INNOVATIONS IN TEACHING AND LEARNING

Goals:

1. To incorporate technology into teaching learning methods to create a rich learning experience for students.
2. To make the connection between theory and practical application.
3. To help faculty acquire contemporary tools and technologies and increase their competency.
4. To make students more communicative and dynamic in a collaborative environment with an Objective of encouragement of interdisciplinary research with diversified disciplines.
5. To enhance students thinking and creative ability.

INNOVATIVE TECHNIQUES ADOPTED WITH IMPLEMENTATION, IMPACT AND AVAILABILITY IN WEBSITE						
Academic Year: 2021-22 ODD SEMESTER						
S. No	Name of the Faculty	Innovation	Subject - Topic	Implementation Details	Impact	Details available at
1	V VIJAYABHASKARA REDDY	Hands on programming	WT - Static website development	1. Students attend the session with prior theoretical knowledge with regular lab sessions' experience on various topics and form as a group 2. Each group includes 3 to 4 members	Students on-fly can think and apply the theoretical knowledge and produce the outcome for the given problem statement	https://drive.google.com/file/d/1wajNMftewGWl0KuFkSIpHaeBQCyqAOYF/view?usp=sharing

2	M.A.RANJITH KUMAR	Cross word puzzle	CN - Networks	1. Students form as a group. Team size is 3 or 4 2. Faculty/Instructor displays a puzzle and asks students to fill the cross-words with the help of given hints 3. The team which completes first is the winner and they do demonstration with the assistance of instructor.	Students can revise all the needed topics in detail and able to apply in different dimensions.	https://drive.google.com/file/d/1UVNWjR9Y4EQ3Cb72kzEIraDWiBIId9_9/view?usp=sharing
3	K.K.SWAMY	Role-Play	FLAT - Chomsky Hierarchy	1. Before demonstration some students are assigned with a specific role and instructor explains each role's responsibilities with particular student, which can't be disclosed to all remaining other students. 2. All students' play his/her given role in sequence when he/she gets their turn.	Students can easily understand a complex concept. They also learn how to face audience.	https://drive.google.com/file/d/10xWAvWoEZQI_6vSlUsLYzV8dJZnNZRBb/view?usp=sharing
4	Mrs. M LUBNA YASMEEN	Animated Video	IRS - Indexing	Instructor plays an animated video which explains a concept visually sound by demonstrating internals clearly.	Students understand internals of a concept and they can analyze the things that are happening behind.	https://drive.google.com/file/d/1nInKS7z_6S9mQGru4BIXzulBdkDoxRys/view?usp=sharing

S.No	Name of the Faculty	Innovation	Subject - Topic	Implementation Details	Impact	Details available at
5	K.K.SWAMY	SURPRISE TEST	FLAT - Conversion from NFA to DFA	1. Instructor/Faculty suddenly conducts the test without intimating prior information to the students. 2. Instructor announces the maximum marks	Students do regular exercise on the learnt topics till that day and able to evaluate themselves. Hence, they put maximum effort to recollect the information for getting through the test	https://drive.google.com/file/d/1P86baZoT1yMU0xyLgMPg6rC-JBITAE6C/view?usp=sharing
6	Mrs. JOSHI PADMA NARASIMHACHARI	Animated Video	DS - Stack Implementation	Instructor plays an animated video which explains a concept visually sound by demonstrating real time scenarios	Students can easily understand the concept and can implement practically with keen observations.	https://drive.google.com/file/d/1xIXKCbqtOMt0XKSpQWm3AaQVRF-8R-eS/view?usp=sharing
Academic Year: 2020 – 21 EVEN SEMESTER
S.No	Name of the Faculty	Innovation	Subject - Topic	Implementation Details	Impact	Details available at
1	Dr.SHAIK ABDUL NABI	Hands on programming	JP - Event Handling for various GUI Controls	1. Students attend the session with prior theoretical knowledge on various topics and form as a group. 2. Each group includes 3 to 4 members.	Students on-fly can think and apply the theoretical knowledge and produce the outcome for the given problem statement	https://drive.google.com/file/d/1aM-dTovjmVgdmguk3LRLibRVDiMjYZtb/view?usp=sharing

2	Dr VENKATA ACHUTA RAO S	Think Pair Share	STM : Node-Reduction Algorithm	1. Instructor poses a question, students first THINK to themselves prior to being instructed to discuss their response with a person sitting near them (PAIR). 2. Finally, the groups SHARE out what they discussed with their partner to the entire class and discussion continues.	TPS provides an opportunity for students to work in groups toward a common goal, increasing their own and others' understanding in a safe environment to make mistakes	https://drive.google.com/file/d/1kqXeTN2b1FHIVtKhdb2GgV0ThZLIooEd/view?usp=sharing
3	Mr G SRAVAN KUMAR	Flipped Class Room	DAA - Merge Sort	Students engage with lectures or other materials outside of class to prepare for an active learning experience in the classroom on the topic given by the instructor on prior day.	Students can work at their own pace, to determine for themselves the material they need to review (with the assistance of respective instructor/faculty, and to apply concepts in different contexts in class to ensure that they thoroughly understand of the concept.	https://drive.google.com/file/d/1UXtYvpdqFmIf7Ci9hfg1BxpPOlTOub1Q/view?usp=sharing

| 4 | Mrs RAMYA LAXMI K | Poster Presentation | DBMS - Case study | 1. Instructor announces the theme to be presented through a poster on prior day.
2. Students form their own teams and they explain the given concept through hand drawn pictures neatly. | Students are able to present information visually in a simple way. | https://drive.google.com/file/d/1CAp0RBt8HidjJMW5BMvGzUurPE58qPCE/view?usp=sharing |
| 5 | Dr.SHAIK ABDUL NABI | Quiz Assessment | JP - Exception handling, Multithreading | Instructor uses online tools to conduct the Quiz to do assess all the students on selected topics. | 1. Students can do self assessment
2.It helps them to identify areas that they need to improve themselves | https://drive.google.com/file/d/1fFAb7a2FrIvYtWHnJmqyXVcQX84s3joG/view?usp=sharing |

