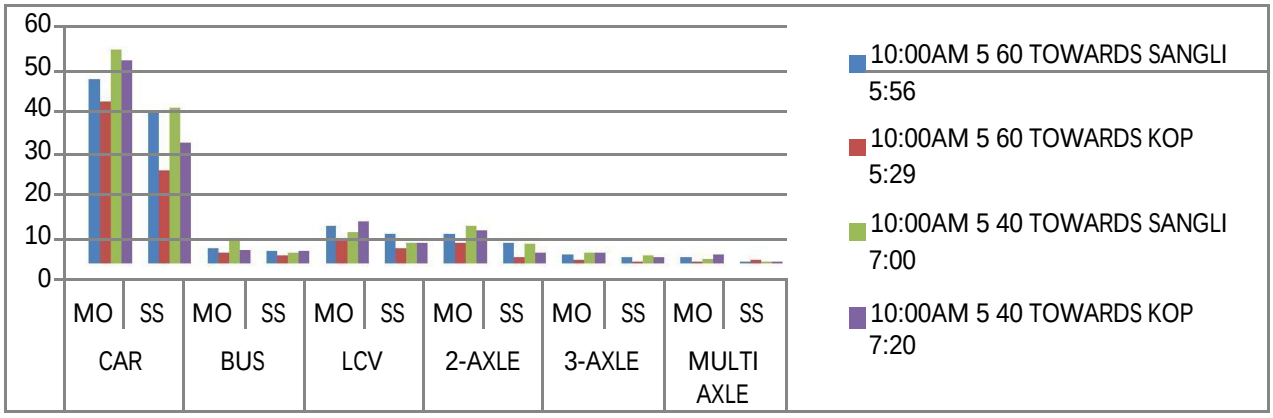
In this moving observer method, it basically involves the use of an observer in moving vehicle travelling along a road section and observer records the vehicles in the opposite lane, overtaken and overtaking vehicles by their type, so that we can get the addition information for avg. speed, density.

*B. Spot Method (Static Method)*

The size of the data collection team depends on the length of the counting period, the type of count being performed, the number of lanes or crosswalks being observed, and the volume level of traffic. The number of personnel needed also depends on the study data needed. An observer was record certain group of vehicles with details of lane distribution. To avoid fatigue, observers was relieved periodically while another observer took charge to record. Interval of rotation was an hour

