



Vel Tech

Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

DEPARTMENT OF INFORMATION TECHNOLOGY

ANNUAL REPORT 2021-2022

School of Computing

Founders

Vel Tech Group of Institutions



Col. Prof. Vel. Dr. R. Rangarajan
Founder & Chairman
B.E.(Elec.), B.E.(Mech.), M.S.(Auto.), D.Sc



Dr. Mrs. Sagunthala Rangarajan
Foundress & Vice Chairman
M.B.B.S

FOREWORD



Col.Prof.Dr.Vel.R.Rangarajan

B.E. (Elec), B.E. (Mech), M.S. (Auto), D.Sc.,
Founder President

&

Dr. Sagunthala Rangarajan

M.B.B.S.,
Foundress President

Vel Tech
Group of Institutions

This year has been the most challenging since Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology was established nearly 24 years ago. Through circumstances largely beyond our control, our University has been forced to change dramatically. I am delighted to see that the department has demonstrated the best qualities in teaching and learning.

It is notable that the department has conducted many events comprising, Faculty Development Program, Webinars and Workshops. I am enormously glad to mention that the department endeavours to achieve Industry-ready student. It gives me great pleasure to see the department has evolved as a unique department blending futuristic needs and developmental skills that are instrumental in facing present day job requirements of students and also for shaping up their personality. It will require all of us, Faculty, staff or student, to continue to strive for excellence in all that we do, and to support one another with, hope and pride in being a part of this exceptional community.

I congratulate the whole department, faculty, staff and students who have strived hard to bring achievement to the department and the institution. This is an outstanding department, which offers the opportunity to redesign the world around and make it even more efficient, connected and sustainable. I believe the department educates the students with this state of art knowledge to transforms the world by designing, building and deploying innovative solutions to real-world problems and provide a scope to deliver real impact for the future of the University in India and beyond. I once again congratulate and look forward for such accomplishment in the future also.



FOREWORD

Vel Tech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology has been making a significant contribution to society since more than two decades, through spreading value-based education keeping the present education system in mind. Department of Information Technology empowers their student-youths with appropriate new age technology mind-set, making them digitally ready for the future, ensuring the students to grab an opportunity in this competitive world.

The department also provides High-tech infrastructural lab facilities, the students will be acclimatized to proficient work culture and enable them to emerge as well- acclaimed professionals that the industry desires to have. To support teachers, the Connected Learning Hub was launched, providing curriculum resources across all year levels. Far-sighted how we pulled together over the past one year, I now feel even more confident about the quality of education being delivered to students in IT department of this esteemed university and this annual report is the witness of the department achievement.

I am delighted to announce this Annual Report of the Department of Information Technology, which illustrates the department's assurance of faculty for enriching students' learning through teaching-centered methods to advancing excellence in academics and research. I congratulate the department faculty members, staffs, and students for the defensible growth to extent new heights every year and I wish that the same enthusiasm may be continued.

-Mrs. Rangarajan Mahalakshmi Kishore



**Mrs. Rangarajan Mahalakshmi
Kishore**
Chairperson Managing Trustee
Vel Tech

FOREWORD



Prof. Dr. S. Salivahanan

Vice Chancellor

**Vel Tech Rangarajan Dr. Sagunthala R&D Institute
of Science and Technology**

Department of Information Technology exemplify its excellence in education and research. The department offer an outstanding student experience, delivering world-changing research, and ensuring a global reputation for excellence. I am extremely delighted to see a blend of academic pursuits and extra-curricular activities provided by the department which is much essential for the personality development of the students. Various club activities have been organized in the department to motivate the students for their self-advancement.

I am glad to see students' participation in many competitions at national level addressing to meet the needs of Industry and society. Faculty in various domains, carry out research and publish papers in reputed journals with high impact factor. Patents and research proposals are submitted by faculty members and granted by government funding agencies. I convey my heartiest congratulations to my colleagues for their achievement during the academic year 2021-2022 and to all the students for their great feats in different fields ranging from NCC, NSS and Sports too. It is heartening to report that our students have not only participated, but also have won several prizes in various inter-collegiate and national level events.

