

Innovations by the Faculty in Teaching and Learning

Clear goals and adequate preparation:

The goals of innovative practices in the teaching-learning process are to make the students get insight knowledge, skill sets and, in the course, and obtain good grades in the End Semester examinations.

To achieve this faculty members are consistently taking the following measures:

- **Attending Faculty Development Programme**
- **Delivering lectures in Value Added Courses**
- **Undergoing industrial training and Implant training**
- **Undergoing Advanced Training Programme**
- **Self-equipping through Institute – Industry Interaction**
- **Pursuing online courses**

This enables the faculty members to get adequate preparation with subject knowledge to achieve the goal in the teaching-learning process.

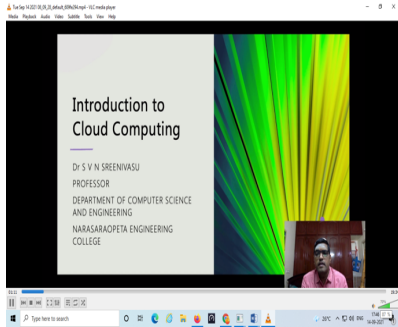
Appropriate Methods, Effective Presentation, Reflective Critiques



The Teaching and Learning methods are very much essential for the CSE students to visualize most of their core concepts like Problem solving using Programming Languages(C, JAVA, Python etc), computer Organization, Computer Networks, compiler Design, TAFL, Database Management Systems, Cryptography and Network Securities, Software Engineering, UML and Cloud Computing. The importance of these subjects can be easily understood by looking at any of the question papers of competitive exam like GATE. Many students will find it difficult to understand the concepts of this subject because of the nature of the subject. It requires the students to visualize the each and every topic in three dimensional.

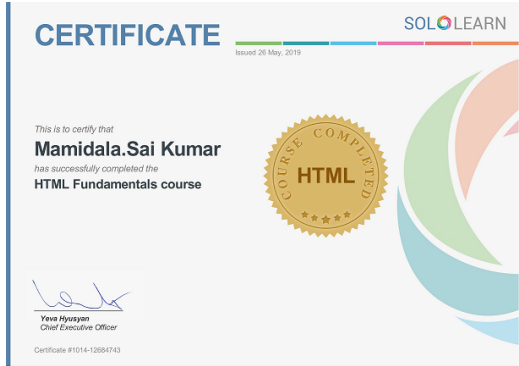
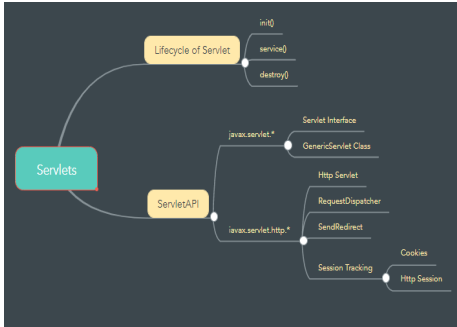
The students also find it difficult to do calculations involved in the subject since most of the quantities are vector. Hence to create interest among students and to make the subject comfortable for them to learn, various innovative practices were adopted in the teaching-learning process.


The list of innovative practices followed in teaching-learning processes is listed below


S.No.	Innovations by the Faculty in Teaching and Learning
1.	Learning with technology involving creation of YouTube channel
2.	Learning with live demonstration of computer hardware
3.	Learning with Course Certifications (NPTEL, Coursera, Solo Learn, Spoken Tutorial, &Udemy,EdX)
4.	Learning by Research Paper
5.	Learning by Industrial Visit
6.	Teaching through Collaboration(Group discussions, Group Projects)
7.	Teaching through Role Play
8.	Teaching through Technology (Mind Map tools,etc.)
9.	Teaching through Cloud Computing
10.	Demonstration of Project through Animated Video and handmade Poster
11.	Teaching through Flipping Classroom
12.	Teaching through Alumni Interaction
13.	Teaching through Virtual Labs (EBOX, BYTEXL)
14.	Student Seminars
15.	Blended Learning
16.	Virtual Teaching - Learning Management System (LMS) (Google Class Room, Microsoft Teams)
17.	Project Based Learning
18.	Social Responsibility
19.	Teaching through Animations and Presentations
20.	Learning by Technology (Blogs, Online Test Tools-Moodle)
21.	Digital Library

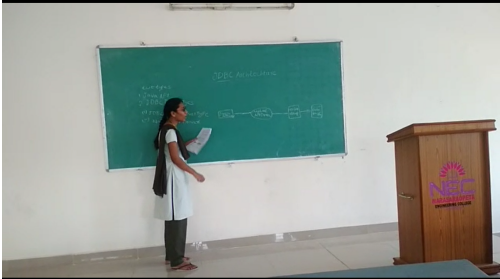
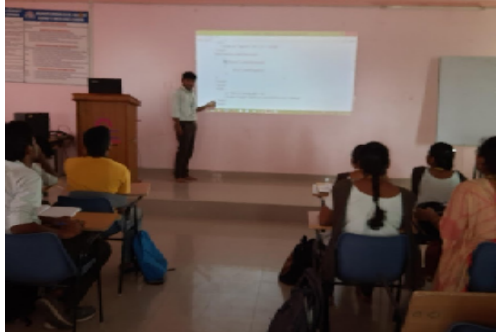
Name of the Faculty & Courses	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
<p>Dr. S.V.N. Srinivasu – Cloud Computing</p>	<p>Learning with technology involving creation of YouTube channel</p>	<p>YouTube channels has become one of the teaching tools for teachers all around the world and are adding to their arsenal. The channels make it easier and more convenient for teachers to pass knowledge to students in ways that were never possible in the past. With video lectures it encourages a level of familiarity that helps with building a community and knowledge that is always available and accessible, irrespective of teacher's and student's location</p>	<p>The students were able to attend lecture at any place and at any time. Also they would explore and learn from more lectures available for all the new technologies and frameworks.</p>	