## III. COMPARISION BETWEEN SPOT SURVEY AND MOVING OBSERVER SURVEY

*A.* The survey was done to identify morning traffic using both methods

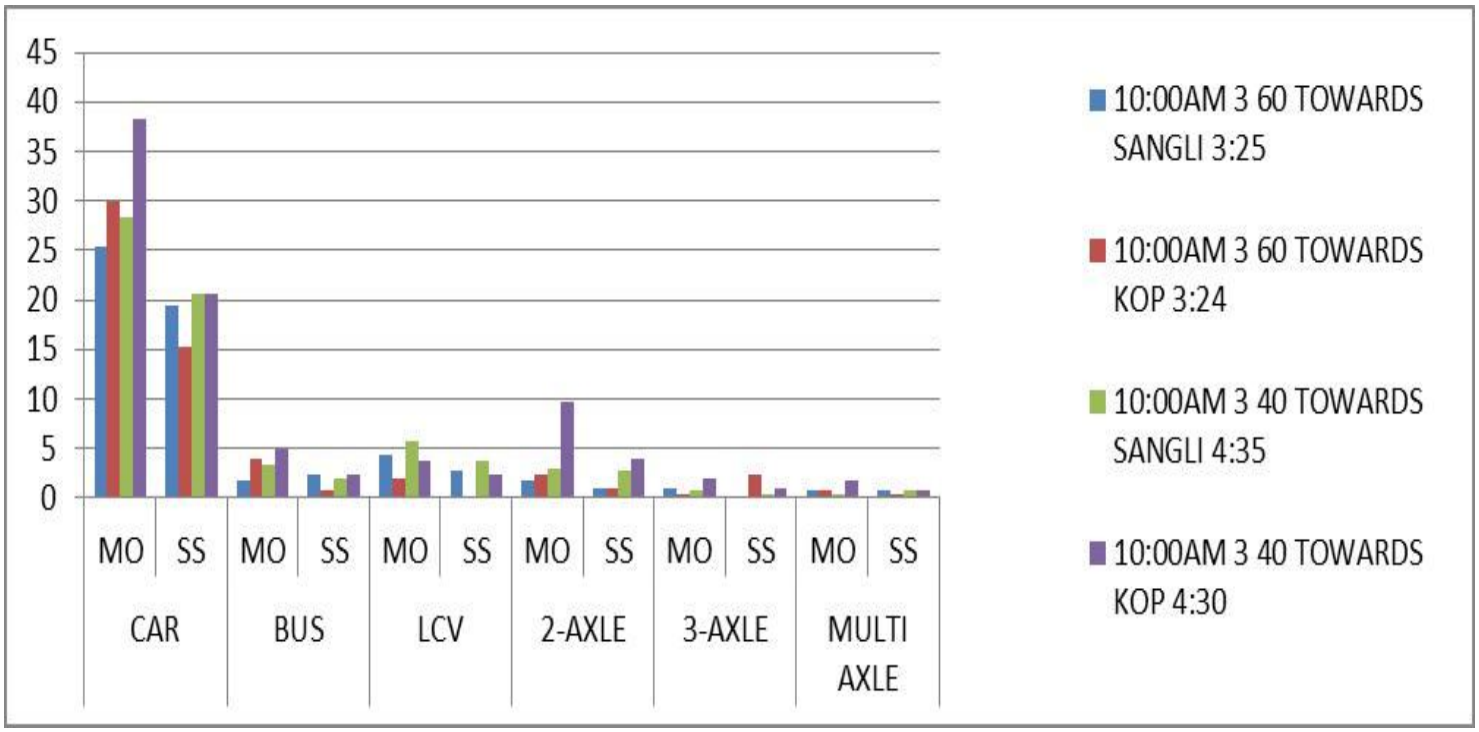




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| TIME | SPAN(KM) | SPEED(KM/HR) | | TIME | CAR | | BUS | | LCV | | 2-AXLE | | 3-AXLE | MULTI AXLE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS |
| 10:00AM | 5 | 60 | TOWARDS SANGLI | 5:56 | 41 | 33.66 | 3.33 | 2.66 | 8.33 | 6.66 | 6.66 | 4.66 | 2 | 1.33 | 1.33 | 0.33 |
| | | | TOWARDS KOP | 5:29 | 36 | 20.66 | 2.33 | 1.66 | 5.66 | 3.33 | 4.66 | 1.33 | 0.66 | 0.33 | 0.33 | 0.66 |
| | | 40 | TOWARDS SANGLI | 7:00 | 47.66 | 34.66 | 5.33 | 2.33 | 7 | 4.66 | 8.33 | 4.33 | 2.33 | 1.66 | 1 | 0.33 |
| | | | TOWARDS KOP | 7:20 | 45.33 | 27 | 3 | 2.66 | 9.33 | 4.66 | 7.33 | 2.33 | 2.33 | 1.33 | 2 | 0.33 |