ACADEMIC YEAR: 2020-21 ODD SEMESTER

During COVID-19 pandemic all faculty engaged students virtually through communication channel - Microsoft Teams Platform and used the offering workspace chat and video conferencing, file storage, and application integration and did the following operations/activities:
1. Conducted Quizzes
2. Posted Assignments
3. Conducted Polls for In-Class Assessment
4. Monitored students attendance
5. Shared lecture handouts and materials
6. Recorded all the sessions and made available to the students

S. No	Name of the Faculty	Innovation	Subject - Topic	Implementation Details	Impact	Details available at
			ACADEMIC YEAR: 2019-20 EVEN SEMESTER			
1	Dr R NAGARAJU	Flipped Class Room	Modern Software Engineering - Agile Methodology	Students engage with lectures or other materials outside of class to prepare for an active learning experience in the classroom on the topic given by the instructor on prior day. Students themselves share the knowledge on given topic or sometimes they can give lecture on a specific topic with the assistance of instructor/faculty.	Students can work at their own pace, to determine for themselves the material they need to review (with the assistance of respective instructor/faculty, and to apply concepts in different contexts in class to ensure that they thoroughly understand the concept.	https://drive.google.com/file/d/1X49sy17DA0p1sVZwvjZTXt4qErfgFqq3/view?usp=sharing
2	Mr. N SANTHOSHRAMCHANDER	Hands on programming	Web Technologies - Working with CSS	1. Students attend the session with prior theoretical knowledge on various topics and form as a group. 2. Each group includes 3 to 4 members.	Students on-fly can think and apply the theoretical knowledge and produce the outcome for the given problem statement	https://drive.google.com/file/d/1PU93vC5HDF8Yz7cXyVtnMni0tveQnn5c/view?usp=sharing

| 3 | Mrs. P SRILATHA | LMS | Cryptography & Network Security - RC4 | Faculty use LMS software to plan, implements, facilitates, assess, and monitor student learning. All of these activities are conducted behind a virtual wall that provides a measure of authentication, security, and privacy. | Students are able to use virtual platforms.

Student can easily collaborate with others.

Allows teachers to personalize learning objectives for all students.

Allow teachers to easily update and maintain learning materials as well teachers can access students effectively through Quizzes, assignments etc... | https://drive.google.com/file/d/1HZi6k1f4hYsvBZwKj3745EKxbX6LViB9/view?usp=sharing |

During COVID-19 pandemic all faculty engaged students virtually through communication channel - Microsoft Teams Platform and used the offering workspace chat and video conferencing, file storage, and application integration and did the following operations/activities:

1. Conducted Quizzes
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6. Recorded all the sessions and made available to the students

		ACADEMIC YEAR: 2019-20 ODD SEMESTER				
S. No	Name of the Faculty	Innovation	Subject - Topic	Implementation Details	Impact	Details available at
1	Dr R NAGARAJU	Pair Programming	Data Structures - Implementation of Queue using Linked Lists	1. Instructor divides students into teams with size: 2 - based on students coding ability (a weaker, and a stronger) 2. Instructor lists out a problem statement 3. Each pair of students works collaboratively and will find the solutions.	1. A platform that makes a weaker student to learn something from stronger student 2.Knowledge transfer is a major element in this activity to ensure that everyone understands and solves the given topic	https://drive.google.com/file/d/1HZi6k1f4hYsvBZwKj3745EKxbX6LViB9/view?usp=sharing

2	Mr. C PHANEENDRA	JIGSAW	Software Engineering - SDLC	1. Instructor assigns a topic to each student in advance, based on students' interest and distribution should be in even manner 2. Instructor groups all students according to the assigned common topic and allows them to share their opinion. 3. Now, instructor forms teams by selecting a student from each group 4. Now, each new team is formed with diversified knowledge domain 5. Finally teams accomplish the given task.	1. Students do expertise in a single domain through self learning 2. Students are able to share their domain knowledge with others confidently. So that It encourages cooperative learning among students. 3. Improves interoperability of a student. 4. It improves listening, communication, and problem-solving skills of a student	https://drive.google.com/file/d/1gUItUUjlFm2-5fBq_wTrjMuCBtWHVGKt/view?usp=sharing
3	Mrs. JOSHI PADMA	PPTs - Presentation	Computer Organization and Architecture - Pipelining	Instructor explains a chosen topic through a presentation tool (aided with graphics) which makes students to understand the concept clearly.	Students are able to understand the concept visually without any ambiguities	https://drive.google.com/file/d/1dfZTINdmeRAfENFGWRBtoefKeqVGX03i/view?usp=sharing

				1. Students attend the session with prior theoretical knowledge with regular lab sessions' experience on various topics and form as a group.	Students on-fly can think and apply the theoretical knowledge and produce the outcome for the given problem statement	
4	Mrs. NITTALA SWAPNA SUHASINI	Hands on programming	Python Programming - Small scaled application development using python (any APP)	2. Each group includes 3 to 4 members. 3. Instructor announces a theme / problem statement for what students have to create a solution.		https://drive.google.com/file/d/1dJfqo1xDD1amGP2vp5Ug_8zPmiUmt9mj/view?usp=sharing
5	Mr. M SUDHAKAR	Animated Video	IT Workshop Lab - System Components Assembling	Instructor plays an animated video which explains a concept visually sound by demonstrating internals clearly.	Students understand internals of a concept and they can analyze the things that are happening behind.	https://drive.google.com/file/d/1fd8TN1wLRfWFTMmuTXCX90ya_IticoAE/view?usp=sharing
6	Mrs. RAMYA LAXMI K	Group Activity	Python Programming - (List, Tuple, Dictionary, Sets)	1. Instructor lists out some Problem statements, identified from different topics at different levels (Simple, Moderate and Complex) 2. Students are divided into teams -- with team size: 3 or 4 3.Each team has to pick one problem from each level and find the solutions of all within a given stipulated amount of time	1. Students are able to find the solutions for the listed out problems 2. Students get an idea about online coding based interviews	https://drive.google.com/file/d/1-GzqELiFjvpZf5CkaqGGhQXENsye-FQN/view?usp=sharing

| 7 | Mr. K. NARSIMHULU | Role-Play | Principles of Programming Languages - All languages at one place | 1. Every student is assigned with a language. 2. Being a language he/she has to explain about his features/characteristics and their implementation details along with design issues of a particular chosen topic. 3. Here, each student (selected) plays his/her role to explain about the respective assigned language. | A better way to share the knowledge about a particular language with all students. Students can analyze the constructs of a language by comparing with other languages. | https://drive.google.com/file/d/1GCSLlHHS_uIJxMsPISAla87LWRe3XPdK/view?usp=sharing |