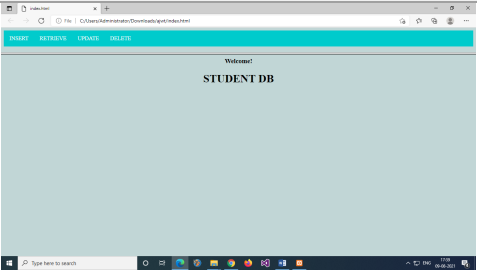
Name of the Faculty- Course	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
<p>Mr M.Satyam Reddy - Front End Web Technologies</p>	<p>Learning Through Collaboration</p>	<p>It involves encouraging student collaboration for various projects. We live in a globalized world and collaboration is an essential life skill that is important for all careers and enterprises. Teachers can help foster this skill in the classroom by allowing students to learn, study and work in groups.</p>	<p>Gives students ownership over the learning process</p> <ul style="list-style-type: none"> • Increases student motivation to learn • Allows students to develop useful skills in self- and peer-assessment 	
<p>Ms. Sd Rizwana – Advanced Java Web Technologies</p>				

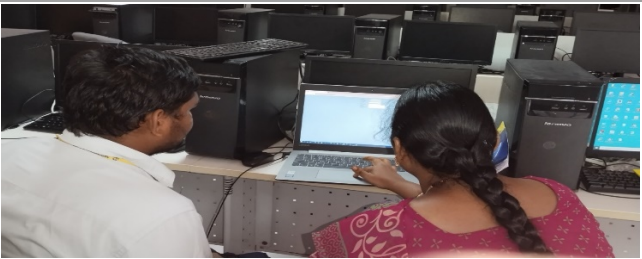
Name of the Faculty - Course	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
<p>Sd.Rizwana-AJWT</p> <p>K.Gnanendra - FEWT</p> <p>M.Satyam Reddy-FEWT</p> <p>Ch.Anil- C Programming</p>	<p>Learning with Course Certifications</p>	<p>Students follow the course with help of video lectures and are being tested with help of quizzes at the end of all chapters in the course and at the end certificates are earned by them on successfully completing the course.</p>	<p>It gives students confidence that they have learned and passed their test. This experience gives exposure to ideas and approaches outside their comfort zone. In addition, they are being able to think outside their experience which is an ingredient of leadership.</p>	
<p>Sd. Rizwana-AJWT</p> <p>M.Satyam Reddy-FEWT</p>	<p>Teaching through Technology (Mind Map Tool)</p>	<p>For better understanding and learning of concepts, new technology provides various tools. Students understands how using digital technology tools could help in boosting task efficiency. By using new tools and technology like hive for extracting important insights from huge data in no time can benefit the user in many ways.</p>	<p>Students got better understanding of concepts and as well as got knowledge of how to use online tools for the subject. It also ensures that students who have missed class either for illness or any other reason stay updated at all times. It eliminates the need for lugging around heavy textbooks and allows students to learn at a time, place and pace that they are comfortable with.</p>	


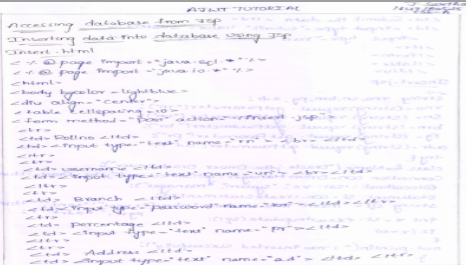
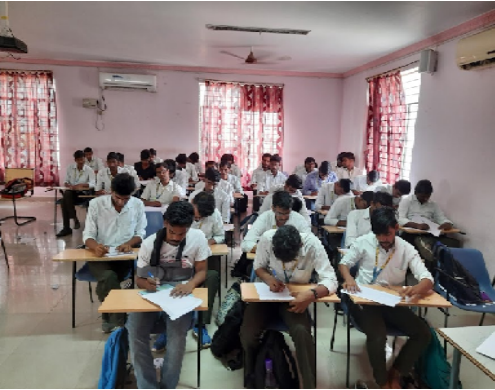
Name of the Faculty- Course	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
<p>Dr. SVN Srinivasu – SE, IOT</p>	<p>Teaching through Google class Room (Cloud)</p>	<p>Bringing technology into the classroom allows educators to experiment with innovative methods of teaching. The use of cloud computing is one such method where teachers can save vital classroom resources such as lesson plans, notes, audio lessons, videos, and assignments details on the classroom cloud. This can then be accessed by the students from the comfort of their homes, whenever needed bringing the classroom back to the students with the click on a mouse.(Google Class Room)</p>	<p>Creating a google classroom using google app. Students are made to join as members of the google class room. Notes materials, Assignments, Quiz questions are posted in the app. Students can participate in the quiz by registering through app sign in and evaluation will be done.</p> <p>Students got better understanding of concepts and as well as got knowledge of how to use online tools for the subject. It also ensures that students who have missed class either for illness or any other reason stay updated at all times. It eliminates the need for lugging around heavy textbooks and allows students to learn at a time, place and pace that they are comfortable with.</p>	

