



e-ISSN: 2319-8753 | p-ISSN: 2320-6710

# IJIRSET

International Journal of Innovative Research in  
**SCIENCE | ENGINEERING | TECHNOLOGY**



# INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 10, Issue 6, June 2021

**ISSN** INTERNATIONAL  
STANDARD  
SERIAL  
NUMBER  
INDIA

**Impact Factor: 7.512**



9940 572 462



6381 907 438



ijirset@gmail.com



www.ijirset.com

# Effectiveness of Online Faculty Development Programs during Covid -19 Pandemic

Dr.D.Sarala

Head, Department of Physics, St. Ann's college for Women, Mehdiapatnam, Hyderabad, India

**ABSTRACT:** The Faculty Development programs During the pandemic period has been a boon to all the college teachers, specially because they were conducted online. **The Swayam -NptelMoocscourses**, Virtual laboratories were extremely useful for conducting practical classes to Science students.

The teachers world over had either no or less exposure to the technologies that can be adapted in the initial period. With the existing **internet connectivity** and shared bandwidth, with other working family members and children, it was a hard reality to continue with teaching in an online mode, satisfying the students at the same time.

Various educational technologies have been explored for seamless delivery of the lecture content. The different stages of content preparation, delivery, presentation and deployment was surveyed over the **Google platform**. Various eresources, free and **open source softwares**, downloadable pdf formats of books, open course ware of universities in India and abroad have given an exposure to the different teaching methodologies adopted world over. This only made the **learning affordable and reachable** to the remotest parts of the country. These resources could reach asynchronously to all students, with different learning difficulties.

The video conferencing platforms with gmeet offering 24 hours of free access has enabled us teachers to schedule our classes and experiment with. we have hosted a number of meetings with colleagues and students for the possible information exchange and to get adapted to new technologies. This pandemic has taught us many lessons which we would not have experienced otherwise. We have organised several Faculty training programs on the use of gmeet, cisco webex and zoom platforms and several aspects of screen sharing, presenting, camera and audio control, conducting polls and surveys. Attended faculty development programs conducted by IIT, Bombay Spoken tutorials, Academic staff colleges and self learning methods. Following is the list of resources that have been utilised by me in teaching B.Sc Electronics students.

1. Sci lab
2. E-Sim
3. Canva
4. Gnomio
5. Google sites
6. Flickr
7. NPTEL - online courses
8. Edpuzzle
9. Video conferencing platforms - gmeet, Zoom and Cisco Webex.
10. Bodhi tree
11. pedallite

**KEYWORDS:** The Swayam -NptelMoocs, internet connectivity, Google platform, open source softwares, learning affordable and reachable

The online mode of teaching requires a **video conferencing platform** which connects with the online google classroom. The various platforms are explored for features, pricing, flexibility, user friendliness, content sharing, file uploading and recording facility. The departmental meetings, one-one online meetings were conducted to gain practical experience of working remotely.

1. Ciscowebex - meetings :
  - a. Organised a National training workshop for all the faculty members on the use of Ciscowebex meeting platform. This webinar was recorded live on Youtube : <https://youtu.be/xBchyIdRKaw>
2. The number of participants were 350.

