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Quality of Learning Performance (1990-2020) School Education: A Trend Analysis

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Abstract: ***This study examines the trends in the quality of learning performance in school education from 1990 to 2020. Over the past three decades, significant transformations in educational policies, teaching methodologies, and technological advancements have influenced student learning outcomes. This trend analysis evaluates key indicators such as literacy rates, standardized test scores, dropout rates, and disparities in learning performance across different regions and socio-economic groups.***
The study utilizes data from national and international assessments, government reports, and academic research to identify patterns of improvement and challenges in school education. Findings suggest that while overall learning performance has improved due to increased access to education, curriculum reforms, and digital learning tools, gaps in quality persist. Factors such as socio-economic status, teacher effectiveness, and policy implementation continue to impact student achievement.
The analysis also highlights the role of globalization and digital education in shaping learning outcomes in the 21st century. Despite progress, disparities in educational quality remain a concern, necessitating policy interventions to ensure equitable learning opportunities. The study concludes by recommending strategies for sustaining improvements in learning performance through evidence-based policies and inclusive educational practices.

I. INTRODUCTION

The present era of educational development is an endeavour that has focused on the quality aspects of learning – being assessed in terms of academic achievement or learning outcomes through different psychometric testing methods – in the quest for excellence in educational attainment of learners, especially in school education. The educational development at school level and consequently of higher education is the conscious effort of governments all over the globe in their respective national development programmes – aiming at social and economic wellness of communities in diverse cultures. The internationally designed intervention programmes such as sustainable development goals are basically concerned with quality of life of the people – who are at disadvantage of one kind or the other. Since it is now well-known fact that three aspects of elementary education – universal access, universal enrolment, and universal retention – have been nearly met with, there has been problem with fourth aspect i.e. quality of learning.

There are a number of already conducted field studies by national agencies and different researchers in elementary and secondary education focusing on quality of learning, either in terms of all the four aspects of universalization of elementary education (UEE) or only achievement – may be terminal or learning achievement. Needless to mention all the testing programmes are competency based for diagnostic and prognostic purposes in order to achieve the elusive goal of quality education.

Thus, the problem for the present research is to deal with this fourth aspect of universalization of elementary education in terms of changes in levels of achievement through a trend analysis in the problem stated as under:

II. OBJECTIVES OF STUDY

1) To study levels of learning achievement of school students from 2000 to 2020.
2) To study gender difference in learning achievement of school students from 2000 to 2020.
3) To study the rural urban differences in learning achievement of school students from 2000 to 2020.
4) To study social class differences in learning achievement of school students from 2000 to 2020.

III. METHODOLOGY

The descriptive method of research – following trend analysis and content analysis – was applied to study trends in learning performance of school students across a period of three decades (1990 to 2020). The policy perspective and intervention programmes were also scrutinized to focus on quality of school education – as reflected in policy documents – in 21st century to equip young generation with appropriate knowledge skills and attitude for an effective role in globalized economy.

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IV. LEARNING IN SCHOOL EDUCATION: QUALITY CONCERN

The primary purpose of the study was to look into quality education – as reflected in learning outcome of school going students in the age group of 6-14 years. The learning outcomes – mainly measured by the achievement tests in language and mathematics – refer to both content based learning and behavioural changes in the maturation process of growing children because of schooling (synonymous with learning). This learning outcome is mainly content based i.e. formal skills to read and write with numerical nee arithmetic functions as well. The present chapter is comprised of two aspects – in quality improvement in learning in school education over the period 1990s to 2020 and looking into inequalities in learning across gender, location, and social class.

A. Learning Achievement And Academic Performance In Schooling

The content analysis of the researches conducted by different agencies, organizations and independent scholars focusing on academic achievement, performance in one subject or the other and learning achievement of school students was carried out. These studies speak of levels of achievement either in percentage or ordinal type (i.e. low, moderate or high) and differentials across gender, location and social class. The conclusions drawn from these studies, regarding level of achievement only / or across gender, location and social class for elementary school students were tabulated and are presented in table 1.1.