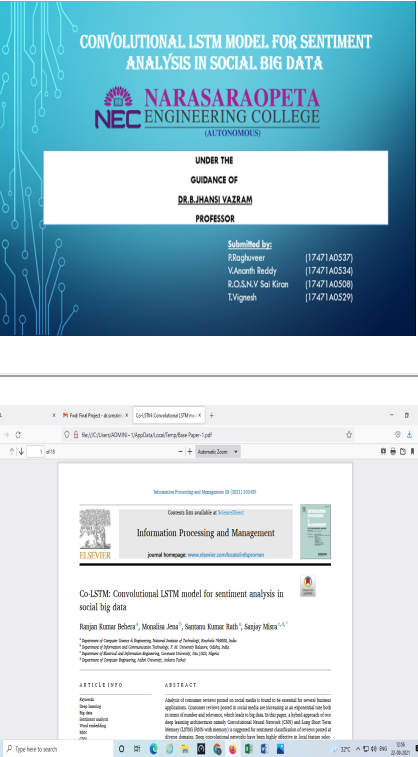
Name of the Faculty - course	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Observed	Results Template												
A.Janardhana Rao -	Department Digital Library	In order to overcome the gap between the theoretical knowledge and Practical knowledge, The Digital Library is very helpful for Faculty and Students can access the class presentations, previous question papers, course Materials and E-journal.	The students were very involved and learned students to have self-learning beyond curriculum through the facilities available in the Learning resource centre such as National Programme on Technology Enhanced Learning (NPTEL) Video Lectures and E-journals: IEEE, J-GATE, DELNET, IEI, NDL	<table border="1"> <thead> <tr> <th data-bbox="1451 435 1525 480">S.No</th> <th data-bbox="1525 435 2130 480">E-Journal Web address</th> </tr> </thead> <tbody> <tr> <td data-bbox="1451 480 1525 560">1</td> <td data-bbox="1525 480 2130 560">IEEE https://ieeexplore.ieee.org/Xplore/home.jsp</td> </tr> <tr> <td data-bbox="1451 560 1525 604">2</td> <td data-bbox="1525 560 2130 604">J-GATE https://jgateplus.com/home/</td> </tr> <tr> <td data-bbox="1451 604 1525 649">3</td> <td data-bbox="1525 604 2130 649">DELNET http://delnet.nic.in/</td> </tr> <tr> <td data-bbox="1451 649 1525 735">4</td> <td data-bbox="1525 649 2130 735">IEI https://www.ieindia.org/webui/iei-home.aspx</td> </tr> <tr> <td data-bbox="1451 735 1525 780">5</td> <td data-bbox="1525 735 2130 780">NDL https://ndl.iitkgp.ac.in/</td> </tr> </tbody> </table>	S.No	E-Journal Web address	1	IEEE https://ieeexplore.ieee.org/Xplore/home.jsp	2	J-GATE https://jgateplus.com/home/	3	DELNET http://delnet.nic.in/	4	IEI https://www.ieindia.org/webui/iei-home.aspx	5	NDL https://ndl.iitkgp.ac.in/
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Dr.K.Lakshmi Nadh – Software Engineering	Learning Industrial Visit by	In order to overcome the gap between the theoretical knowledge and Practical knowledge, this teaching technique is very helpful. Students can understand how to implement their knowledge practically	The students were very involved and learned how the industry works, what practices are followed there and how to prepare for working in IT field.													

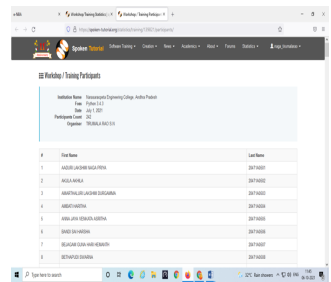
Name of the Faculty	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
Sd.Rizwana- AJWT		<p>In many subjects, students deliver Seminars to the rest of their classmates. This significantly boosts students' confidence and their learning experience.</p>		
M. SatyamReddy- FEWT	Student Seminars	<p>Idea: To make students develop communication skills and reduce the stage fear in them.</p> <p>Implementation: Select topic</p> <p>Each student is assigned a topic, Students are asked to give an explanation on the concept</p>	Bringing out the communication skills of students	


Name of the Faculty - course	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
Sd.Rizwana-AJWT	Project Based Learning	Improve the Methodology to Integrate knowledge and skills	The students were very involved and learned how to develop a web application.	


Name of the Faculty - course	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
Sd.Rizwana-AJWT	Learning by Doing	Student can learn the skills and apply in the laboratory in presence of the faculty	The students were very involved and learned how to develop a web application.	


Name of the Faculty - course	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
Sd.Rizwana-AJWT	Learning by Tutorial	Through the tutorials, students will learn how to build codes for designing web applications,	By the end of this tutorial, students will be able to apply problem solving principles to create a code for designing the Web applications.	 
M.Satyam Reddy-FEWT	Learning by Tutorial	Through the tutorials, students will learn how to build codes for designing web applications,	By the end of this tutorial, students will be able to apply problem solving principles to create a code for designing the Web applications.	