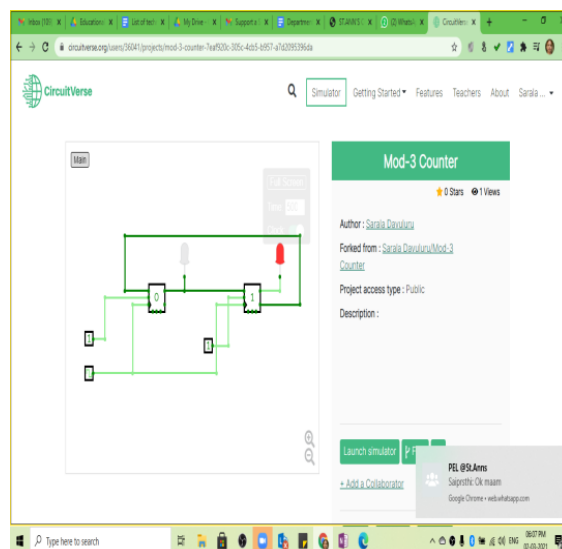
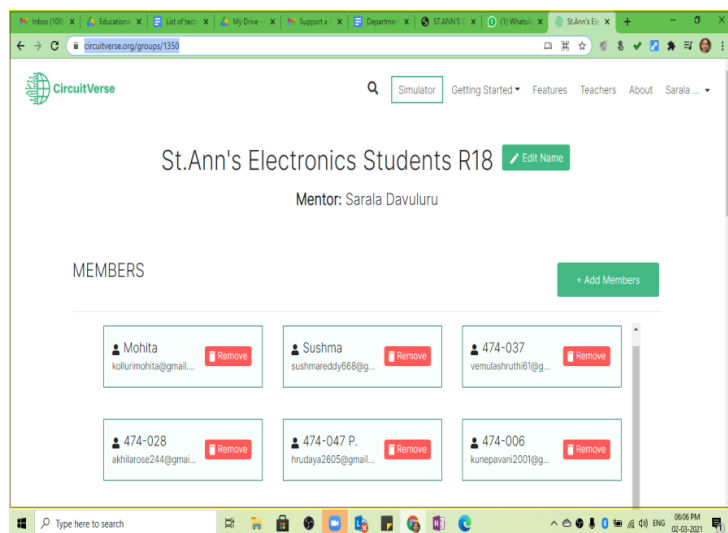
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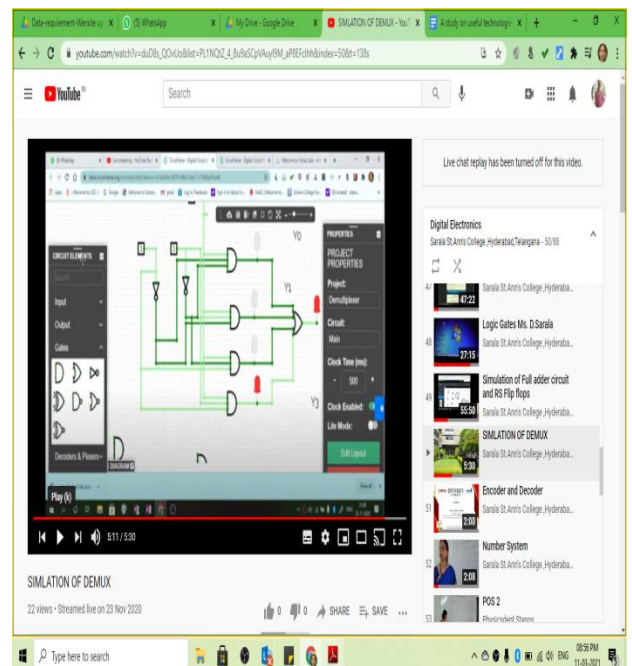
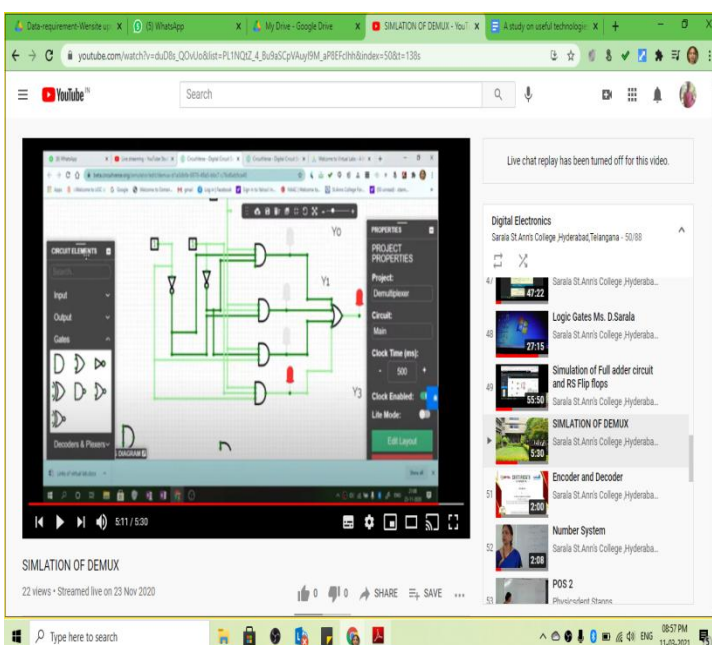