S. No	Name of the Faculty	ICT Tool	Quiz | Surprise Test	Self Learning in on-line learning mode	Pair Programming	JIGSAW	Hands on programming	Role-Play	Think Pair Share	Flipped Class Room	Cross Word Puzzle
	Innovative Teaching and Learning Techniques during the Academic Years: 2019-2020,2020-2021 & 2021-2022										
1	Dr ABDUL NABI SHAIK	√	√				√				
2	Dr VENKATA ACHUTA RAO S					√			√		
3	Dr BIKSHAM V	√	√								
4	Mr. ANANDA R KUMAR MUKKALA		√								√
5	Mr. G SRAVAN KUMAR									√	
6	Mrs. JOSHI PADMA NARASIMHACHARI	√	√				√				
7	Mr. NAGA RAJ P			√							
8	Mrs. VADDHIRAJU SWATHI									√	
9	Mr. N SANTHOSH RAMCHANDER	√	√		√		√				
10	Dr PURUSHOTHAM MUNIGANTI	√									
11	Dr R NAGARAJU				√					√	
12	Mr. K ROHITH KUMAR			√							
13	Mrs. B MAHALAKSHMI										
14	Mr. VIJAYABHASKARA REDDY V		√	√	√		√				
15	Mr. K KOTAIAHSWAMY		√					√			
16	Mr. SALAR MOHAMMAD		√								
17	Mrs. M LUBNA YASMEEN	√									
18	Mrs. K MADHURA VANI		√								

S.No	Name of the Faculty										
19	Mrs. RAMYA LAXMI K	√	√								
20	Mrs. PINNOJI ARCHANA			√							
21	Mr. K NARSIMHULU										
22	Mrs. PULI SRILATHA			√							
23	Mr. C PHANEENDRA						√				
24	Mrs. NITTALA SWAPNA SUHASINI	√					√				√
25	Mr. M SUDHAKAR	√									
26	Mrs. P VIJAYA LAKSHMI		√								
27	Mr. K. NARSIMHULU								√		

Innovative Teaching and Learning Methodologies adopted by the following faculty

AY: 2021-2022 (Odd Semester)

S. No	Name of the Faculty	ICT tool	Surprise Test	Quiz	Pair Programming	JIGSAW	Hands on programming	Role-Play	Cross Word Puzzle	Self Learning Encouragement in on-line learning mode
1	Dr ABDUL NABI SHAIK	√								
2	Dr VENKATA ACHUTA RAO S					√				
3	Mr. ANANDA R KUMAR MUKKALA			√					√	
4	Mrs. JOSHI PADMA NARASIMHACHARI	√					√			
5	Mr. N SANTHOSHRAMCHANDER			√	√					
6	Mr. VIJAYABHASKARA REDDY V			√	√		√			√

S. No	Name of the Faculty						
7	Mr. K KOTAIAHSWAMY		√				√	
8	Mrs. PULI SRILATHA							√
9	Mr. NAGA RAJ P							√
10	Mrs. M LUBNA YASMEEN	√						
11	Mrs. RAMYA LAXMI K	√						
12	Mrs. PINNOJI ARCHANA							√

AY: 2020-21 (Even Semester)

S. No	Name of the Faculty	Quiz	Hands on programming	TPS	Flipped Class Room	Self Learning Encouragement in on-line learning mode
1	Dr ABDUL NABI SHAIK	√	√			
2	Mr. BIKSHAM V	√				
3	Dr VENKATA ACHUTA RAO S			√		
4	Mrs. JOSHI PADMA NARASIMHACHARI	√	√			
5	Mrs. VADDHIRAJU SWATHI				√	
6	Mr. N SANTHOSHRAMCHANDER	√				
7	Mr. SALAR MOHAMMAD	√				
8	Mrs. K MADHURA VANI	√				
9	Mrs. RAMYA LAXMI K	√				

S. No	Name of the Faculty					
10	Mr. G SRAVAN KUMAR				√	
11	Mr. VIJAYABHASKARA REDDY V					√

AY: 2020-21 (Odd Semester)

During COVID-19 pandemic all faculty engaged students virtually through communication channel - Microsoft Teams Platform and used the offering workspace chat and video conferencing, file storage, and application integration and did the following operations/activities:
1. Conducted Quizzes
2. Issued Assignments
3. Conducted Polls for in-class assessment
4. Monitored students attendance
5. Shared lecture handouts and materials
6. Recorded all the sessions and made available to the students

AY: 2019-20 (Even Semester)

S. No	Name of the Faculty	ICT tool	LMS	Quiz	Hands on programming	Flipped Class Room
1	Dr R NAGARAJU					√
2	Mr. N SANTHOSHRAMCHANDER		√	√	√	
3	Mrs. P SRILATHA		√			
4	Mrs. JOSHI PADMA NARASIMHACHARI		√			
5	Mrs. NITTALA SWAPNA SUHASINI	√				√
6	Mrs. RAMYA LAXMI K		√			

AY: 2019-20 (Odd Semester)

S. No	Name of the Faculty	ICT tool	Quiz	JIGSAW	Hands on programming	Role-Play	Pair Programming	Group Activity
1	Dr PURUSHOTHAM MUNIGANTI	√						
2	Dr R NAGARAJU						√	
3	Mr. N SANTHOSHRAMCHANDER		√					
4	Mrs. P VIJAYA LAKSHMI		√					
5	Mr. C PHANEENDRA			√				
6	Mrs. JOSHI PADMA NARASIMHACHARI	√						
7	Mrs. NITTALA SWAPNA SUHASINI				√			
8	Mr. M SUDHAKAR	√						
9	Mrs. RAMYA LAXMI K							√
10	Mr. K. NARSIMHULU					√		

SREYAS

INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Approved by AICTE, New Delhi | Affiliated to JNTUH, Hyderabad | Accredited by NAAC)Hyderabad | PIN: 500068

Department of Computer Science and Engineering

Impact of Innovative Teaching Methodology - Internal Evaluation Sheet

Academic Year: **Date:**

Innovative Teaching Method applied:

Name of the Instructor/Faculty:

Year & Semester: **Section:**

Name of the Subject & Topic:

No. of participants:

Observations/Comments: (To be filled by the Faculty)

Instructor/Faculty   **HOD, CSE**

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Department of Computer Science and Engineering

Date:

ATTENDANCE REPORT

S. No	Roll No	Name of the Student	Student Satisfaction Rate (1-Low to 5-High)	Sign
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Instructor   Coordinator

EXPERTS' FEEDBACK FOR INNOVATIVE METHODS IN TEACHING AND LEARNING PROCESS				
Please fill out this feedback form so we can ensure top quality methods in teaching and learning process				
EMAIL_ID		NAME OF THE EXPERT		DATE
Innovative Method:				
Parameters/Ratings	EXCELLENT	GOOD	FAIR	POOR
How would you rate to innovative methods				
How satisfied were you with the clear goals?				
How satisfied were you with usage of approximate methods?				
How satisfied were you with implementation?				
How satisfied were you with Outcomes?				
How satisfied were you with the timeliness of effective presentation?				
Would you recommend our innovative method to others?				
Please provide any additional comments or suggestions.				

Signature

Innovative Teaching and Learning Methodologies

Statement of Clear Goals; Use of Appropriate Methods; Significance of Results and Effective Presentations

Sl. No.	Innovative Method	Statement of Clear Goals	Effective Presentation	Significance of Results
1	Flipped Class Rooms	**G1**: "Direct instruction moves from the group learning space to the individual learning space"	**Presented 6 easy steps for implementation.** 1. Plan: Figure out which lesson in particular you want to flip. Outline the key learning outcomes and a lesson plan. 2. Record: Instead of teaching this lesson in-person, make a video. Make sure it contains all the key elements you'd mention in the classroom. 3. Share: Send the video to your students. Make it engaging and clear. Explain that the video's content will be fully discussed in class. 4. Change: Now that your students have viewed your lesson, they're prepared to actually go more in-depth than ever before. 5. Group: An effective way to discuss the topic is to separate into groups where students are given a task to perform. Write a poem, a play, make a video, etc. 6. Regroup: Get the class back together to share the individual group's work with everyone. Ask questions, dive deeper than ever before. After the six steps, Review, Revise, and Repeat!	Students of all abilities to excel, Increases student-teacher interaction, Allows teachers to know their students better, Increasing student-student interaction, Allows for real differentiation.
2	Think-Pair-Share (TPS)	G1: A collaborative learning strategy where students work together to solve a problem or answer a	**Interaction of Teacher-students batches to accomplish task** **T:** (Think) Teachers begin by asking a specific question about the text. Students "think" about what they know or have learned about the topic.	Improved critical thinking skills, increased retention and transfer of new information.

		question about an assigned task.	**P**: (Pair) Each student should be paired with another student or a small group. **S**: (Share) Students share their thinking with their partner. Teachers expand the "share" into a whole-class discussion.	Increased motivation, improved interpersonal skills, and decreased course failure.
3	Self Learning Encouragement in On-Line Learning Mode	G1: To Improve knowledge of students by Self. G2: Peer Learning Ability Enhancement	Using Internet, ICT Tools etc., Case Studies, Observations	Able to participate in Out-Reach Activities and gain knowledge as in all round development.
4	Pair Programming	G1: Improve Collaboration Work Culture G2: Cohesiveness Building Nature	**Division Based on Strengths of Learners:** By Division in Students to solve a task from communication to deployment. Collaborative Approach is applied.	Weaker students are brighter and easy to mingle with other students. Good Project Exposure is shown.
5	JIGSAW	G1: Students responsibility and control over their own learning.	Peer opinion based Lectures are initiated	Co-operative learning is Initiated, Team Coordination strategy.
5	Hands on Programming	G1: Experienced Learning is more useful to do more practical applications	**Experimental Learning through Hands-On Programming:** Giving Tasks of Individual Unit of Programs; After that all these units are combined it as an integrated product.	A Hands-on Learning Environment Develops Critical Thinking Skills.
6	Role-Play	G1: To learn, improve or develop upon the skills or competencies necessary for a specific position.	**Identification of Roles among Students:** Allows a learner to assume the role or tasks of a job by practicing or simulating real working conditions	Three major learning Domains: Affective, Cognitive, and behavioral outcomes

8	Cross Word Puzzles	G1: To assess the usefulness of using crossword puzzles as a method of teaching and learning physiology among medical students	**Materials and Methods:** A simple crossword with clues given across and down was made using the puzzle maker website. Students were given instruction on the game rules and divided into teams. The students enjoyed the 2-hour game module and feedback from students was taken on the conduction of the crossword game and the interest generated.	Results: Most of the students agreed that the game was conducted well and it was an extremely useful, fun filled, focused and an innovative change introduced
9	Surprise Test	G1: To improve attendance and critically assess students. Mid-term and end-term exams G2: Determined partly on subject matter to be taught and partly by the nature of the learner.	**Principles and methods used for instruction to be implemented by teachers to achieve the desired learning in students.** The approaches for teaching can be broadly classified into teacher centered and student centered. In Teacher-Centered Approach to Learning, Teachers are the main authority figure in this model. Students are viewed as "empty vessels" whose primary role is to passively receive information (via lectures and direct instruction) with an end goal of testing and assessment. It is the primary role of teachers to pass knowledge and information onto their students. In this model, teaching and assessment are viewed as two separate entities.	To Know the Subject knowledge of the Learner. Helps the both teachersand students to identify the gap of knowledge
10	Quiz	G1: To assess the students knowledge in their subjects G2: A quick and informal assessment of student knowledge	**Process-Retrieval Method: How to Conduct a Quiz –** Step 1: Get to Know your Audience. Step 2: Come Up With a Topic and Title. Step 3: Crafting Questions. Step 4: Write The Results. Step 5: A Call-to-Action. Step 6: Make It Shareable. Conclusion.	The process of retrieval - bringing the information to mind - actually leads to learning all by itself. What's more, Bringing the information to mind can sometimes improve students' ability to apply the information in new situations