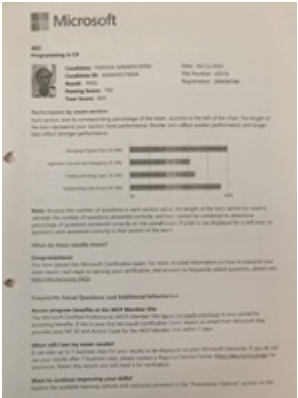

Name of the Faculty - Course	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
<p>M. Sireesha – Mini Project</p>	<p>Learning by Research Paper</p>	<p>In order to encourage the students to get acquainted with reading and understanding research papers and technical terms given in quality literature and understand its implementation in emerging technologies and recent advancement. Also how to write quality content for IEEE transactions and International Journals.</p>	<p>The students developed their habit to refer classic papers from reputed journals and transactions like IEEE Transaction on Machine learning, IOT and many other fields of technology. They developed their understanding over the recent advancement in the field; knew the peer community and got familiar with technical way of documentation.</p>	 <p>The top image is a presentation slide with a blue background and white text. The title is 'CONVOLUTIONAL LSTM MODEL FOR SENTIMENT ANALYSIS IN SOCIAL BIG DATA'. Below the title is the logo for Narasaraopeta Engineering College (Autonomous). The slide also mentions 'UNDER THE GUIDANCE OF DR. B. JHANSI VAZRAM PROFESSOR' and lists the submitted by: P. Rajgheer (17471A0557), V. Ananth Reddy (17471A0534), R. D. S. N. V. Sai Kiran (17471A0558), and T. Vignesh (17471A0529).</p> <p>The bottom image is a screenshot of a web browser showing the IEEE Xplore article page for 'Co-LSTM: Convolutional LSTM model for sentiment analysis in social big data'. The authors listed are Ranjan Kumar Bhoora, Anandini Jata, Saranya Kumar Rath, and Sanjay Meena. The page includes an abstract and other article details.</p>


		<p>sciences and selected humanities and social sciences subjects.</p> <p>Online facilities are provided to students for enrolling in various NPTEL courses. Faculty encourage the students to take get certified in NPTEL The faculty continuously guide the students and act as a mentor in solving NPTEL assignments. Students follow the course with help of video lectures and are being tested with help of quizzes at the end of all chapters in the course and at the end certificates are earned by them on successfully completing the course</p>		
<p>Dr S V N Srinivasu & M.Shyam Kumar</p> <p>Python, HTML, JAVA</p>	<p>ICT Support Learning – Spoken Tutorial</p>	<p>Spoken Tutorial:</p> <p>Process of active learning method which greatly improves understanding. To learn and use open source software : https://spoken-tutorial.org/</p> <p>Students follow the course with help of video lectures and are being tested with help of quizzes at the end of all chapters in the course and at the end certificates</p>	<p>Bringing out the expertise in technology with certification, programme skills, confidence of student that they have learned and passed their test. This experience gives exposure to ideas and approaches outside their comfort zone. In addition, they are being able to think outside their experience</p>	 <p>The screenshot shows a web browser window displaying the 'Spoken Tutorial' website. The page title is 'Spoken Tutorial / Training Participants'. Below the title, there is a table with columns for 'Sl. No.', 'Full Name', and 'Last Name'. The table contains several rows of participant information, including names like 'ANIL KUMAR SINGH' and 'ANIL KUMAR SINGH'.</p>

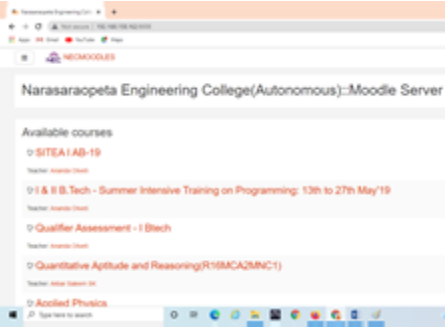
		are earned by them on successfully completing the course	which is an ingredient of leadership.	
AI for Every One, Programming for Every One Python, Python Data Structures, Using Database in Python	ICT Support Learning – Course Era	<p>Course era:</p> <p>Online facilities are provided to students for enrolling in various Courseera courses. Faculty encourage the students to take get certified in Courseera The faculty continuously guide the students and act as a mentor in solving Courseera assignments</p> <p>Students follow the course with help of video lectures and are being tested with help of quizzes at the end of all chapters in the course and at the end certificates are earned by them on successfully completing the course</p>	Bringing out the expertise in technology with certification, programme skills, confidence of student that they have learned and passed their test. This experience gives exposure to ideas and approaches outside their comfort zone. In addition, they are being able to think outside their experience which is an ingredient of leadership.	


	<p align="center">ICT Support Learning – Edex</p>	<p>Edex :</p> <p>Online facilities are provided to students for enrolling in various Edex courses. Faculty encourage the students to take get certified in Edex The faculty continuously guide the students and act as a mentor in solving Edex assignments</p> <p>Students follow the course with help of video lectures and are being tested with help of quizzes at the end of all chapters in the course and at the end certificates are earned by them on successfully completing the course</p>	<p>Bringing out the expertise in technology with certification, programme skills, confidence of student that they have learned and passed their test. This experience gives exposure to ideas and approaches outside their comfort zone. In addition, they are being able to think outside their experience which is an ingredient of leadership.</p>	
<p>CSS Fundamentals, JavaScript, Python 3 Tutorial, C++ Tutorial Concepts</p>	<p align="center">ICT Support Learning – Solo Learn</p>	<p>Solo learn</p> <p>Online facilities are provided to students for enrolling in various Sololearn courses. Faculty encourage the students to take get certified in Sololearn The faculty continuously guide the students and act as a mentor in solving Sololearn assignments</p> <p>Students follow the course with help of video lectures and are</p>	<p>Bringing out the expertise in technology with certification, programme skills, confidence of student that they have learned and passed their test. This experience gives exposure to ideas and approaches outside their comfort zone. In addition, they are being able to think outside their experience</p>	