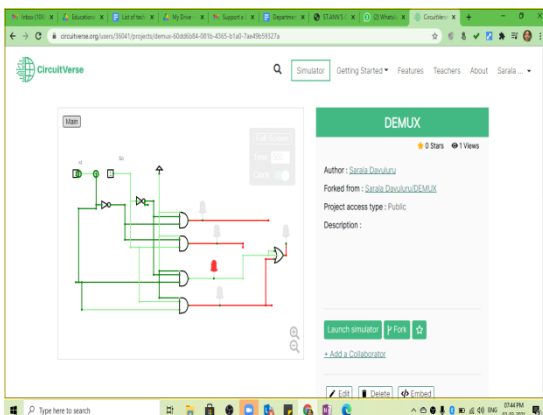
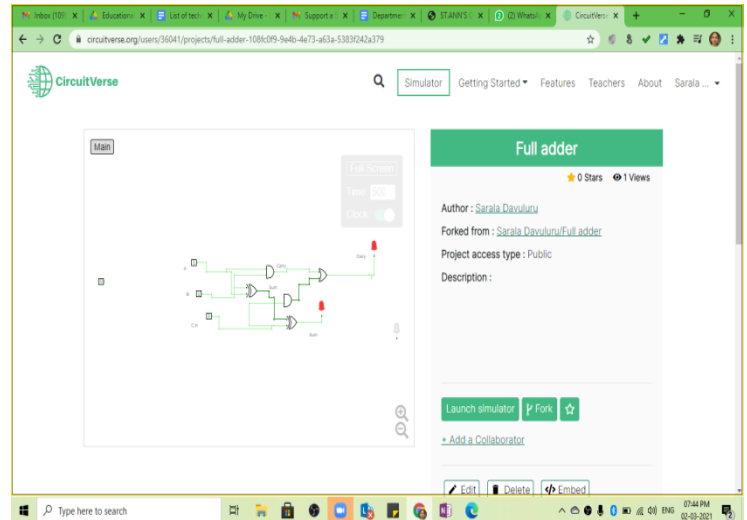
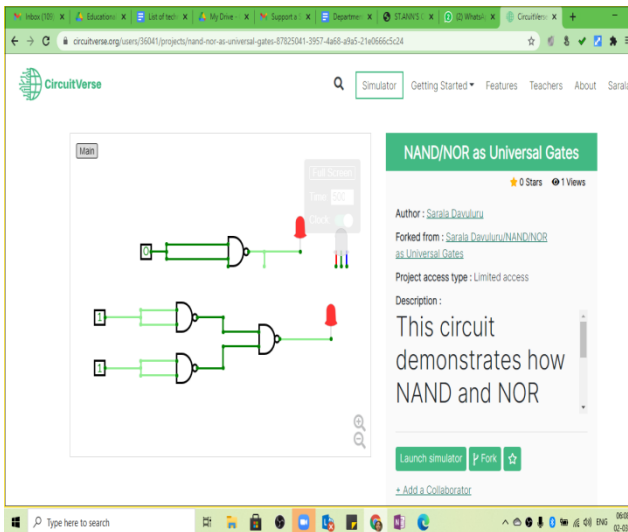
3. Since the time allotted was not sufficient to take one complete hour classes, the other alternative platforms were explored.

