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Application of Queue for Filling the Admission Form in College

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Abstract: ***Queuing theory is the study of waiting lines and is very helpful in solving many problems. In this paper, the idea of queuing theory is adopted to model about practical problems like filling the admission form in colleges. The COVID-19 pandemic and resulting economic crisis has bought unprecedented challenges to higher education. The COVID-19 pandemic has left students and colleges struggling. The COVID-19 pandemic bought extraordinary disruption to the education landscape with the campuses everywhere almost overnight. This method can be extended to larger scales and would provide better idea of how to fill admission form in colleges while during the pandemic period COVID-19 is very essential in saving me, saving money and energy.***

Keywords: Queuing Theory, COVID-19, Admission form, Students problem, Queuing System

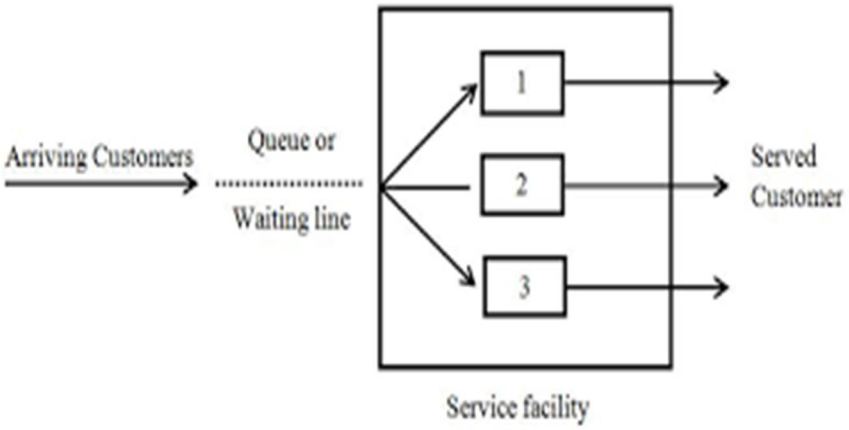
I. INTRODUCTION

Queuing Theory is the branch of mathematics which is very widely used in various life situations by suitably modeling and applying appropriately. The models in queuing theory depends on the following parameters number of customers in a queue (queue size) , number of queues (channels) , servers , number of service channel , queue length , queue discipline , waiting time , service time etc.
For many past years, queuing theory had been developed so much and applied to address many practical problems. One of such practical problem is discussed in this paper. In particular, we consider a college in which we decide about filling the admission form so that their problem is reduced over a period of time. First we consider an example and then determine better solutions.

II. QUEUING SYSTEM

A queuing system can be described as a system having a service facility at which units of same kind (generically called customers) arrive for service; whenever there are some units in the system than the service facility can handle simultaneously , a queue (or waiting line) develops. It consist of-

A. Arrival Pattern
B. Service Pattern
C. Queue Discipline
D. Student's Behavior



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III. SETTING UP SITUATION

In this example, we develop a queuing model that stimulates filing the admission form in colleges. The object in our system are seats and the system will be the infrastructure of the college in which students takes the admission. They follow SIRO (Service in Random Order), FCFS (First Come First Served), and LCLS (Last come Last Served) queue discipline. In the first and simple model to be presented here we assume that there is only one service channel. This can be viewed as the case where the colleges in small town cannot fill her admission seats.

IV. PROBLEM FACED BY STUDENTS

Students faced many problems during COVID-19. A significant transformation in the education industry has been observed during the last decade as a large number of Indian students ever year are flying to foreign lands for earning International degree and building carriers in diverse sector. They also faced some issue like internet connectively problems. These problems are faced by students of different age groups. Sometimes problem are technical and other time they are non-technical related with resources, funds, economic issues. Students also faced that they can't submit their application form at time and the main problem faced by students is that they can't submit their fees at time.

V. MANAGEMENT WORK

The world is fighting a relentless battle against the COVID-19 pandemic most schools and colleges are closed. They can't fill their admission form at time because students are facing so many problems. To solve the Students problem the colleges are doing their best to solve student's problem. To solve economic problem they start giving scholarship to students so that their economic problem is solved and students can't submit their application form at time so colleges start taking their application form online. Also there is loss of seats in colleges if they can't help students.

Scholarship given by College in 1st Week

MARKS	SCHOLARSHIP	NO. OF ADMISSION
80 to below 90%	4%	6
70 to below 80%	3%	8
60 to below 70%	2%	6
Less than 60%	1%	9

We have seen that when colleges give the scholarship to the students they can't fill their admission seats so they start giving more scholarship to Students.

Scholarship given by College in 2nd Week

MARKS	SCHOLARSHIP	NO. OF ADMISSION
80 to below 90%	5%	8
70 to below 80%	4%	9
60 to below 70%	3%	6
Less than 60%	2%	10

Scholarship Given By College in 3rd week

MARKS	SCHOLARSHIP	NO. OF ADMISSION
80 to below 90%	7%	10
70 to below 80%	5%	10
60 to below 70%	4%	8
Less than 60%	3%	12

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Scholarship given by college in 4th Week

MARKS	SCHOLARSHIP	NO. OF ADMISSION
80 to below 90%	9%	12
70 to below 80%	7%	11
60 to below 70%	5%	9
Less than 60%	4%	13

VI. PROBLEM FACED BY COLLEGES

Colleges are facing very big challenges every day to attract students and make them feel happy, comfortable and satisfied them so that they can visit again. They help the students a lot. The main challenges faced by colleges are-

A. They can't fill their admission seats.
B. They can't interact with students face to face.
C. They are unavailable to provide proper information to poor students.
D. They faced many Technological problems.
E. They start giving online classes to students but students are unable to take classes due to network and due to technology so colleges face so many problems.