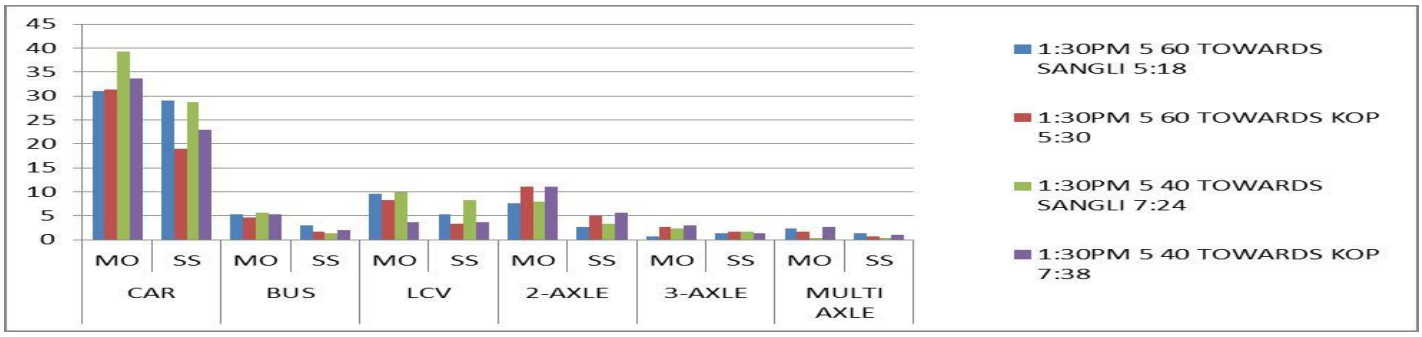



| TIME | SPAN(KM) | SPEED(KM/HR) | | TIME | CAR | | BUS | | LCV | | 2-AXLE | | 3-AXLE | MULTI AXLE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS |
| 10:00AM | 3 | 60 | TOWARDS SANGLI | 3:25 | 25.33 | 19.33 | 1.66 | 2.33 | 4.33 | 2.66 | 1.66 | 1 | 1 | 0 | 0.66 | 0.66 |
| | | | TOWARDS KOP | 3:24 | 30 | 15.33 | 4 | 0.66 | 2 | 0 | 2.33 | 1 | 0.33 | 2.33 | 0.66 | 0.33 |
| | | 40 | TOWARDS SANGLI | 4:35 | 28.33 | 20.66 | 3.33 | 2 | 5.66 | 3.66 | 3 | 2.66 | 0.66 | 0.33 | 0.33 | 0.66 |
| | | | TOWARDS KOP | 4:30 | 38.33 | 20.66 | 5 | 2.33 | 3.66 | 2.33 | 9.66 | 4 | 2 | 1 | 1.66 | 0.66 |

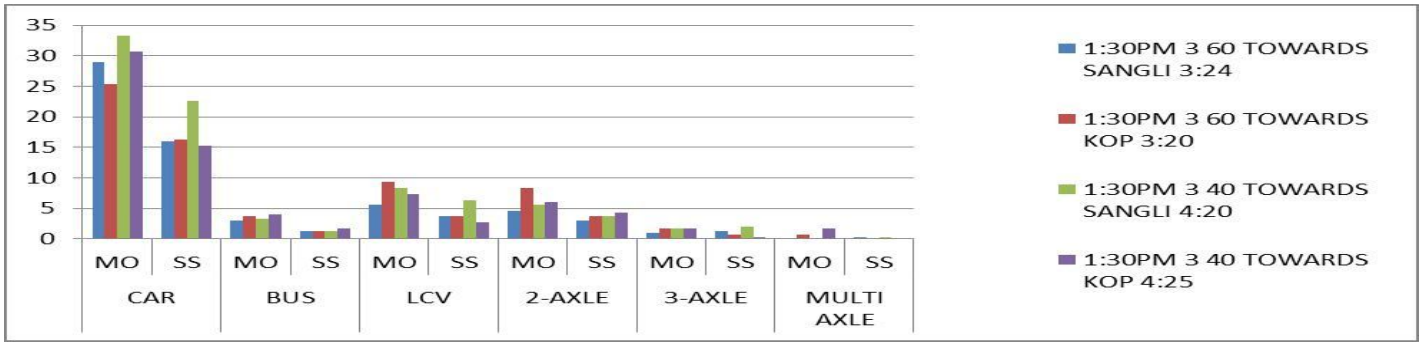

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*1)* The survey was done to identify afternoon traffic using both methods




| TIME | SPAN(KM) | SPEED(KM/HR) | | TIME | CAR | | BUS | | LCV | | 2-AXLE | | 3-AXLE | MULTI AXLE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS |
| 1:30PM | 5 | 60 | TOWARDS SANGLI | 5:18 | 31 | 29 | 5.33 | 3 | 9.66 | 5.33 | 7.66 | 2.66 | 0.66 | 1.33 | 2.33 | 1.33 |
| | | | TOWARDS KOP | 5:30 | 31.33 | 19 | 4.66 | 1.66 | 8.33 | 3.33 | 11 | 5 | 2.66 | 1.66 | 1.66 | 0.66 |
| | | 40 | TOWARDS SANGLI | 7:24 | 39.33 | 28.66 | 5.66 | 1.33 | 10 | 8.33 | 8 | 3.33 | 2.33 | 1.66 | 0.33 | 0.33 |
| | | | TOWARDS KOP | 7:38 | 33.66 | 23 | 5.33 | 2 | 3.66 | 3.66 | 11 | 5.66 | 3 | 1.33 | 2.66 | 1 |