The online simulation software Circuit Verse simulator is a very useful tool, for students to learn the design, construction and working of Digital circuits, during the pandemic conditions. It is a free open source software for circuit simulation developed by IIIT, Bangalore. The final year students have completed all the experiments using this simulator, the editor enables them to connect, reconnect any number of times so that the circuit designing aspect is well understood by the students. The circuit designed were imported in jpeg image format and other easily exportable formats, so that the students can well document the observations. The complex circuits can be built with the truth tables so that it allowed sub circuits to be constructed very easily. These subcircuits have been used in more complex circuits.

The students of the class were grouped into a smaller teams, and created assignments. They could build new circuits and explore the new and advanced circuits

<https://circuitverse.org/groups/1350>





Organised a Faculty development Program on e-Sim , an Electronic Simulation. Since it is difficult for students to carry out practical work during these pandemic conditions, e-SIM , an electronic simulation software has become a powerful tool that enabled the learners to build and develop circuits. The department of Physics & Electronics organised a hands on training workshop On e-sim along with the Spoken tutorials, IIT, Bombay.

Organised a Faculty development program on use of video conferencing tool Cisco Webex, which provided a 24 hour free plan for all teachers to explore.

The participants were divided into three slots of one hour duration and hundred in number. The three sessions were grouped into

Slot - 1 : 12-1 .00 p.m

Slot - 2 : 1- 2 .00 p.m

Slot - 3 : 2-3 .00 p.m

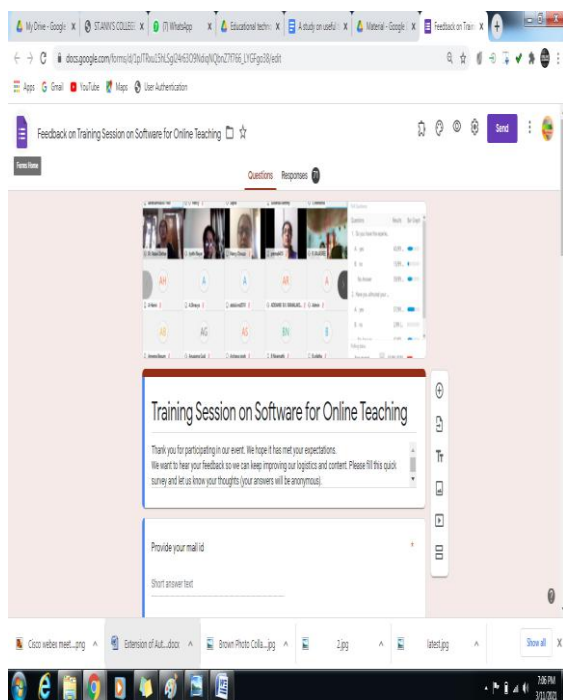
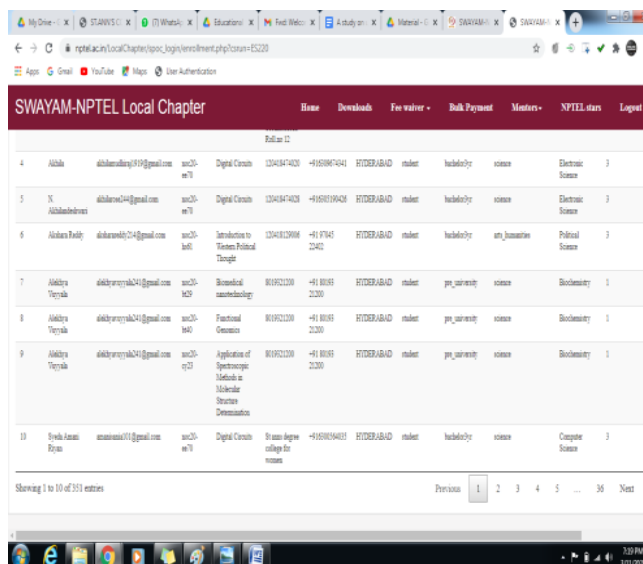
The Heads of the departments, Faculty members of all disciplines from various Universities, Affiliated and Autonomous colleges from the different states of the country have participated. This Cisco webex feature was explored in view of the threats experienced during Zoom meetings. The participants could appreciate this as an alternative to Zoom with more advanced features. The note giving, polling instantaneously was an added advantage. The feed back was collected online and compiled.



This was recorded and sent to all participants.



[https://youtu.be/\\_xmcSdFqQQw](https://youtu.be/_xmcSdFqQQw)