Table 1.1

Learning Achievement: A Trend (1990s to 2020)

S. No.	Researcher	Year	Learning Achievement
1.	Dave	1988	Decline in learning achievement from grade I-V Class I good in class II, better than the minimum in class III and minimum in class IV. Achievement in mathematics was excellent in class I and class II good in class III and poor in class IV.
2.	Desai	1991	Performance difference between boys and girls were marginal and not statistically significant. The performance levels of the boys 52.9% and of the girls, 46.5% were in the top half of the test results.
3.	Govinda and Verghese	1993	The students of grade IV scored 38.26% in mathematics and 47.06% in language.
4.	Bashir	1994	The students of class IV scored 33.1% in mathematics, 45.2% in word knowledge and 31.97% in reading.
5.	Hasan	1995	The mean score of SC / ST students was lower than other caste groups in language and mathematics. No uniform trend in achievement was found in Bihar as in some districts, urban area students performed better and in other districts rural area students outperformed urban ones.
6.	Singh and Gautam	1996	Language achievement of primary school students above 50% (moderate) and mathematics achievement below 50% (low).

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S. No.	Researcher	Year	Learning Achievement
7.	Pai and Nataranjan	1997	Gender variations in mathematics achievement of grade IV students in Maharashtra. The findings revealed that the mean score obtained by girls on mathematics concepts was 19.70 as against 17.41 of boys.
8.	Aikara	1997	The overall mean achievement scores of students were 41.2% for language, 34.7% for mathematics and 42.2% for EVS. In terms of social categories, the 'others' performance was highest followed by OBCs, STs and finally SCs.
9.	NCERT	1998	The average performance of students of class I had crossed 63% in language and 70% in mathematics. No significant differences in the performance of rural and urban students in most classes and subjects. Rural students perform significantly better than urban students only in class VIII mathematics and science.
10.	Aggarwal	2000	The mean achievement score was 56.5% for language and in mathematics it was 40.46%.
11.	Koul, Sharma, Singh and Singh	2000	No significant gender difference was exhibited in language and mathematics achievement. Achievement in language moderate, but low in mathematics.
12.	Jayalakshmi	2001	In class I female students excelled over male students in many districts in language competencies. But in mathematics, male students scored better than their counterparts though mean difference between their score were minimal. In class III, the gender differences in mean scores for language and mathematics were not significant.

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S. No.	Researcher	Year	Learning Achievement
13.	Reddy	2004	Average of primary school students 46.6% in language and 41.20% in mathematics. Male students had higher mean achievement scores than female students, especially in mathematics and word knowledge. Post-test Achievement Survey II after remediation: Language (54.2%) and Mathematics (61.1%)
14.	Kaur	2010	Low performance in mathematics and moderate performance in language students belonging to the rural area had significantly high mean achievement as compared to their urban counterparts. There were some age based difference in learning achievement of girls and boys.
15.	Puri	2013	Girl students of elementary school have higher academic achievement in mathematics as compared to their male counterparts. The mean achievement of different caste groups showed that the general category of class VIII students had a comparatively higher level of performance in mathematics. These seemed to be some evidence of certain caste inequality unfavorable to SC and BC students in mathematics achievement scores
16.	Khan	2014	The performance of boys was better than that of girls in both science and mathematics
17.	National Achievement Survey	2014	Social groups viz. SC, ST and OBC's were lower than the national average in both language and mathematics.

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S. No.	Researcher	Year	Learning Achievement
18.	NCERT	2014	The average score of students was 64% in language and 66% in mathematics. In language, no significant difference was found between performance of boys and girls, in mathematics, except for Kerala, where girls' performance was higher than the performance of boys, no significant difference was found between the performance of boys and girls.
19.	Educational Initiatives	2015	Average performance at the state level across districts ranges between 51% to 58% in the Hindi, 34% to 44% in mathematics, 38% to 44% in mathematics, 38% to 47% in English language and around 38% in class VIII science. Boys and girls perform at part at the state level, except class VIII Hindi language, where girls perform meaningfully better than boys with a small difference. In class VIII, many districts also show this pattern where girls perform meaningfully better than boys. Performance of SC / ST students was significantly below the 'Others' category of students. Performance of students, on an average, in cycle 4 as compared to cycle 3 had gone down.
20.	NCERT	2015	On an average, girls were doing better than boys in all subjects. Both SC and OBC category students scored lower than the overall national average in reading comprehension. Performance of SC category students was at par with ST students in some content except ST category students on some other content. ST category students scored higher than SC students in all content areas.