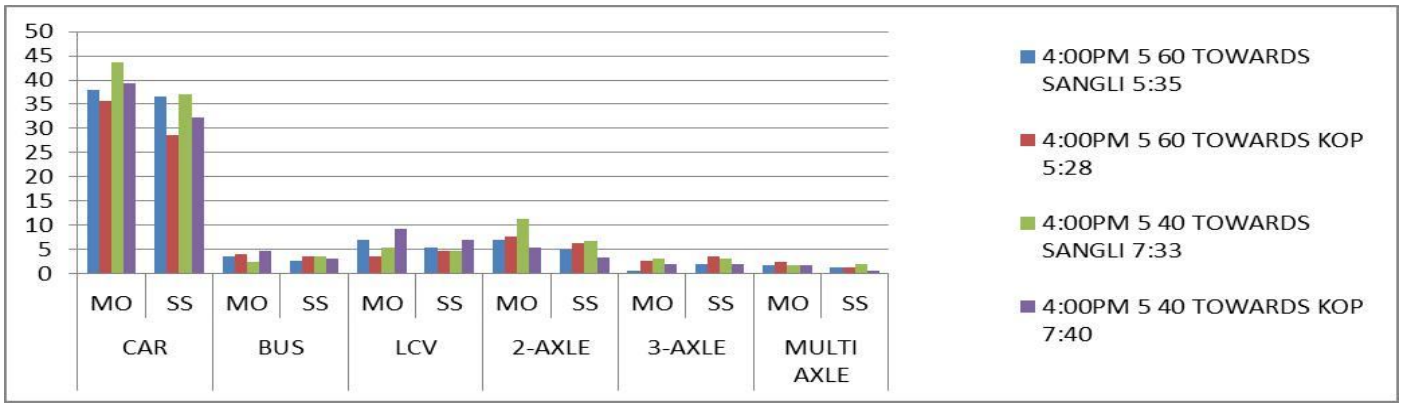



| TIME | SPAN(KM) | PEED(KM/HR) | | TIME | CAR | | BUS | | LCV | | 2-AXLE | | 3-AXLE | MULTI AXLE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS |
| | 3 | 60 | TOWARDS SANGLI | 3:24 | 29 | 16 | 3 | 1.33 | 5.66 | 3.66 | 4.66 | 3 | 1 | 1.33 | 0 | 0.33 |
| | | | TOWARDS KOP | 3:20 | 25.33 | 16.33 | 3.66 | 1.33 | 9.33 | 3.66 | 8.33 | 3.66 | 1.66 | 0.66 | 0.66 | 0 |
| | | 40 | TOWARDS SANGLI | 4:20 | 33.33 | 22.66 | 3.33 | 1.33 | 8.33 | 6.33 | 5.66 | 3.66 | 1.66 | 2 | 0 | 0.33 |
| | | | TOWARDS KOP | 4:25 | 30.66 | 15.33 | 4 | 1.66 | 7.33 | 2.66 | 6 | 4.33 | 1.66 | 0.33 | 1.66 | 0 |