		being tested with help of quizzes at the end of all chapters in the course and at the end certificates are earned by them on successfully completing the course	which is an ingredient of leadership.	
<p>Database Fundamentals</p> <p>Introduction to programming using HTML&CSS</p>	<p>ICT Support Learning – MTA</p>	<p>MTA (Microsoft Technology Associate)</p> <p>Online facilities are provided to students for enrolling in various MTA courses. Faculty encourage the students to take get certified in MTA The faculty continuously guide the students and act as a mentor in solving MTA assignments</p> <p>Students follow the course with help of video lectures and are being tested with help of quizzes at the end of all chapters in the course and at the end certificates are earned by them on successfully completing the course</p>	<p>Bringing out the expertise in technology with certification, programme skills, confidence of student that they have learned and passed their test. This experience gives exposure to ideas and approaches outside their comfort zone. In addition, they are being able to think outside their experience which is an ingredient of leadership.</p>	


<p>Programming in C#</p>	<p>ICT Support Learning – MCP</p>	<p>MCP(Microsoft Certification Programme)</p> <p>Online facilities are provided to students for enrolling in various MCP courses. Faculty encourage the students to take get certified in MCP The faculty continuously guide the students and act as a mentor in solving MCP assignments</p> <p>Students follow the course with help of video lectures and are being tested with help of quizzes at the end of all chapters in the course and at the end certificates are earned by them on successfully completing the course</p>	<p>Bringing out the expertise in technology with certification, programme skills, confidence of student that they have learned and passed their test. This experience gives exposure to ideas and approaches outside their comfort zone. In addition, they are being able to think outside their experience which is an ingredient of leadership.</p>	
<p>3D Environmnet</p>	<p>ICT Support Learning – Udemy</p>	<p>UDEMY :</p> <p>Online facilities are provided to students for enrolling in various UDEMY courses. Faculty encourage the students to take get certified in UDEMY The faculty continuously guide the students and act as a mentor in solving UDEMY assignments</p>	<p>Bringing out the expertise in technology with certification, programme skills, confidence of student that they have learned and passed their test. This experience gives exposure to ideas and approaches outside their comfort zone. In addition, they are being able to think outside their experience</p>	

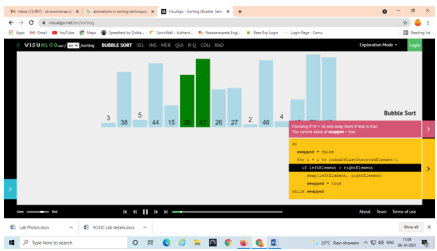
		Students follow the course with help of video lectures and are being tested with help of quizzes at the end of all chapters in the course and at the end certificates are earned by them on successfully completing the course	which is an ingredient of leadership.	
Android Development Nanodegree, Full Stack Webdevelopment	ICT Support Learning – Udacity	<p>UDACITY</p> <p>Online facilities are provided to students for enrolling in various UDACITY courses. Faculty encourage the students to take get certified in UDACITY The faculty continuously guide the students and act as a mentor in solving UDACITY assignments</p> <p>Students follow the course with help of video lectures and are being tested with help of quizzes at the end of all chapters in the course and at the end certificates are earned by them on successfully completing the course</p>	Bringing out the expertise in technology with certification, programme skills, confidence of student that they have learned and passed their test. This experience gives exposure to ideas and approaches outside their comfort zone. In addition, they are being able to think outside their experience which is an ingredient of leadership.	


Name of the Faculty	Name of the Subject	The Objective of the Innovation	Significance Results Observed	Template
All Faculty	All Subjects	<p>Moodle is a learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalized learning</p> <p>Intranet 192.168.1.11:8080/moodle Soft Skills Workshops</p> <p>Department of CSE conducted specialized training to the faculty at Narasaraopeta Engineering College by developing state-of-the-art facilities. They conducted workshop on Soft skills which was attended by our faculty and students.</p> <p>Implementation: Select topic Students are divided into groups.</p> <p>Each group is assigned a name based on topic selected.</p> <p>Students are asked to give their views on the concept.</p> <p>They are asked to prepare and give seminars on the given topics.</p>	<p>Active participation of students. Remembering the topic for a longer time.</p>	 <p>The screenshot shows the Moodle LMS interface for Narasaraopeta Engineering College. The page title is 'Narasaraopeta Engineering College(Autonomous)-Moodle Server'. Under the heading 'Available courses', there is a list of courses with expandable arrows:</p> <ul style="list-style-type: none"> SITEA I AB-19 I & II B.Tech - Summer Intensive Training on Programming: 13th to 27th May'19 Qualifier Assessment - I Btech Quantitative Aptitude and Reasoning(R16MCA2MNC1) Applied Physics


Name of the Faculty	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
<p>Dr.S.N.Tirumala Rao- MSWD</p>	<p>Group Discussions</p>	<p>To develop skills in interpersonal communication and in expressing views in a clear and concise manner</p> <p>Idea:To make students develop communication skills</p> <p>Implementation:Select topic</p> <p>Students are divided into groups.</p> <p>Each group is assigned a name based on topic selected.</p> <p>Students are asked to give their views on the concept</p>	<p>Bringing out the creative thoughts of students</p>	


Name of the Faculty	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	
Dr.S.Siva Nageswara Rao- Projects	Group projects	<p>Idea: To make students understand IEEE/Research papers and implement a part of it.</p> <p>Implementation: Students have implemented a few IEEE/Research projects.</p>	Bringing out the creative thoughts of students.	