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S. No.	Researcher	Year	Learning Achievement
21.	NCERT	2017	On an average, 58% class three students in mathematics, 61% in EVS and 65% in language gave correct responses. For class 5^{th} the correct responses of students for the subjects, mathematics, language was reported 46% and 55% respectively. A decline from lower to higher grades was observed.
22.	SCERT	2017	The performance of students in Hindi decreased in class 3^{rd} but in class 4^{th} and 5^{th}, it increased again. In English, the performance of students decreased from class 1^{st} to 4^{th} but increased marginally again in class 5^{th}. In mathematics, it decreased in class 3^{rd} but again increased in class 4^{th} than decreased in class 5^{th}. In EVS, performance increased marginally from class 3^{rd} to class 5^{th}.
23.	ASER	2018	More than half of all children enrolled in class V being able to read at least a class II level test. The figure had increased from 47.9% in 2016 to 50.3% in 2018.
24.	Chatterjee and Robitaile	2018	Numerical, reading and writing skills remain abysmal with majority of students performing below expected standard for their age.
25.	Singh	2018	The learning level of socially advantaged and disadvantaged students was not up to desired level -- low in mathematics and moderate in language. No significant gender difference emerged; urban students' performance was better than rurality's; social class (SC/BC) differences were unfavorable to disadvantaged students.

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S. No.	Researcher	Year	Learning Achievement
26.	World Development Report	2018	India was ranked second in a list of twelve countries in which a grade two student could not read a single word of a short text.
27.	ASER	2019	Slightly more than half of all children enrolled in class V were able to read at least a class II level text. The figure has increased up from 47.9% in 2016 to 50.3% in 2018 for government school children enrolled in class V. States showed an increase of 5 percentage points or more from 2016 to 2018 were: Himachal Pradesh, Uttar Pradesh, Odisha, Chhattisgarh, Karnataka, Kerala, Arunachal Pradesh and Mizoram; with Punjab and Andhra Pradesh close behind.
28.	Mishra	2020	Girls significantly outperformed boys in all three subjects. Also, the inequality in learning achievement was lesser for the girls than their male counterparts.
29.	Chand	2020	Low level of performance in mathematics (33%) and moderate level of performance in Hindi language (41.5%).
30.	Singh	2020	Low to moderate level of government school students and above average to high in private schools.
31.	ASER	2024	Reading level improved substantially among Std. V children, especially for those who are enrolled in government schools. The proportion of Std V children in government schools who can read a Std II level text fell from 44.2% in 2018 to 38.5% in 2022 and then recovered to 44.8% in 2024. In 2024, stated with over a 10-percentage point increase in this proportion in government schools include Uttarakhand, Uttar Pradesh, Gujarat, and Tamil Nadu.

Note: All these research studies have been located and selected out of large number of studies conducted on learners' achievement at different styles of school education.

It is evident from table 1.1 1 that there are 31 research studies which are from the period 1988-2020. Of these studies 14 are before the implementation year of RTE Act 2009 (i.e. 2010) and remaining 16 are in the previous decade 2010-2020.
The table 1.1 also shows that the study by Dave (1988) indicates that students' performance declined from lower to higher grades at primary stage. Further, the trend of studies during 1990s shows low to moderate level of academic performance. Later on during SSA period i.e. 2000 to 2010, the trend of low to moderate level of learners' performance was showing continuity.
After implementation of RTE Act 2009, the studies revealed moderate level of language achievement and low to moderate level of mathematics achievement.
In an SCERT Survey (2017), a good picture was shown that students' performance increased from low to high grades. On the other hand, ASER reports showed variations in levels being low to moderate over different periods of field surveys.
It may be mentioned that objectives of DPEP in 1990s, SSA in 2000 to 2009-10 and of RTE Act 2009 (Implemented in 2010 onwards) of providing quality education and enhancing students' learning performance (academic achievement to learning achievement to learning outcomes) have remained unfulfilled. The problem of low learning and increasing learning deficit from lower to higher grades of elementary education has not been addressed well in the concerted governmental efforts of providing education for all children in the relevant school going age-group.