To conclude, I want to encourage faculty and students to continue to make contributions, big or small. I am also delighted to know that faculty and students are reaping the benefits of online learning modules and e-resources. Again, I humbly appeal to the faculty and students to have optimal utilization of these ICT Initiatives of e-learning to widen their knowledge based. I am thankful to all the members of the teaching fraternity and non-teaching staff for their extreme contribution and entire support to the organization.

-Prof. Dr. S. Salivahanan



Dr.C.Mahesh
M.E., Ph.D.,
Professor & Head
Department of Information
Technology

PREFACE

I am happy to share with you the fresh edition of our Annual Report for the academic year 2021-22 from the Department of Information Technology. It's been a fruitful association of more than a decade with VelTech and it's a matter of great privilege and pride to serve as Head of the department since 2014. The motto of our department is to constantly reinvent ourselves and in the process strive to offer the best to our students. On this enthusiastic note, we present to you a record of our previous year's academic and research progress, key achievements by our faculty & students and our vision for the future.

Our institution is founded on the principles of innovation and discipline and we echo this principle in all our department endeavors. Students are encouraged to experiment new ideas with guided supervision by the faculty team. The field of information technology is highly dynamic and to keep pace with the change students were exposed to guest talks by experts, encouraged to take part in tech events well-guided by faculty members. With a view to foster a culture of research, faculty members contributed to conference presentations and publications.

As a testimony to our efforts, our students have got placed in reputed IT firms. Each day we strive to integrate best practices to create a learning environment which is rich in sound knowledge and smart talent. As the saying goes 'Today is the opportunity to build the Tomorrow you want', we are determined to create the workforce of tomorrow by our today's efforts.

My heart felt gratitude to the founders of the institution, the higher officials and each and every individual who has helped us add value to the students.

About Information Technology

Information Technology is the study of computers and technology, which develops technocrats and software professionals. Students learn Computer Programming, Software and methods to Program Electronic equipment. Without the role of Information Technology, the impact of Technological advancements on human life will not be completed. Hence all-pervading nature of Information Technology has culminated with huge demand for education in the said field. The steady rise in the number of students opting to specialize in Information Technology is a testimony for that. Education in Information Technology imparts the knowledge through which the needs of users within an organizational and societal context can be met.

Mission

To provide strong academic program in a state-of-the-art environment to advance theoretical, experimental, and applied computer science through universally recognized research by faculty and students, that prepares graduates for flexible career paths as computer scientists in industry, government and academia and continuing advancement in computing and support society by participating in and encouraging technology transfer.

Vision

To evolve as a Center of academic excellence in providing globally standard education and research in the field of Information Technology and to mould young graduates into competitive, innovative, self disciplined and visionary computer professionals while maintaining a commitment to diversity and humanity.

Pedagogy

The academic curriculum prepares students for flexible career paths as computer scientists in industry, government and academia and continuing advancement in computing to support society by participating in technology.



Programme Educational Objectives

After 3-5 years from the year of graduation, our graduates will,

- 1 Achieve technical/managerial position in business, IT industry or government enterprises and understand ethical, legal and public policy issues.
- 2 Think critically to solve IT and related real-life/time problems.
- 3 Demonstrate sustained learning and adapting to a constantly changing field through graduate work, professional development and self-study.
- 4 Pursue higher studies in information security, information systems, telecommunications and other related information technology areas.

Programme Outcomes

On successful completion of the Programme, the Graduates will be able,

- Apply knowledge of mathematics, science and engineering fundamentals in information technology to solve a complex problem.
- Identify, analyze, formulate a problem and define the computing requirements through a literature survey to solve the complex problem.
- Design hardware and software systems, components, or processes to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- Design and conduct experiments, and to organize, analyze and interpret data to produce meaningful conclusions through research-based knowledge.
- Use the techniques, skills, and modern engineering tools necessary for complex IT practice.
- Apply the knowledge of contemporary issues in the social sciences and humanities using computational tools.
- Show the understanding of impact of engineering solutions in a global on the society, economic, environment.
- Develop an understanding of professional, legal, and ethical issues and responsibilities.
- Work effectively as an individual or as a member with responsibility to function on multi-disciplinary teams.
- Communicate effectively in speech and writing, including documentation of hardware and software systems.
- Demonstrate an ability to acquire new knowledge in the IT discipline and to engage in life-long learning.
- Apply engineering and management knowledge and techniques to estimate time and resources needed to complete a computer engineering project.