VII. FACILITIES PROVIDE BY COLLEGES DURING LOCKDOWM

During lockdown colleges provide so many facilities to students. To solve the economic problem they give scholarship to students. To provide proper education they start giving online classes, teleconferencing, digital open books, online examination, and interaction at virtual environments. To help poor students they help them to learn technology and how to use internet. They start taking admission form online so that students can't go outside to submit their forms. So colleges help the students a lot

VIII. RESULTS AND ANALYSIS

MARKS	TOTAL NO. OF ADMISSION
80 to below 90%	36
70 to below 80%	38
60 to below 70%	29
Less than 60%	44
TOTAL	147

We know that lockdown starts in 24 march 2019 . All schools and colleges are closed on 13 march 2019. Most of the government around the world have iniatiated a common goal to the curb the spread of this highly contaigious disease by imposing lockdown, social/physical distancing , avoiding face to face teaching learning, and restriction on immigration. Around 600 million school-going learners are affected across the World due to the closing down of educational institutions. UNESCO has reported that around 320 million learners are affected in India, of which about 34 million belonged to the tertiary poverty level of education. The closure of the educational institutionsdue to outbreak of COVID-19 lead to an unprecedented impact on education. People income greatly reduced during lockdown so colleges start giving the scholarship to students when we look at the table we see that colleges seats get completely filled when they give more and more scholarship to students.

IX. CONCLUSION

This paper has discussed the application of queuing theory used in colleges in filling the admission form. This paper studies possibilities and new ways to develop new thinking for filling their seats. We see that when we start giving more and more scholarship to students our seats gets completely filled. In general speaking queuing system or waiting lines are widely used in each area in the world nowadays. Lockdown changed the perspective of schools. Queuing systems are successfully used for the performance analysis of different systems such as in school, colleges. This paper provides some concepts of queuing theory and how it is helpful in school and colleges during lockdown.

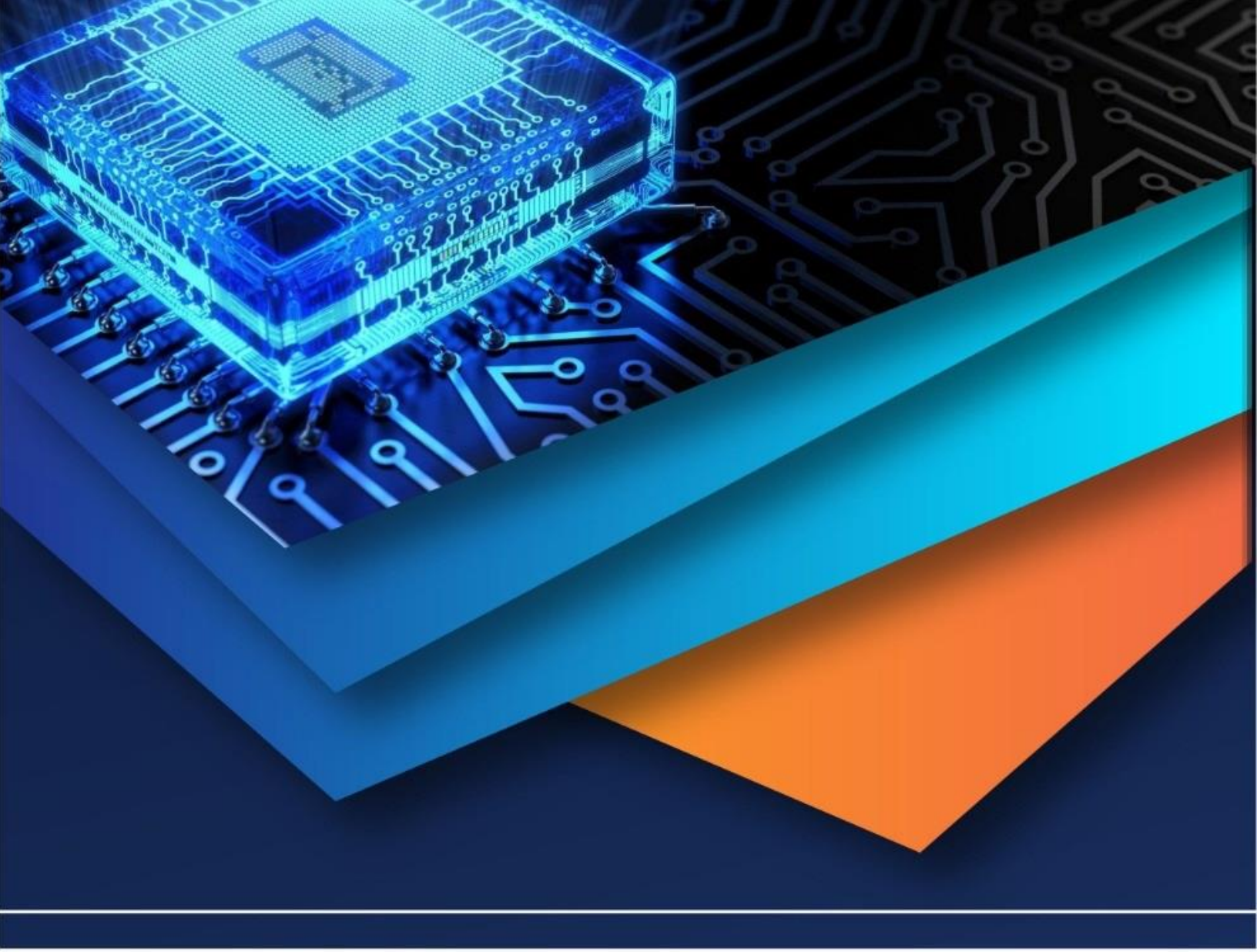
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