11	ICT Tools	G1: To provide direct access to quality instructional resources through computers connected in LAN and Internet.	**Presentation Methodology:** Motivate the students do electronic presentations (PPT) Assess the students through online quiz tests for better learning Internet facility is provided to students for deeper inquiry to subjects.	The students and faculty are engaged in effective teaching - learning process.
12	Animated Videos	G1: Better understanding the concepts. G2: Visualization on concept taken place.	**Methodology:** Faculties use animation to demonstrate the working of models for better comprehension and analysis of ideas. This helps to enhance the problem-solving techniques and to learn a specific topic in depth.	Students can easily remember the concepts
14	Group Activity	G1:Group activities enable students to discover deeper meaning in the content and improve thinking skills. G2: Great for building healthy relationships in the classroom, regulating emotions and developing empathy	**Making Groups based on the Concept:** Find a classroom layout that works for you. ... Continents, patterns, and colors are used Buttons and shapes..Behavior grouping. ...Partner pairs. ...Interest groups. ...Popsicle sticks. ...Paint swatch secret ballot.	While doing a group activity students can share their views and solve the problems easily
15	Innovative / Creative Poster Presentation	G1: The main function of a poster is to capture a moving audience with a message.	**Info graphic Visualization Tool:** A poster is simply a static, visual medium that you use to communicate ideas and messages. With an oral presentation, you have more control over what your audience can focus on.	Summarize information or research concisely and attractively to help publicize it and generate discussion.

Methodology: ICT tools

Objectives

- Support functions: administrative, technical and supportive functions ,

- Learning assistance: assistance and support for learning and teaching,

- New learning: new teaching and learning methods, techniques and tools.

Prerequisite

- Various devices/technology in ICT includes:

- Access of course materials through remote devices,

- Online digital repositories for lectures, course materials, and digital library,

- Online/ Cloud based academic management systems,

- Employing the flipped classroom concept,

- Making use of handheld computers, tablet computers, audio players, projector devices etc.

Introduction

The role of the teacher is undergoing radical change - his expertise requires continuous training and coordination with students in the use and practical applications of Information and communication technology (ICT) in education. ICT in the educational process should serve as a learning method and not only as a tool. At the same time, it is important to

realize that ICT does not replace traditional teaching methods, but complements them by encouraging curiosity, research and experimentation.

Implementation

The following list of faculty used ICT tools and simulated the class room learning experience.

S. No	Name of the faculty	Academic Year & Semester	Year	Subject
1	Dr ABDUL NABI SHAIK	2021-22 & I	II	Data Structures
2	Mrs. RAMYA LAXMI K	2021-22 & I	IV	Data Mining
3	Dr BIKSHAM V	2021-22 & I	IV	Cloud Computing
4	Mrs. M LUBNA YASMEEN	2020-21 & II	II	Operating Systems
5	Mrs. NITTALA SWAPNA SUHASINI	2020-21 & II	II	Design and Analysis of Algorithms
6	Mr. N SANTHOSH RAMCHANDER	2019-20 & II	III	Web Technologies
7	Mrs. JOSHI PADMA	2019-20 & II	II	Java Programming
8	Dr PURUSHOTHAM MUNIGANTI	2019-20 & I	II	Computer Organization and Architecture
9	Mr. M SUDHAKAR	2019-20 & I	III	Data Communication and Computer Networks

Outcomes

- Enhancing learning experiences and providing new sets of skills,

- Reaching more students with Massive Open Online Courses(MOOCs),

- Facilitating the training of faculties,

- Minimizing costs and saving time associated with information delivery and automating regular day-to-day tasks.

- Improving the administration of institutions to enhance the quality and efficiency of service delivery.

Photograph(s)

Methodology: LMS - (Google classrooms / Microsoft teams / Canvas / Zoom meetings / Cisco-webex / Edmodo)

Description

In the Covid-19 Work-From-Home scenario, most of the educational institutes have adopted the online education mode. This mode is heavily dependent on E-Learning Tools and there are a lot of tools available in the market. What is the best combination of e-learning tools for the following activities:

- Learning Management (e.g. Moodle)

- Lecture Delivery (Microsoft Teams, Google Meets, Zoom, etc.)

- Video Editing and Compression

- Video Hosting, Streaming, and Downloading

- Assessments, Exams, etc.

As part of academics, Department of CSE has adopted online teaching tools like Microsoft teams, Zoom meetings, and Canvas Infrastructure. During the Covid-19 pandemic situations most of the faculty's are adopted the canvas infrastructure tool for online classroom teaching for 2nd, 3rd and 4th year students via online mode from their home.

Implementation

Department of CSE has implemented these online tools for conducting online classes effectively in Covind-19 pandemic period.

Sample List of Faculty:

S. No	Name of the faculty	Academic Year & Semester	Year	Subject
1	Mrs. JOSHI PADMA	2020-21 & II	II	JAVA Programming
2	Mrs. RAMYA LAXMI K	2020-21 & II	II	DBMS
3	Mr. K KOTAIAHSWAMY	2020-21 & II	III	Compiler Design

4	Mr. G SRAVAN KUMAR	2020-21 & II	III	Design and Analysis of Algorithms
5	Mrs. RAMYA LAXMI K	2020-21 & I	IV	Python Programming
6	Mrs. PINNOJI ARCHANA	2020-21 & I	II	OOP through C++
7	Mrs. MEENAKSHI	2020-21 & I	IV	Data Mining
8	Mrs. VADDHIRAJU SWATHI	2020-21 & I	III	SE
9	Mrs. RAMYA LAXMI K	2019-20 & II	II	DBMS
10	Mr. N SANTHOSH RAMCHANDER	2019-20 & II	III	WT
11	Mrs. JOSHI PADMA	2019-20 & II	II	Java Programming
12	Mrs. PULI SRILATHA	2019-20 & II	III	Cryptography & Network Security

Outcomes

- Students able to learn the new concepts via online classrooms
- Able to record the sessions and listen it whenever required.
- Share the contents in the you-tube channel
- Improved the clarification of doubts in conversion manner by the students and faculty

Photographs

zoom

SOLUTIONS ▾   PLANS & PRICING   SCHEDULE A MEETING   JOIN A MEETING   HOST A MEETING ▾

PERSONAL

Profile

Meetings

Webinars

Recordings

Settings

ADMIN

> User Management

> Device Management

> Room Management

> Account Management

> Advanced

Cloud Recordings   **Local Recordings**   Settings

The Local recordings listed below are accessible only from the computer on which they were recorded.