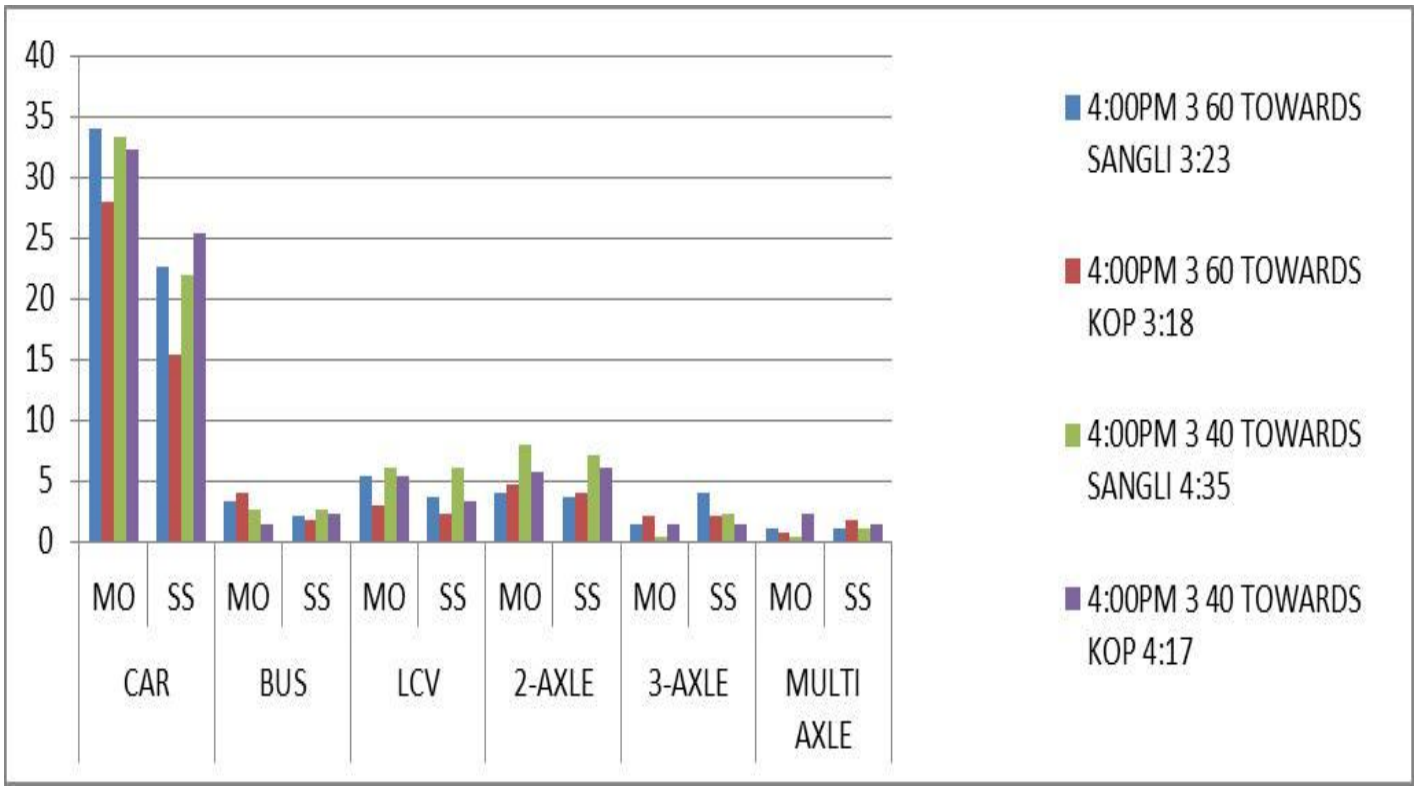

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*2)* The survey was done to identify evening traffic using both methods




| TIME | SPAN(KM)PEED(KM/HR) | | | TIME | CAR | | BUS | | LCV | | 2-AXLE | | 3-AXLE | | MULTI AXLE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS |
| 4:00PM | 5 | 60 | OWARDS SANGL | 5:35 | 38 | 36.66 | 3.66 | 2.66 | 7 | 5.33 | 7 | 5 | 0.66 | 2 | 1.66 | 1.33 |
| | | | TOWARDS KOP | 5:28 | 35.66 | 28.66 | 4 | 3.66 | 3.66 | 4.66 | 7.66 | 6.33 | 2.66 | 3.66 | 2.33 | 1.33 |
| | | 40 | OWARDS SANGL | 7:33 | 43.66 | 37 | 2.33 | 3.66 | 5.33 | 4.66 | 11.33 | 6.66 | 3 | 3 | 1.66 | 2 |
| | | | TOWARDS KOP | 7:40 | 39.33 | 32.33 | 4.66 | 3 | 9.33 | 7 | 5.33 | 3.33 | 2 | 2 | 1.66 | 0.66 |





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| TIME | SPAN(KM) | SPEED(KM/HR) | | TIME | CAR | | BUS | | LCV | | 2-AXLE | | 3-AXLE | MULTI AXLE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | |
| | | | | | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS | MO | SS |
| 4:00PM | 3 | 60 | TOWARDS SANGLI | 3:23 | 34 | 22.66 | 3.33 | 2 | 5.33 | 3.66 | 4 | 3.66 | 1.33 | 4 | 1 | 1 |
| | | | TOWARDS KOP | 3:18 | 28 | 15.33 | 4 | 1.66 | 3 | 2.33 | 4.66 | 4 | 2 | 2 | 0.66 | 1.66 |
| | | 40 | TOWARDS SANGLI | 4:35 | 33.33 | 22 | 2.66 | 2.66 | 6 | 6 | 8 | 7 | 0.33 | 2.33 | 0.33 | 1 |
| | | | TOWARDS KOP | 4:17 | 32.33 | 25.33 | 1.33 | 2.33 | 5.33 | 3.33 | 5.66 | 6 | 1.33 | 1.33 | 2.33 | 1.33 |

## IV. CONCLUSIONS

By this survey we can conclude that instead of doing spot survey for whole day by moving observer the survey done only in peak hours for limited.. This method is speedy and easy. Volume, Density, speed relations can be studied. we can also study two parameter particularly such as flow and speed at the same time with their relationship.