Name of the Faculty	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	students actively participated in Chlorination Program at Yallamanda Village
Ms M.Sireesha & NSS Programme Officer	Social Responsibility	<p>Idea: To inculcate the social responsibility by participating students in NSS programmes</p> <p>Implementation: NSS Students are conducted many social activities like clean and green, Festival voluntary programmes, social Awareness Programmes etc.,</p>	Bringing out the social responsibility by creative thoughts of students.	


Name of the Faculty & Subject	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	
Shaik Rafi- DataStructures	Animations and Presentations	<p>Idea: To implement all sorting techniques for easy to understand the students</p> <p>Implementation: All sorting algorithms are explained with animated view</p>	<p>Active participation of students.</p> <p>Remembering the topic for a longer time.</p>	

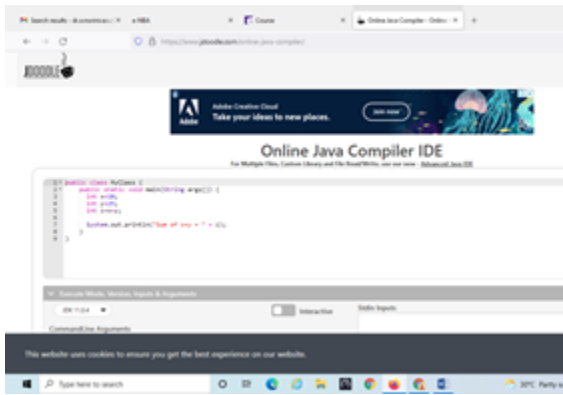
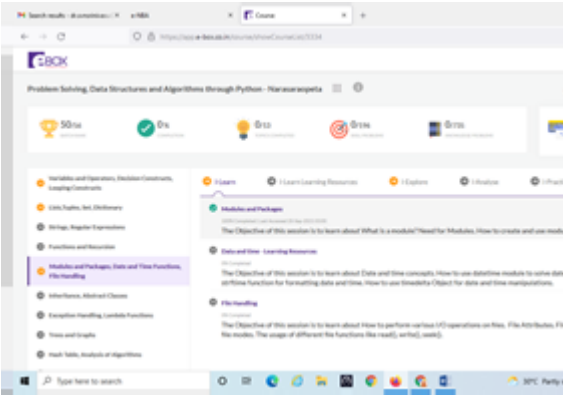
Name of the Faculty	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
Dr S.Siva nageswara Rao- WNMC	Teaching through Role Play	<p>The results reveal that participants are more enthusiastic to engage in class activities. They also develop social and communication skills through group activities associated with the teaching of ADA. Role play can be a very useful strategy to teach concepts that are perceived as abstract.</p>	<p>Gives students ownership over the learning process</p> <ul style="list-style-type: none"> Increases student motivation to learn Allows students to develop useful skills in self- and peer-assessment 	

Name of the Faculty	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
Ms P.RamaDevi & Ch.Anil- IT Workshop	Learning with live demonstration of computer hardware	Using live demonstration of computer hardware, for understanding computer architecture, it becomes easy for students to grasp the working of computer system, its organization and architecture.	It helps to understand architecture, and students are able to identify which hardware of system is used for which purpose	

Name of the Faculty & Subject	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
Dr K. Lakshminadh NMS	Demonstration of Project through Animated Video and handmade Poster	To visualize student's idea of project in a creative and interesting way so that it would help them to promote their product in an effective way in future. Also will help them to explore different directions of the project they are working on.	Students got better idea how to develop their project, what steps he/she must follow to achieve complete implementation	

Name of the Faculty	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
Dr S V N Sreenivasu- Cloud Computing	Teaching through Flipping Classroom	It involves encouraging student for presentation of different concepts from the syllabus as a part of revision. Flipping the classroom is an effective teaching method. In this technique, the students are made active participants of the learning process by passing the onus of learning on them, it requires the teachers to relegate to the role of resource providers and the students take the responsibility of gathering concepts information. Using various tools of technology the students are encouraged to constructing knowledge, fill in the information gaps and make inferences on their own as and when needed.	Teaching using this technique, responsibility is on the group of students are the educators play to the role of guides, mentors, supervisors for the students. It also teaches students empathy, negotiation skills, teamwork, and problem-solving.	

Name of the Faculty	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
<p>Dr S.V.N.Sreenivasu</p> <p>Machine Learning</p>	<p>Teaching through Alumni Interaction</p>	<p>It involves sharing knowledge by alumni working as a software engineers in IT Industry with their juniors on practical grounds. How to apply the principles of software engineering to the design, development, maintenance, testing, and evaluation of software can be learned. There is much discussion about the degree of education and or certification that should be required for software engineers.</p>	<p>Teaching using this technique, various aspects of the subject actually how they are used while developing a project is easily understood by the students.</p>	