B. Gender Equality In Learners' Achievement

The focus on girl's child for her educability has been the agenda of successive five-year plans during last two decades of 20th century – because of persistent inequality in literacy rate of male and female population groups from 1951 to 1981. The launching of National Literacy Mission (in 1988) and District Primary Education Programme (DPEP) in around half of the educationally backward districts (having female literacy below national average as per 1981 and 1991 census) were the flagship programmes to provide education for all. The supporting of gender differences in learners' performance was available for some studies, as reported in table 1.2.

Table 1.2
Learning Achievement: Trends in Gender Differences

S. No.	Researcher	Year	Learning Achievement
1.	Desai	1991	Performance difference between boys and girls were marginal and not statistically significant. The performance levels of boys 52.9% and the girls, 46.5% were in the top half of the test results.
2.	Pai and Nataranjan	1997	Gender variations in mathematics achievement of grade IV students in Maharashtra were reported. The findings revealed that the mean score obtained by girls on mathematics concepts was 19.70 as against 17.41 of boys.
3.	Koul, Sharma, Singh and Singh	2000	No significant gender difference was exhibited in language and mathematics.
4.	Jayalakshmi	2001	In class I female students excelled over male students in many districts in language competencies. But in mathematics, male students scored better than their counterparts though mean difference between their score were minimal. In class III, the gender differences in mean scores for language and mathematics were not significant.
5.	NCERT	2014	No significant difference was found between performance of boys and girls, in mathematics, except for Kerala, where girls' performance was higher than the performance of boys, no significant difference was found between the performance of boys and girls.
6.	Educational Initiatives	2015	Boys and girls perform at par at the state level, except class VIII Hindi language, where girls perform meaningfully better than boys with a small difference. In class VIII, many districts also show this pattern where girls perform meaningfully better than boys.
7.	Singh	2018	No significant gender difference emerged in language and mathematics achievement.
8.	Mishra	2020	Girls significantly outperformed boys in all three subjects. Also, the inequality (variation) in learning achievement was lesser for the girls than their male counterparts.
9.	Devi et. al	2024	The performance of female students is found to be significantly superior to that of the male students

The table 1.2 reveals that girls' performance was higher than boys in a study (Pai and Natrajan, 1997), whereas earlier it was reverse (Desai, 1991). However, Koul et al. (2000) reported no significant gender difference in learners' performance. The results of NCERT survey in the previous decade, after implementation of RTE Act, 2009 showed girls' performance to be significantly better than boys. In a recent study by Mishra (2020), it was found that girls performed much better than boys.
These results are suggestive of the fact that the objective of reducing gender gap in learners' performance seems to be fulfilled as per the trend of results on gender equality in school education.

C. Location-Wise Learners' Achievement

The rural-urban divide in educational opportunities has been unfavourable to rural India. The rural students – both living and studying in rural areas or in urban areas – are at a disadvantage. It is also reflected in their academic performance. The rural-urban differences in learners' academic performance as reported in a few studies may be shown in table 1.3.

Table 1.3
Learning Achievement: Trends in Location-wise Differences

S. No.	**Researcher**	**Year**	**Learning Achievement**
1.	Hasan	1995	No uniform trend in achievement was found in Bihar as in some districts, urban area students performed better and in other districts rural area students outperformed urban ones.
2.	NCERT	1998	No significant differences in the performance of rural and urban students in most classes and subjects. Rural students perform significantly better than urban students only in class VIII mathematics and science.
3.	Kaur	2010	Students belonging to the rural area had significantly higher mean achievement as compared to their urban counterparts.
4.	Singh	2018	Urban students' performance was better than rurality's.
5.	Mohammadpour et.al	2024	Significant role in mathematics achievement in both urban and rural school, but school level factors have a greater association with the achievement of urban schools and greater relationship with mathematics achievement in urban schools compared to rural schools.