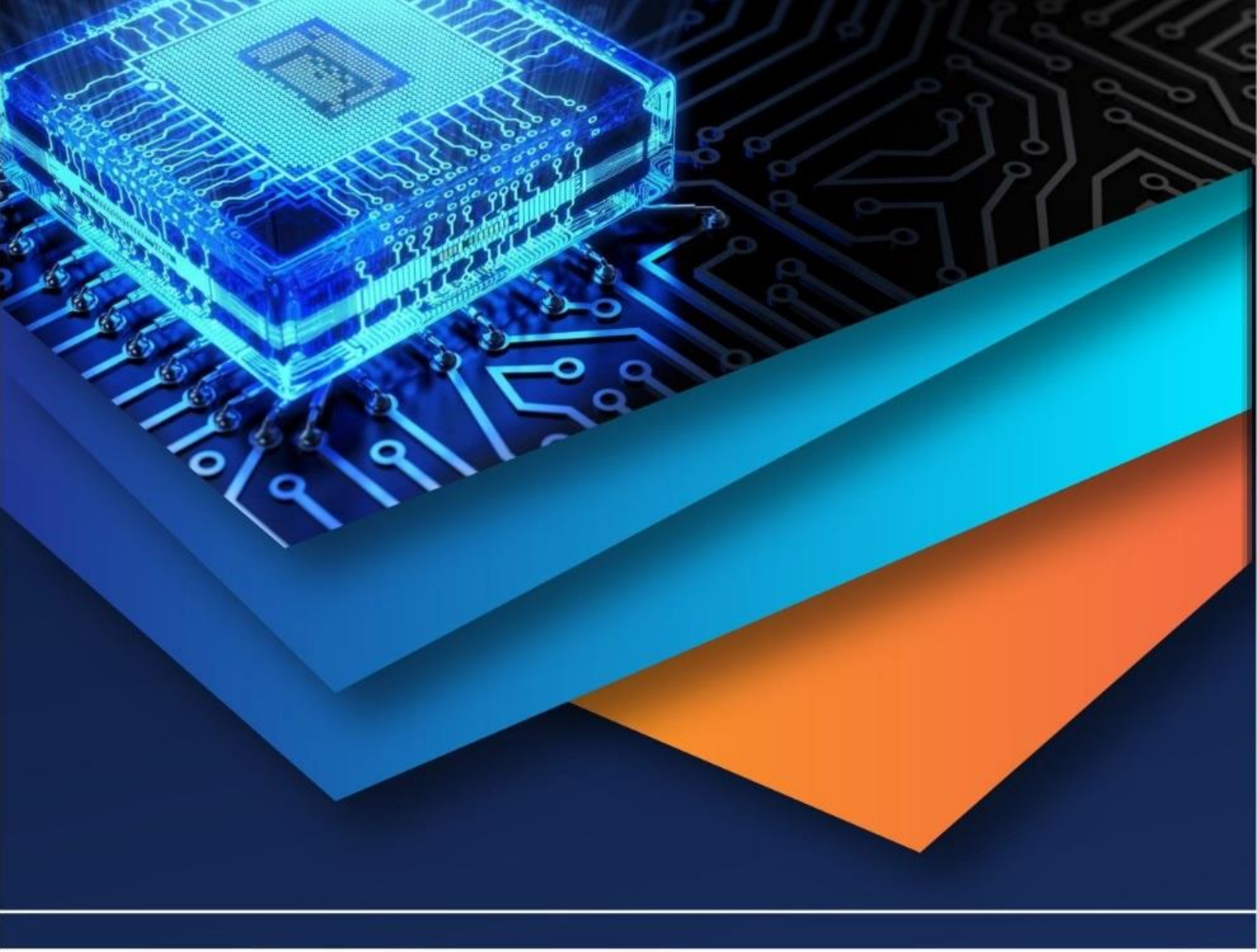
## IV. ACKNOWLEDGMENT

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