From [mm/dd/yyyy]   To [09/23/2021]   [Search]   [Export]

[Delete Selected]   [Delete All]

	Topic	ID	Start Time	Computer Name	Location		
☐	JOSHI PADMA N's Personal Meeting Room	229 360 3111	Sep 6, 2020 01:08 PM	SAIBABA	C:\Users\SriBABUJI\Documents\Zoom\2020-09-06 13.08.52 JOSHI PADMA N's Personal Meeting Room 2293603111	Open	Delete
☐	JOSHI PADMA N's Personal Meeting Room	229 360 3111	Sep 6, 2020 12:26 PM	SAIBABA	C:\Users\SriBABUJI\Documents\Zoom\2020-09-06 12.26.35 JOSHI	Op	Delete

Address [   ] ▾   12:15 PM 9/23/2021

Day-04-DS-CANVAS.mp4

Prerequisite Course on
Programming for Problem solving

Structure ✓

1. Syntax
2. Create variable
3. memory allocation
4. Accessing mem
5. Example
6. Array =
7.

Collection of dif
data type ele

truct sn

Mute (m)

▐▐   🔊 ———○——   6:41 / 1:17:52   CC   ⚙   ▣   ⤢

Methodology: Quiz

Introduction

Quizzes can be given without an instructor, Quizzes let students know where they're wrong as they provide instant results. This gives students a direction to the areas in which they ought to improve and form a strategy for the same. Students can begin to use their strategy as they encounter a problem using the same concept that they just missed, improve and then apply it during summative assessments.

Implementation

Set timer: The creator is able to set a timer for the whole quiz or to set a timer per question. This is possible to do with written quizzes, but is very time consuming for the instructor. Plus it's almost impossible to do with a huge amount of participants.

Better overview: It's possible to show one question at the time with online quizzes. People are not able to skip a question, because you will get a reminder that you can't leave the answer blank.

Improve your brand: There are several ways to gain more brand awareness: Generate new interactive sales opportunities, build your traffic to your online channels, improve time spent on site and improve the sharing on social media about your campaign and brand.

Instant Response: Students do not have to wonder if their answer is correct or not as they answer a question. Nor do they have to wait until the next class, which may be 24 hours or more away. Online quiz programs provide immediate feedback to their answers.

Formative Assessment: Using online quiz tools to deliver formative assessment can be a useful and crucial resource. Carrying formative assessments through online quizzes is a smart way to look into the areas that need to be paid heed to during training/learning.

Assists in Memorizing: Quizzes that include images and pictures help in memorizing the right answers. With quizzes, students associate an answer or any useful piece of information with any image or video incorporated in that answer. It works because students are visually pegging (or "placing") representations of what they want to remember in images or videos they can easily memorize and identify.

Ample Attempts to Improvise: Students can retake a practice quiz as often as they want to improve their score. The program can be set to keep the highest score. If the practice quizzes are truly formative, then no grade will be given. Students will demonstrate their learning in class and on summative tests.

Sample List of Faculty:

S. No	Name of the faculty	Academic Year & Semester	Year	Subject
1	Mrs. PINNOJI ARCHANA	2020-21 & I	III	CD
2	Dr VENKATA ACHUTA RAO S	2020-21 & I	III	STM
3	Dr. G.SURYANARAYANA	2020-21 & I	III	Artificial Intelligence
4	Mr. N SANTHOSH RAMCHANDER	2019-20 & II	III	Web Technologies

Ex: Google Forms

It is a free online tool that allows you to collect information easily and efficiently. The interface is very easy to use. Any user with an average Internet knowledge can create forms using this tool. The assistant is simple to use. The What-You-See-Is-What-You-Get interface makes it easy to drag and drop form elements and organize them based on actions or events.

At the design level it is possible to choose between a palette of colors, as well as own images as a background. Google forms stores the feedback received so we can analyze it in detail.

The forms are integrated with Google spreadsheets therefore we can access to a spreadsheet view of the collected data. The general configuration of forms or surveys allows you to collect the recipient's email address and limit the answers.

For advanced users, the type of data that can be inserted into a field can be customized using regular expressions. This helps customize the form even more.

A Google form allows us to see how the survey will look before sending it over to the recipients. We can send the form by email, integrate it into our website or send the link via social networks or any other means. With this tool, you can get unlimited questions and answers at no cost, while other survey tools require a payment depending on the number of questions and recipients.

Outcomes

- Students able to assess the knowledge install and trying to gain more knowledge on the subject.

- To acquire the more marks in objective type in internal examinations.

- Able to gain the depth knowledge of subject.

Photographs

JAVA PROGRAMMING QUIZ

anandranjit@gmail.com (not shared) Switch account

* Required

1. Number of primitive data types in Java are? *   1 point

○ 6

○ 7

○ 8

○ 9

2. What is the size of float and double in java? *   1 point

3. Automatic type conversion is possible in which of the possible cases? 1 point
*

○ Byte to int

○ int to long

○ long to int

○ double to float

4. Find the output of the following code. int Integer = 24; char String ='I'; 1 point
System.out.print(Integer); System.out.print(String); *

○ compile error

○ throws exception

○ I

○ 24 I

5. Find the output of the following program. public class Solution{ public 1 point
static void main(String[] args){ short x = 10; x = x * 5; System.out.print(x); }
} *

○ compile error

○ throws exception

○ 50

○ 10

6. Find the output of the following program. public class Solution{ public static void main(String[] args){ byte x = 127; x++; x++; System.out.print(x); }} *

- ○ -127
- ○ 127
- ○ 129
- ○ 10

7. Select the valid statement. *

- ○ char [] ch=new char(5)
- ○ char [] ch=new char[5]
- ○ char [] ch=new char[]
- ○ char [] ch=new char()

8. Find the output of the following program. public class Solution{ public static void main(String[] args){ int[] x = {120, 200, 016}; for(int i = 0; i < x.length; i++){ System.out.print(x[i] + " "); } }} *

- ○ 120 200 016
- ○ 120 200 16
- ○ 120 200 14
- ○ 120 200 6

9.When an array is passed to a method, what does the method receive? *   1 point

○ The reference of the array
○ a copy of the array
○ length of the array
○ copy of the element