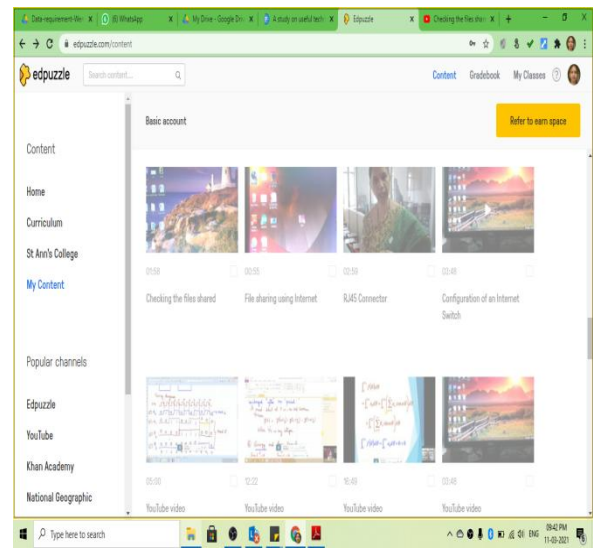
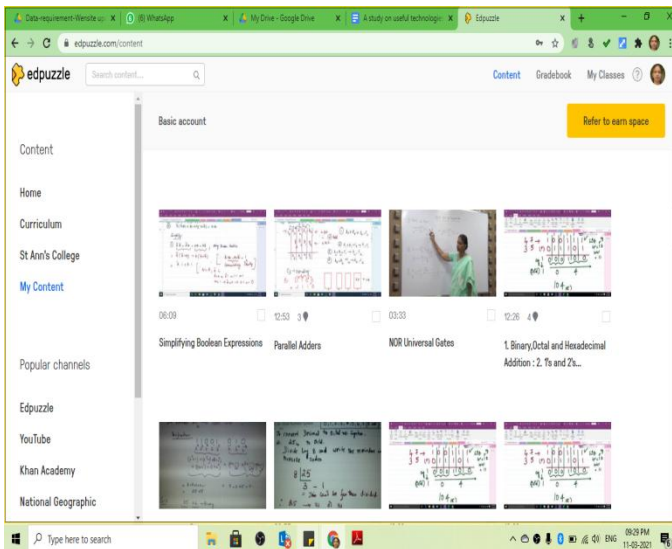



Sl. No.	Name	Email	Course	Duration	Start Date	End Date	Mode	Language	Category	Level
4	Abhishek	abhishek1999@gmail.com	Digital Circuits	12/04/2020	+051867402	HTDEP/AB/AD	student	hindi/eng	science	Electronics
5	YK	abhishek1999@gmail.com	Digital Circuits	12/04/2020	+051867402	HTDEP/AB/AD	student	hindi/eng	science	Electronics
6	Abhishek Pandey	abhishek1999@gmail.com	Introduction to Western Political Thought	12/04/2020	+051867402	HTDEP/AB/AD	student	hindi/eng	arts_humanities	Political Science
7	Abhishek Pandey	abhishek1999@gmail.com	Biomedical nanotechnology	01/09/2020	+051867402	HTDEP/AB/AD	student	gen_university	science	Biotechnology
8	Abhishek Pandey	abhishek1999@gmail.com	Functional Genomics	01/09/2020	+051867402	HTDEP/AB/AD	student	gen_university	science	Biotechnology
9	Abhishek Pandey	abhishek1999@gmail.com	Application of Spectroscopic Methods in Molecular Structure Determination	01/09/2020	+051867402	HTDEP/AB/AD	student	gen_university	science	Biotechnology
10	Pratik Kumar	pratik1999@gmail.com	Digital Circuits	01/09/2020	+051867402	HTDEP/AB/AD	student	hindi/eng	science	Computer Science

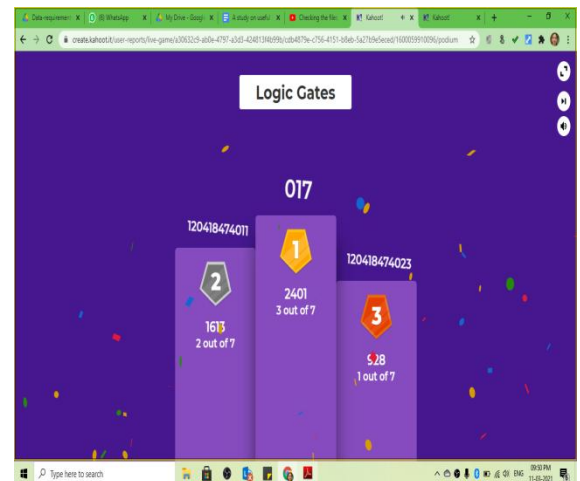
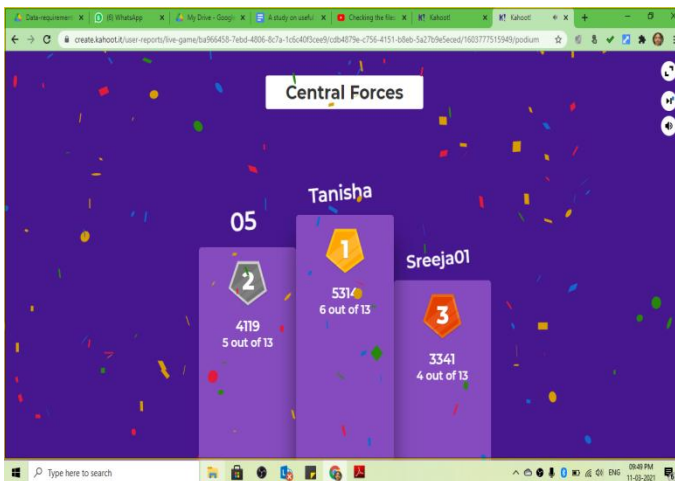
As a Coordinator for NPTEL online courses offered on SWAYAM-NPTEL platform, encouraged the students to enroll in various courses offered for credit transfer .the course on “ Digital Electronics offered in July-October, 2020 was selected for Domain Certification.