It may be noted from table 4.3 that a study by Hasan (1995) reported mixed results while comparing rural and urban students across different districts of Bihar. In NCERT Survey (1998) rural students performed better in class VIII mathematics and sciences, whereas no such differences were there in learners' achievement in other grades at elementary stage.
Kaur (2010) also reported rural students' performance to be better than urban students, though the level of achievement was low to moderate.
In a recent study Singh (2018) the rural urban divide in learners' achievement was significant in favour of urbanities at elementary stage.
Mohammadpour et.al (2024) the rural urban divide in learners' achievement was significant in favour of urbanities at Secondary stage
These results are suggestive of the fact that rural students have shown a good performance that is appreciable inspire of the disadvantage. However, the results seem to be interpreted with a caution.

D. Social Class And Learners' Achievement

The Indian society is a class-ridden society and low social classes – known as scheduled castes, scheduled tribes and other backward communities – have been at socio-economic and locational disadvantage. Hence the concept of equality takes into account social class as a significant factor in education and employment. The learners' performance across social class has been studied by researches and findings of a few studies are reported in table 1.4.

Table 1.4
Learning Achievement: Trends in Social Class-wise Difference

S. No.	Researcher	Year	Learning Achievement
1.	Hasan	1995	The mean score of SC/ST students was lower than other caste groups in language and mathematics.
2.	Aikara	1997	The overall mean achievement scores of students were 41.2% for language 34.7% for mathematics and 42.2% for EVS. In terms of social categories, the 'others' performance was highest followed by OBCs, STs and finally SCs.

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S. No.	Researcher	Year	Learning Achievement
3.	Puri	2013	These seemed to be some evidence of certain caste inequality unfavorable to SC and BC students in mathematics achievement scores
4.	National Achievement Survey (NAS)	2014	Socially disadvantaged groups viz. SC, ST and OBC's were lower than the national average in both language and mathematics.
5.	Educational Initiatives	2015	Performance of SC/ST students was significantly below the 'Others' / general category of students.
6.	NCERT	2015	Both SC and OBC category students scored lower than the overall national average in reading comprehension. Performance of SC category students was at par with ST students in some content areas of language. ST category students scored higher than SC students in all content areas.
7.	Singh	2018	The learning level of socially advantaged and disadvantaged students was not upto desired level -- low in mathematics and moderate in language. Social class (SC/BC) differences were unfavourable to disadvantaged students.

The table 1.4 reveals that social class has been unfavourable to students' performance as seen in earlier studies of Hasan (1995) and Aikara (1997) in 1990s.
Later on, similar results were reported in NAS (2014) of learners' performance in language and mathematics.
The NCERT (2015) survey again revealed significantly low performance of socially disadvantaged (SCs and OBCs) students, though inter group differences among socially disadvantaged i.e. SC vs ST showed mixed results.

In a recent study by Singh (2018), it was also reported that general category students showed better performance than socially disadvantaged students, both in language and mathematics.
Thus, it seems that social disadvantage is unfavourable to learners' performance.