10. Select the valid statement to declare and initialize an array. *   1 point

○ int [] A={}
○ int [] A={1,2,3}
○ int [] A=(1,2,3)
○ int [][] A={1,2,3}

11. Find the value of A[1] after execution of the following program. int[] A =   1 point
{0,2,4,1,3}; for(int i = 0; i < a.length; i++){ a[i] = a[(a[i] + 3) % a.length]; } *

○ 0
○ 1
○ 2
○ 3

12. Arrays in java are- *   1 point

○ object references
○ objects
○ primitive data type
○ none

13. When is the object created with new keyword? *   1 point

○ compile time

○ depends on code

○ none

14. Identify the corrected definition of a package. *   1 point

○ collection of editing tools

○ collection of classes

○ collection of classes and interfaces

○ collection of interfces

15. Identify the correct restriction on static methods. 1.They must access   1 point
only static data 2.They can only call other static methods. 3.They cannot
refer to this or super. *

○ 1

○ 1,2

○ 3

○ 1,2,3

Submit   Clear form

Methodology: Self Learning Encouragement in on-line learning mode (Edureka, codingninjas, nptel, coursera)

Objectives

- To provides a online learning platform with certification program

- Interactive innovative online discussion forum with expert from the industry

- To gained the knowledge of emerging technologies from computer science and engineering

- To encourage the faculty and students to learn the new technologies with practical experiments.

Implementation

The implementation of this innovative method is to teach the students by the faculty, who acquired the certification from the respective online academy. Students are encouraged to do certifications in the specified platforms.

Sample List of Faculty, who acquired the certification and given the lecture delivery of emerging courses/ technologies in computer science and engineering:

List of Faculty:

S. No	Name of the faculty	Name of the course	Academic Year
1	Mr.K.Rohit Kumar	Fundamentals of Block chain Technologies	2018-2019
2	Mr.Vijaya Bhaskara Reddy V	Introduction to Java	2020-2021
3	Mr.Vijaya Bhaskara Reddy V	Data Structures in Java	2021-2022
4	Mrs.Srilatha Puli	Google cloud fundamentals: core infrastructure	2021-2022
5	Mrs.P.Archana	Google cloud fundamentals: core infrastructure	2021-2022

6	Mr.P NagaRaj	Introduction to programming through C++	2021-2022

Outcomes

- To improve the skills by the students for their placements

- More practical knowledge gained by the students in latest technologies

- Useful for academic progress of the students.

Photographs
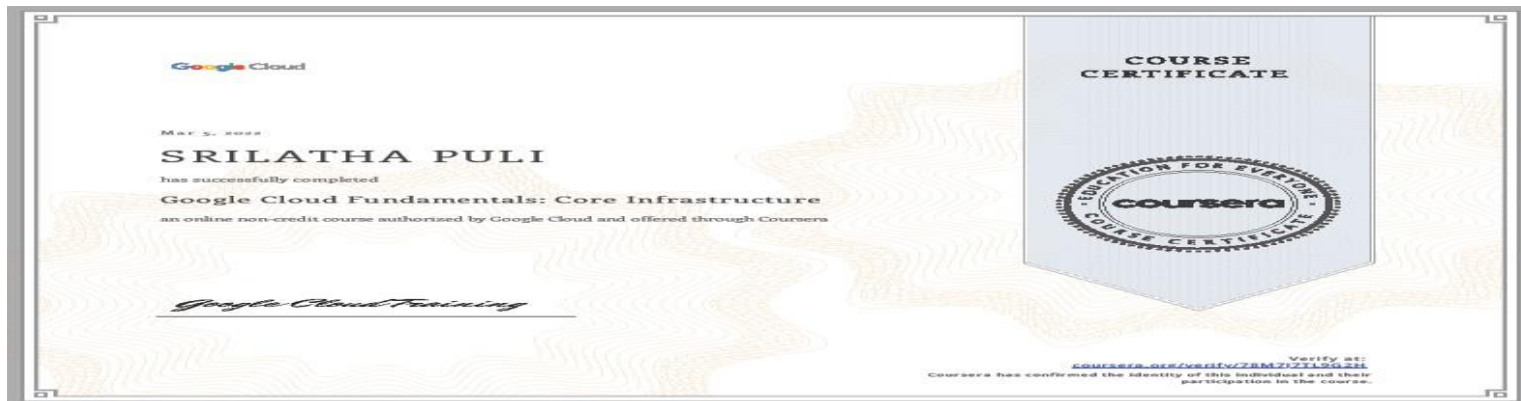
Certificate 1

CODING NINJAS

Top Performer

Certificate Of Excellence

is awarded to

VIJAYABHASKARAREDDY V

for successfully completing the course

Introduction to JAVA

conducted from March 2021 to April 2021

Ankush Singla
Mentor / Instructor

CODING NINJAS
NEW DELHI

students.codingninjas.com/verify/61b87a5cfc1f1369

Manisha Khattar
Mentor / Instructor

Certificate 2

CODING NINJAS

Top Performer

Certificate Of Excellence

is awarded to

VIJAYABHASKARAREDDY V

for successfully completing the course

Data Structures in JAVA

conducted from April 2021 to August 2021

Ankush Singla
Mentor / Instructor

CODING NINJAS
NEW DELHI

certificate.codingninjas.com/verify/6d3cb811cde696d8d

Manisha Khattar
Mentor / Instructor

Certificate 3

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository. https://nptel.ac.in/noc/

Roll No: NPTEL21CS38S13634758

To
P NAGARAJ
8-46/791-8-212, NEW MUNICIPAL COLONY
DILSUKH NAGAR
HYDERABAD
TELEGANA - 500060
PH. NO :9866668819

Score	Type of Certificate
>=90	Elite+Gold
75-89	Elite+Silver
>=60	Elite
40-59	Successfully Completed
<40	No Certificate

No. of credits recommended by NPTEL:3
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.