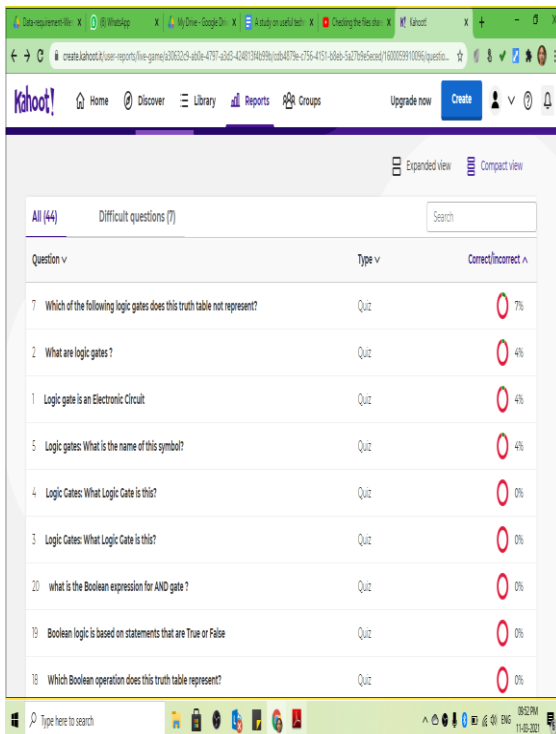
Since the covid-19 pandemic has impacted the higher education institutions, and it has become imperative for the teaching community to migrate to Digital teaching methodologies. In the wake of this sudden change, and half way through the semester system, the need for evaluation methods has emerged as a paramount important milestone. I have adopted Google Quiz, Kahoot quiz, Socrates software tools to evaluate the students. Most of the videos created were uploaded to you tube channel were used in flipped class room mode. The video content was imported to EdPuzzle and

were given as interactive quiz and assigned to the students. The practical examinations were evaluated with the help of Virtual Laboratories.