Name of the Faculty-Course	Type of Innovation in Teaching & Learning Method	The Objective of the Innovation	Significance Results Observed	Template
O.Aruna - JAVA (JDoodle)	Teaching through Virtual Labs	It involves learning of theoretical concepts of Software Engineering with help of virtual environment so that students will get better understanding of subject. Using Virtual labs first concepts are explained to students and then they are tested for their knowledge on the very same concepts.	Teaching using this technique makes teaching and learning interesting for students. They get involved in lessons so that they can answer the quizzes at the end.	
Shaik Rafi - DS (EBOX)	Teaching through Virtual Labs	It involves learning of algorithms and programming concepts with the help of i-learn, i-Learn Learning Resources in virtual environment of E-Box where the students can able to listen the videos and analyse their skills with i-Explore, i-Analyse and practice their programmes in i-practise	Learning using this technique makes students to develop their analytical skill which helps to get bright future in their career	

Innovative Teaching Methods	Methods /Tools used	The Objective of the Innovation			
Learning by Technology	Google Blogs	Few faculty members have also created their own blogs wherein they upload study material relevant to their subjects.			
		The links are shared with the students and the contents are openly accessed by all students			
		Name of Faculty	Google sites URL	Subjects available in sites	
		Dr. S.N.Tirumala Rao	Sighakollitirumalarao.blogspot.com	CO,UNIX	
		Dr. B.Jhansi Vazram	Jansibollanec.blogspot.com	CNS,FLAT	
		Dr.S.V.N. Srinivasu	drsrinivasu.blogspot.com	SQAT, SE, IOT,CLOUD COMPUTING	
		Dr.G. Syam Prasad	syamprasad.gudapati.blogspot.com	CD,FLAT	
		Dr.T.V.Sai krishna	drsaikrishnanec2021.blogspot.com	SE	
		Dr.K. Lakshminadh	drklmn7.blogspot.com	NMS,SQAT,SRE	
		Dr.S.Siva Nageswara Rao	drssnr.blogspot.com	MC,WNMC	
Dr.M.Venkata Reddy	venkatarreddy2021.blogspot.com	DWDM			

Innovative Teaching Methods	Methods /Tools used	The Objective of the Innovation		
		G.L.N.Jaya prada	Jayanec.bolgsport.com	MSWD
		M. Sireesha	moturisireesha.blogspot.com	DBMS,SPR
		K. Gnanendra	gnanendrakotikam.blogspot.com	CD
		Sd.Rizwana	syedrizzwana.blogspot.com	AJWT, BDA,DS
		SK.Khaja Mohiddin Basha	Skkmbasha.blogspot.com	DS
		G. Lakshmi Narayana	lakshminarayananec2020.blogspot.com	CN
		Shaik Rafi	rafishaik786.blogspot.com	Python, DS,DAA
		O. Aruna	arunasris.blogspot.com	MASN,JAVA
		M. Satyam Reddy	msrnotes2020.blogspot.com	FEWT
		K.V. Narasimha Reddy	narasimhareddy2010.blogspot.com	STM
		Ch.Anil	anilchintalapudi.blogspot.com	C PROGRAMMING
		K.Arun	arunnec2020.blogspot.com	C PROGRAMMING
		B.Siva Kanaka Raju	sivakanakarajunec2021.blogspot.com	OS

Innovative Teaching Methods	Methods /Tools used	The Objective of the Innovation		
		Sk.Sameerunnisa	sameerunnisa.blogspot.com	CD,DAA,OS
		A.Thanuja	thanujanec2021.bolgspot.com	C PROGRAMMING
		U.Vijay Kumar	vijaykumarnec2021.blogspot.com	PYTHON,C
		N. Ananth Rami Reddy	ananthnec2021.blogspot.com	JAVA
		Y.Bhagya Lakshmi	ykreddy333.blogspot.com	C PROGRAMMING
		R.Dileep Kumar	dilliproddanec2021.blogspot.com	DBMS
		T. Venkata Manohar	venkatamanoharnec2021.blogspot.com	UML
		B.Rama Krishna	brknec2021.blogspot.com	JAVA
		G.Venkateswara Rao	gvronce2021.blogspot.com	
		Y.Chandana	chandananec2021.blogspot.com	DWDM
		M. Ramakrishna Reddy	ramakrishnareddyec2021.blogspot.com	OS
		D. Srinivasa Rao	dsrneccse2021.blogspot.com	
		G. Srinadh	srinadhneccse.blogspot.com	

Innovative Teaching Methods	Methods /Tools used	The Objective of the Innovation		
		A. Janardhana Rao	janardhan.nec.blogspot.com	BDA
Virtual Teaching	Google Classroom	<p>Creating a Google classroom using Google app. Students are made to join as members of the Google classroom. Lecture materials, Assignments, Quiz questions are posted in the online classroom.</p> <p>Many faculty members are using Google Classroom for organizing and managing online classes.</p>		
	Microsoft Teams	<p>An online class is a course conducted over the Internet. They are generally conducted through a learning management system, in which students can view their course syllabus and academic progress, as well as communicate with fellow students and their course faculty. These classes can be recorded for future reference.</p>		
	Virtual Labs	<p>Lab experiments are recorded and the demo videos are shared with the students. This is done mainly for Data Structures, Java Programming Languages</p> <p>This practice provides a complete Learning Management System for Virtual Labs where the students can avail various tools for learning, including additional web-resources, video-lectures, animated demonstrations, and self-evaluation.</p>		
Information and Communication Technologies (ICT) Enabled Teaching-Learning	LCD projector	<p>Objectives:</p> <p>To provide direct access to quality instructional resources through computers connected in LAN and Internet. Motivate the students to do electronic presentations (PPT).</p> <p>Facilities:</p> <p>Every classroom is provided with an LCD projector, computer with LAN and internet connection. The faculty member can use a blackboard/ LCD projector judiciously during the lecture delivery. The faculty member can access the database of the digital library from the classroom which consists of course material, recorded video lectures, and animations.</p>		