Elite

NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
P NAGARAJ
for successfully completing the course
An Introduction to Programming through C++
with a consolidated score of **61** %

Online Assignments	22.94/25	Programming Exam	15.75/25	Proctored Exam	21.84/50

Total number of candidates certified in this course: **485**

Jan-Apr 2021
(12 week course)

Prof. Sridhar Iyer
Head CDEEP & NPTEL Coordinator
IIT Bombay

Indian Institute of Technology Bombay

swayam

Roll No:NPTEL21CS38S13634758

To validate and check scores: https://nptel.ac.in/noc

Methodology: Flipped Class Room

Objectives

- To motivate students to learn concepts on their own.
- To aid students obtain timely information (via preliminary assessments) about their learning before class and thereby adapt learning style.
- Students come to the class with prior knowledge of the concepts and these concepts are reinforced in the class by solving some logical and critical thinking problems based on the topic.
- Ensures long lasting retention of the concepts.

Implementation

1. Provide student with the learning material - video link (handouts/video lectures/text book reference pages etc) of the topic to be covered through website (edmodo, canvas, Google classroom etc).
2. Give students 2 to 3 days time to go through the link, ask them to take notes.
3. On the day of the implementation (assessing the flipped class), students can be given a task of solving problems based on the learning material shared with them. Make sure the problems should be such that the student must apply the knowledge gained from learning material / video lecture to solve the problem. Prepare as many questions as possible so that no adjacent student should get the same question.
4. Role of the faculty is to facilitate the activity.
5. Based on the complexity of the task, the duration can be ideally set to 15 to 20 minutes
6. Faculty should collect the papers from the students.
7. Faculty should summarize the topic/concept and can also give answers to the questions.
8. Faculty should correct these papers (not in the class room) and give constructive feedback.

List of Faculty who adopted Flipped Class Methodology:

S.No	Name of the faculty	Academic Year & Semester	Year	Subject
1	Mr. G SRAVAN KUMAR	2020-21 & II	III	Design and Analysis of Algorithms
2	Mrs. VADDHIRAJU SWATHI	2020-21 & II	III	Design and Analysis of Algorithms
3	Dr. R NAGARAJU	2019-20 & II	IV	Modern Software Engineering
4	Mrs. NITTALA SWAPNA SUHASINI	2019-20 & II	II	Operating Systems

Outcomes

- Improves the students own learning
- Learn the concept before coming to the class
- Understand the concept very easily

Evidence of success

1. Confidence levels of students are improved, when they solve a problem or complete a task on their own without the help of the faculty.
2. Improved self learning ability of the students.
3. Students learnt at their own pace and help in retaining concepts for a longer period of time.

Methodology: Think Pair Share

Objectives

- To enhance problem solving, creativity and thinking skills in students.

- To understand team-based learning as an approach to collaborative learning

- To make students understand complex concepts.

- To develop oral communication skills, Fosters and develops interpersonal relationships.

Implementation

Think-pair-share (TPS) is a collaborative learning strategy in which students work together to solve a problem or answer a question about an assigned reading. This technique requires students to:

- ✓ **Think**: Teachers begin by asking a specific higher-level question about the topic to the students. Students "think" about what they know or have learned about the topic for a given amount of time (usually 1-3 minutes).

- ✓ **Pair**: Each student should be paired with another student. Teachers may choose whether to assign pairs or let students pick their own partner. Students share their thinking with their partner, discuss ideas, and ask questions of their partner about their thoughts on the topic (2-5 minutes).

- ✓ **Share**: Once partners have had ample time to share their thoughts and have a discussion, teachers expand the "share" into a whole-class discussion. Allow each group to choose who will present their thoughts, ideas, and questions they had to the rest of the class.

Outcomes

Students are able to:
- Work in a team
- Share the knowledge
- Discuss and revise the problem
- Find the one or more solution (s) for the given problem statement, if any.

List of Faculty who adopted TPS Methodology:

S. No	Name of the faculty	Academic Year & Semester	Year	Subject
1	Dr VENKATA ACHUTA RAO S	2020-21 & II	III	Software Testing Methodologies

Methodology: Jigsaw

Description

Divide the students into group of three or four and assign some discrete part of an assignment to each member of a group to complete, when every member has completed his assigned task, then the group reforms to complete a comprehensive report. The Jigsaw Strategy is an efficient way to learn the course material in a cooperative learning style. The jigsaw process encourages listening, engagement, and empathy by giving each member of the group an essential part to play in the academic activity. Group members must work together as a team to accomplish a common goal; each person depends on all the others. No student can succeed completely unless everyone works well together as a team. This "cooperation by design" facilitates interaction among all students in the class, leading them to value each other as contributors to their common task.

Implementation

Instructor/ Faculty do the following (in sequence) to apply JIGSAW methodology:

- Divide students into 5- or 6-person jigsaw groups.
- Divide the day's lesson into 5-6 segments.
- Assign each student to learn one segment.
- Give students time to read over their segment at least twice and become familiar with it.
- Form temporary "expert groups" by having one student from each jigsaw group join other students assigned to the same segment.
- Bring the students back into their jigsaw groups.
- Ask each student to present her or his segment to the group.
- Float from group to group, observing the process.
- At the end of the session, give a quiz on the material.

Goals

- Improves interpersonal skills
- Group learning
- Improves the thesis/report writing skills

List of Faculty who adopted JIGSAW Methodology:

S. No	Name of the faculty	Academic Year & Semester	Year	Subject
1	Dr VENKATA ACHUTA RAO S	2021-22 & I	III	Data Analytics
2	Mrs. NITTALA SWAPNA SUHASINI	2020-21 & II	III	Design and Analysis of Algorithms
3	Mr. C PHANEENDRA	2019-20 & I	III	Software Engineering

Methodology: Cross word puzzle

Objectives

1. To create active learning opportunity.

2. To develop problem solving and critical thinking skills

3. To improve time management skills.

4. To help learners recall the information in joyful way.

5. To increase the general/technical vocabulary.

Description

Cross word puzzle is a concept designed to educate through joyful active learning. Crossword puzzle increases the interest of students to learn the concept at the same time boosts their problem solving and critical thinking skills. It also helps to improve their time management skills.

Implementation

- Instructor/Faculty assigns the crossword puzzle to students.
- Students solve the puzzle in group/individually.
- The puzzle is solved either on paper or on laptop/mobile.
- The solution is discussed by the teacher.

Outcomes

- Improved clarity of concepts
- Improves academic performances
- Improved critical thinking

List of Faculty who adopted Cross Word Puzzle Methodology:

S. No	Name of the faculty	Academic Year & Semester	Year	Subject
1	Mr. ANANDA R KUMAR MUKKALA	2021-22 & I	III	Computer Networks

****