E. Learners' Performance: A Quest For Excellence In School Education

The NEP-2020 has advocated for an education system that ensures 'equitable access to the highest-quality education for all learners regardless of social and economic background' in the opening para:
Education is fundamental for achieving full human potential, developing an equitable and just society, and promoting national development. Providing universal access to quality education is the key to economic growth, social justice and equality, scientific advancement, national integration, and cultural preservation; and for India's continued ascent, progress and leadership on the global stage. India will have the highest youth population in the world over the next decade, and our ability to provide high-quality educational opportunities to them will shape the future of our country.
The push for universalization of schooling has led to several pronounced trends that are visible both at the end of the primary stage and now elementary schooling stage and now to secondary stage – in the quest for achieving targets of enrolment and retention. First, more and more children in each cohort are staying in school longer. In recent times, almost all children have continued till class VIII, because of a number of initiatives. Over time the age range of the children reaching class VIII shows a shift towards younger children. This has significant implications in terms of their preparedness for what lies ahead. If children enter school early (potentially before they are developmentally ready for class 1) and move automatically year on year through the school system, given the 'negative consequences of over-ambitious curriculum', the growing children may be more likely to be 'left behind' in terms of learning a new kind of educated class with minimum levels of learning.
Since 2005, the ASER surveys have provided annual estimates of basic reading and arithmetic for a nationally representative sample of children from nearly to 570 rural districts in India.
Today about half of all children are completing primary school without foundational skills. Even after eight years of schooling about a quarter do not have basic reading skills: 27% children in class 8 were unable to read a class 2 level text in 2016. Depending on the study, up to 20% of students sampled even in class 8 could not read class 2 level text fluently. Basic levels in math were even more worrying.
These data – drawn from two separate studies in four states – suggest that despite the variation across study locations, even in class 8 children are well below the level of understanding and ability expected of them in primary grades (Ramachandran and Rajagopalan, 2018).
But if adequate preparation of students is the key issue especially in the context of completion of the elementary stage, then any effort to reform or reimagine secondary education must acknowledge and deal with the weaknesses of policies and processes dealing with learning of children in the primary and upper primary years.
The majority of class VIII students are still struggling with tasks that are expected of children in class V. When students have not acquired capabilities expected of them in primary grades, it is difficult to 'catch up' in later years after completion of schooling and a push into higher education.
Evidence from these studies shows that the improvement in mean scores in language or math is minimal even after a year of being in school, regardless of whether the child is in upper primary or even when he or she has already transitioned to class IX (Chavan, 2018).
The macro trends of provisioning show that there is enormous variation across India in terms of where children go to study, how much they learn and what prospects they face. We need to know more about the process (home or community) that brought them there and the pathways ahead in school and colleges / universities.
There is a growing realization that the teaching-learning activities in school are not leading to grade level learning outcomes. It is worth noting that the National Achievement Survey of 2017 (which surveyed classes III, V and VIII) makes some interesting shifts from prior practice. The tasks are not content based – Rather they are competency based looking forward to higher order thinking, as per Bloom's taxonomy of educational objectives. Each test also tests competencies that are linked not only to that grade but also a few grade levels below. Finally, the report cards that have been published so far present data at district and state level.
It is imperative that as a country we think through and define the capabilities that a child should have acquired by the time he or she completes the compulsory stage of education. The Right to Education must guarantee a meaningful 'completion certificate' in terms of learning achieved over eight years of elementary schooling, followed by four years of secondary education (Tilak, 2020).

It is need of the hour in the covid-19 crisis that equality (treating every student the same) and equity (making sure that every student has the support he/she needs to be successful) be taken care of by the socio-economic order, under a democratically conscious political system. There is enough research evidence and a common fact now that only a pragmatic and humane political system can put education system in place to:

"Ensure that every school going child – irrespective of gender, location, social class or any other disadvantage – has an equal chance for success that will be the benchmark for excellence in school education".

V. CONCLUSIONS

1) Learning achievement level of school going students has remained nearly average or below average in mathematics and language over the period 1990-2000. There has not been substantial improvement in levels of learning inspite of a number of intervention programmes for enhancing school effectiveness and teacher efficacy.

2) The gender differences in learning achievement, as intended to be disvaouring girl child in elementary education do not show a significance. On the other hand, girls have been reported to excel boys in language and mathematics in some researches – an indication of gender equality in educational attainment.

3) There have been lesser signs of rural-urban divide in learning achievement of elementary school students. Generally, the levels of achievement being low to moderate do not show much variation across rural and urban location of a school or residential background of school going children.

4) The learning achievement of school students shows wide variation across social disadvantage disfavouring to SC and OBC students over the period 1990 to 2020. The performance of the disadvantaged students is markedly low for literacy and numeracy skills – foundations of learning skills – to be knowledgeable citizens in adult life.