Innovative Teaching Methods	Methods /Tools used	The Objective of the Innovation
		<p>Outcome:</p> <p>The students and faculty members are engaged in an effective teaching and learning process through the use of digital learning platforms.</p>
	<p>Power point Presentations</p>	<p>This has become a standard norm in the teaching-learning process. Power point presentations are very effective in Communication Skill Development, Improving verbal skills for effective public speaking and Sharing of Knowledge by communicating in regular interactions.</p> <p>Student Seminars:</p> <p>Seminar from the first semester onwards (other than seventh semester) which is being practiced in Sahrdaya helps students to enhance oral expression and presentation skills. This significantly boosts students' confidence and their learning experience.</p> <p>Seminars are a vital part of academic programs that allow developing essential skills and understanding of the subject.</p>
<p>MOOCs</p>	<p>Massive Open Online Courses (MOOC)</p> <p>NPTEL, Coursera</p>	<p>Faculty members are motivated to students to take up online courses for their subjects from various eminent platforms like NPTEL, Coursera, Edex,.</p> <p>NPTEL:</p> <p>The main objective of the National Program on Technology Enhanced Learning (NPTEL) is to enhance the quality of engineering and science education in the country by developing content for undergraduate and postgraduate curricula using video and web-based courses. These courses cover the syllabi prescribed by universities and approved by AICTE.</p> <p>NPTEL Local Chapter:</p>

Innovative Teaching Methods	Methods /Tools used	The Objective of the Innovation
		<p>Our college is having NPTEL Local Chapter: It is a partnership between the college and NPTEL. Many students and faculty members in the department enroll for courses and get certified after the successful completion of the course.</p> <p>Coursera:</p> <p>Many faculty members and students in the department have completed online courses based upon their area of interest. These courses also help the faculty to advance their skills for career development.</p> <p>https://www.coursera.org/</p>
Alumni Interaction	Technical Talk	Alumni students are invited for a technical talk and interact with the students. It is arranged in each semester for the students to know the current industry needs.

Innovative Teaching Methods	Methods /Tools used	The Objective of the Innovation
<p>Project Based Learning</p>	<p>Project work and Report writing</p>	<p>The department has made it a mandatory requirement for every student to design and conduct a project, right from the fifth semester onwards which is beyond the regular curriculum for the semester. This helps the student to have a hands-on approach to the engineering design process and utilize the theoretical aspects they have learnt to develop prototypes and design experiments on what they have learnt..</p> <ul style="list-style-type: none"> ● During the fifth semester, the students conduct a mini-project that focuses on the fundamental software design aspects of computer Science and Engineering. A project group consisting of a maximum of four members under the guidance of a faculty member explores a scientific principle related to their area of interest. The learning process is given more weightage during the assessment and not the results obtained. ● Students in their sixth semester are encouraged to do a project which will help them to learn new technical skills with guidance from an allotted faculty member. They are encouraged to explore a problem and develop a simple prototype or working model that can solve it. This introduces them to the concept of the Engineering design process method. <p>The group of students is also mentored by their allotted guides in preparing a well-structured report. To assist this process, the institution has published a scientific format in which each project group is required to submit the report. This practice helps the students to understand and improve their scientific writing skills. The prepared report is archived in both soft and hard copy and is made available in the department library for peer reference.</p>
<p>Activity Based Teaching</p>	<p>Collaborative Learning</p>	<p>It involves encouraging student collaboration for various projects. We live in a globalized world and collaboration is an essential life skill that is important for all careers and enterprises. Teachers can help foster this skill in the classroom by allowing students to learn, study and work in groups.</p>

Innovative Teaching Methods	Methods /Tools used	The Objective of the Innovation
	Flipped Class Room	It involves encouraging student for presentation of different concepts from the syllabus as a part of revision. Flipping the classroom is an effective teaching method. In this technique, the students are made active participants of the learning process by passing the onus of learning on them, it requires the teachers to relegate to the role of resource providers and the students take the responsibility of gathering concepts information. Using various tools of technology the students are encouraged to constructing knowledge, fill in the information gaps and make inferences on their own as and when needed
	Group discussions	To make students develop communication skills
	Seminars	To make students develop communication skills and reduce the stage fear in them.
	Blended Learning	
	Social Responsibility	To inculcate the social responsibility by participating students in NSS programmes
	Role Play	The results reveal that participants are more enthusiastic to engage in class activities. They also develop social and communication skills through group activities associated with the teaching of ADA. Role play can be a very useful strategy to teach concepts that are perceived as abstract.
	Learning by Doing	

Innovative Teaching Methods	Methods /Tools used	The Objective of the Innovation
	Mind Map	For better understanding and learning of concepts, new technology provides various tools . Students understands how using digital technology tools could help in boosting task efficiency. By using new tools and technology like hive for extracting important insights from huge data in no time can benefit the user in many ways.
Audio-Visual Aids	YouTube videos	The video lectures of specific topics in selected courses were prepared by the course faculty and had the same content as the classroom lectures. Video lectures give students control of the lecture and are portable. Students can replay segments and stop the lecture as they study to understand the content. They can skip segments of topics they know. In effect, they can adjust the instructors delivery speed and topic selection to match their learning pace, especially beneficial to the weak students.
	Digital Library	Faculty and Students can access the class presentations, previous question papers, course Materials and journal resources also from the Digital Library.