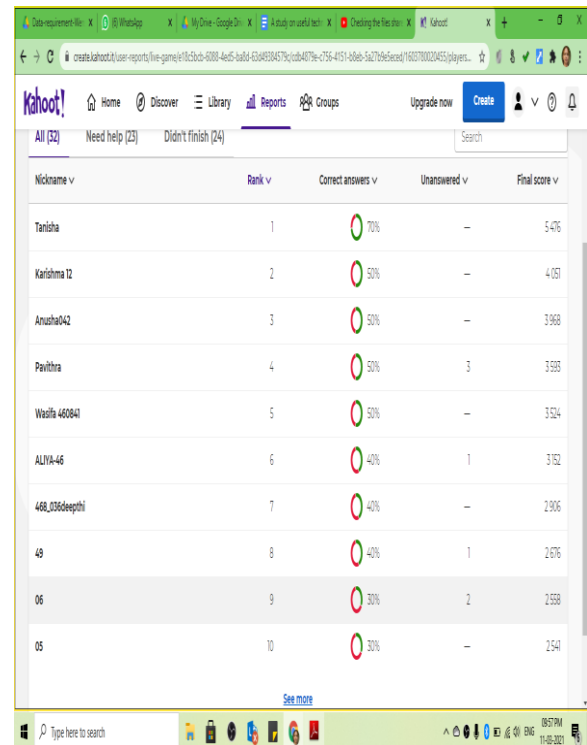


Conducted an online Kahoot Quiz

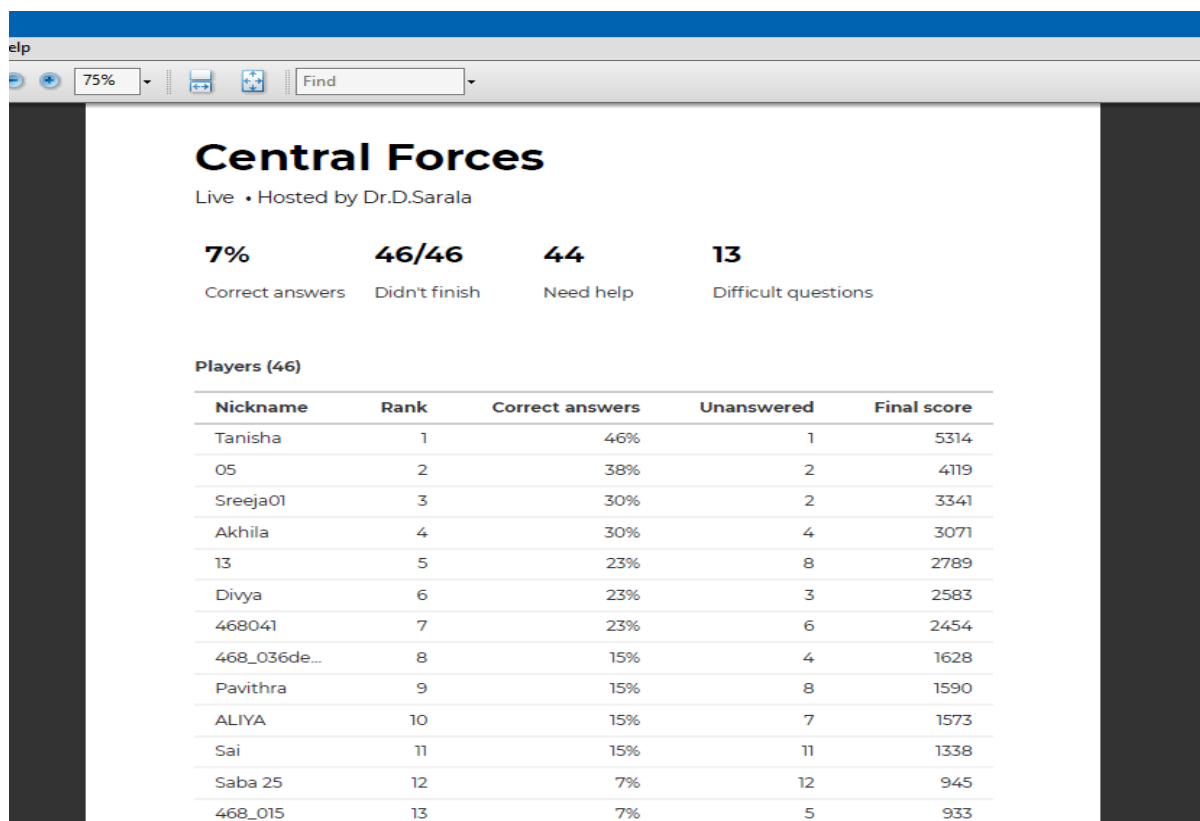




Question	Type	Correct/Incorrect
7 Which of the following logic gates does this truth table not represent?	Quiz	71%
2 What are logic gates?	Quiz	4%
1 Logic gate is an Electronic Circuit	Quiz	4%
5 Logic gates: What is the name of this symbol?	Quiz	4%
4 Logic Gates: What Logic Gate is this?	Quiz	0%
3 Logic Gates: What Logic Gate is this?	Quiz	0%
20 what is the Boolean expression for AND gate?	Quiz	0%
19 Boolean logic is based on statements that are True or False	Quiz	0%
18 Which Boolean operation does this truth table represent?	Quiz	0%