These results are suggestive of fact that quality of school education has not shown an improvement over three decades. As it is evident that incremental value in human development index – longevity of life, health, educational status and income – may be attributed to increase in participation of children for universal school education, it is need of the hour to focus on quality of learning – especially in Covid-19 affected educational system which is opening up after a closure of 9-10 month, with new norms and blended mode of learning.

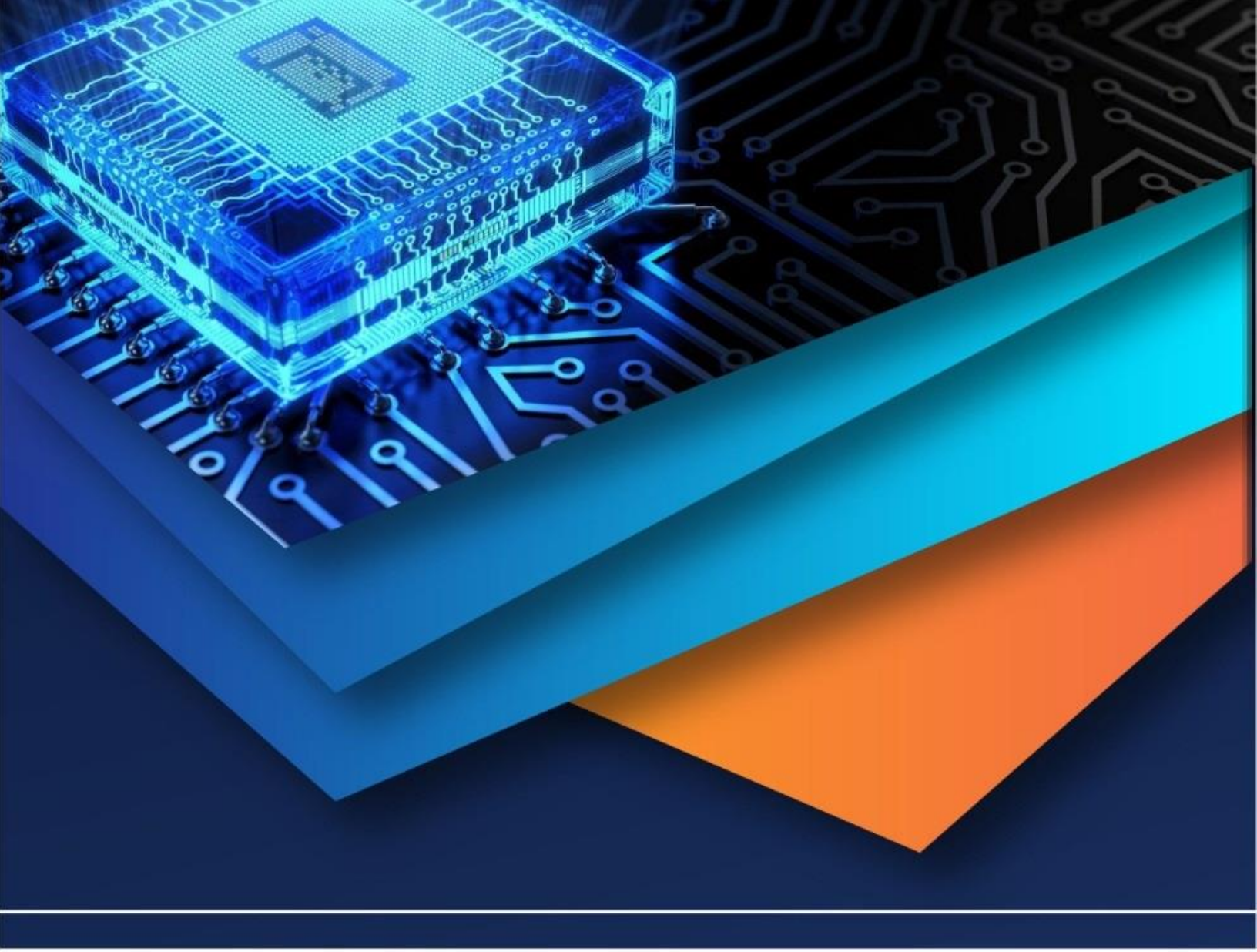
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