Nickname	Rank	Correct answers	Unanswered	Final score
Tanisha	1	70%	—	5.476
Karishma 12	2	50%	—	4.051
Anusha042	3	50%	—	3.968
Pavithra	4	50%	3	3.593
Wadifa 468841	5	50%	—	3.524
ALIYA-46	6	40%	1	3.152
468_036deepthi	7	40%	—	2.916
49	8	40%	1	2.676
06	9	30%	2	2.558
05	10	30%	—	2.541



**Central Forces**  
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**7%** Correct answers  
**46/46** Didn't finish  
**44** Need help  
**13** Difficult questions

**Players (46)**

Nickname	Rank	Correct answers	Unanswered	Final score
Tanisha	1	46%	1	5314
05	2	38%	2	4119
Sreeja01	3	30%	2	3341
Akhila	4	30%	4	3071
13	5	23%	8	2789
Divya	6	23%	3	2583
468041	7	23%	6	2454
468_036de...	8	15%	4	1628
Pavithra	9	15%	8	1590
ALIYA	10	15%	7	1573
Sai	11	15%	11	1338
Saba 25	12	7%	12	945
468_015	13	7%	5	933

ow Help

3 75% Find

**Players (46)**

Nickname	Rank	Correct answers	Unanswered	Final score
Tanisha	1	46%	1	5314
05	2	38%	2	4119
Sreeja01	3	30%	2	3341
Akhila	4	30%	4	3071
13	5	23%	8	2789
Divya	6	23%	3	2583
468041	7	23%	6	2454
468_036de...	8	15%	4	1628
Pavithra	9	15%	8	1590
ALIYA	10	15%	7	1573
Sai	11	15%	11	1338
Saba 25	12	7%	12	945
468_015	13	7%	5	933
49	14	7%	12	923
Sania-008	15	7%	10	918
Roll.no.45	16	7%	6	823
029	17	7%	11	808
38	18	7%	9	768
Karishma 12	19	7%	12	690

Kahoot!-2.pdf - Adobe Reader

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75% Find

3/11/2021 Kahoot!

## General Concepts of Physics

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**16%** **27/36** **30** **1**

Correct answers Didn't finish Need help Difficult questions

**Players (36)**

Nickname	Rank	Correct answers	Unanswered	Final score
468_036de...	1	100%	0	913
50	2	100%	0	892
Sreeja01	3	100%	0	593
Anusha 042	4	100%	0	567
004	5	100%	0	522
05	6	100%	0	508
Vaishnavi-Q...	7	0%	1	0
021	8	0%	1	0
Wasifa 468...	9	0%	0	0
468-046	10	0%	1	0
sunitha-46...	11	0%	1	0
468031	12	0%	1	0

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## CONCLUSIONS

The faculty development programs enabled all the teachers to understand the nuances of online platforms, teaching methodologies, e-content preparation and delivery to the student community. The Google servicing s have been excellent for all educationists which have provided unlimited time on video conferencing platform for all teachers to explore the different features. Moodle cloud is an advanced tool over Gogle class room. It has advanced features of preparing question banks, insert evaluation, adding googlepages, you tube links, interactive video lessons. The moodle class room also has a live video recording facility. The only drawback with moodle was that it was not an open source software, which is not convenient to academic community. Gnomio was very useful on par with moodle, but it was not user friendly. Screen recording software OBS was an excellent tool for live streaming of lectures on YouTube. This has paved for all the students to learn at their own pace and whenever their internet connection was good. Nptel courses offered this semester was almost similar to the curriculum adopted by our institution, which attracted many students to enroll and complete assignments. The course work was reinforced with online class room teaching. The kahoot quiz which was a live gaming application was received very well by the students. The Microsoft One Note has allowed me to present my lectures in an interactive method, specially for mathematical treatment. The simulation software Circuit verse and e-sim have made the circuit design, construction and assembling a convenient tool for the students to develop and execute the Electronics circuits and embedded program codes.

## ACKNOWLEDGEMENT

I take this opportunity to thank all those who have either directly or indirectly associated with this study and made this to accomplish.

Firstly, I would like to express me heartfelt thanks to the management in supporting me and encouraging me to explore the latest educational technologies and my students for cooperating with me. They have all actively participated in all the assignments, quiz and other evaluation methods.

Secondly, I would like to thank all my family members, who stood by me, during the course of study and for their unstinted support during the pandemic time. Without their support, this maga task would not have been completed.

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3. <https://edpuzzle.com/>
4. <https://circuitverse.org/>



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