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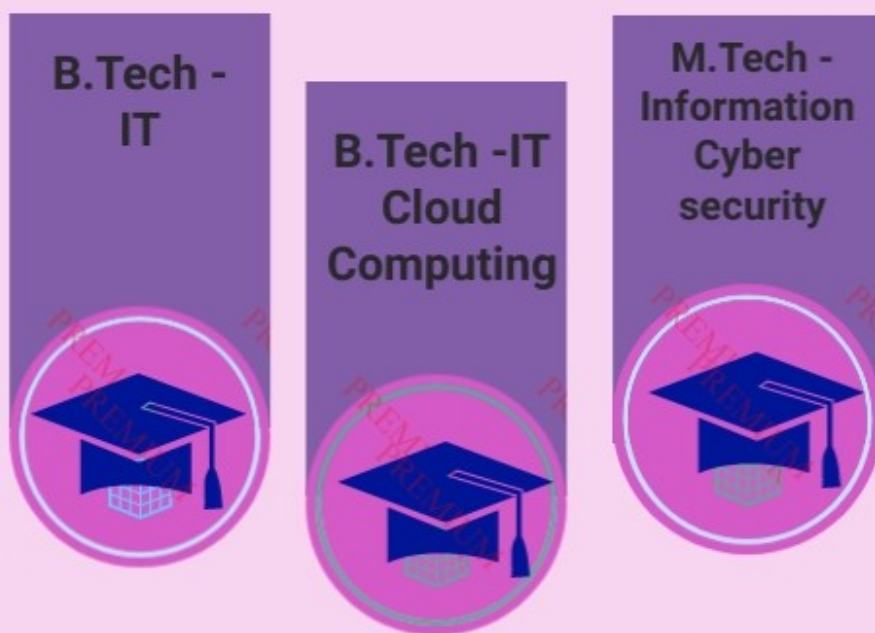
1

ABOUT THE DEPARTMENT

The department of Information Technology was started in 1998 to instill academic caliber in which new ideas and research proliferate to lead the innovations of IT industries. The four years under graduate program in Information Technology is deliberated to train the students in gaining both basic and advanced courses related to current technology.

Our team comprises of highly qualified and dedicated teaching faculty supported by technical support team keeping campus integrated with the department. Our forthcoming entrepreneurs, scientists, executives, techies are nurtured and motivated with innovatory approach. Besides theoretical knowledge, the program ingrains personality development skills, logical reasoning, analytical thinking, communication skills, problem solving skills and teamwork capabilities.

List of Programmes Offered



Students Intake



Under Graduate Programme

Our B.Tech (IT) program provides graduates with the skills and knowledge to take on appropriate professional positions upon graduation. It also assists the graduates to attain leadership positions and successfully pursue post-graduate studies and research in the field. The program is designed in such a way that the graduate develops a practical understanding of the technologies and acquires expertise for a successful career.

Core Areas of IT

- Programming
- Networking
- Virtualization Technologies
- Cloud Computing
- Machine Learning
- Web Systems
- Cyber Security
- Ethical Hacking
- Human-Computer Interaction
- Mobile Application Development



Courses Offered in UG

Department of Information Technology

UG

30+
courses

DOMAINS

Machine Learning
Deep Learning
Internet of Things
Database Technology
Data mining
Biometrics
Cyber Security
Cloud Computing

Summer Semester 2020-2021

Program Core 14

Program Elective 8

Allied Elective 9

Institute Elective 6

Total number of courses offered 37

No of Students who registered

Allied Elective Courses : 450

No of Students who registered 360

Institute Elective Courses :

Winter Semester 2020-2021

Program Core 11

Program Elective 9

Allied Elective 6

Institute Elective 5

Total number of courses offered : 31

No of Students who registered

Allied Elective Courses : 360

No of Students who registered 300

Institute Elective Courses :

Post Graduate Programme

The postgraduate program M.Tech – Information and Cyber Security is offered by the department to cover advanced topics of different information Security courses such as,

- Modern Number Theory
- Hacking Techniques and Incidents Response
- Modern Cryptography
- Principles of Information Security
- Cyber Security Principles
- Intrusion Detection Systems
- Bit-coin and Crypto-currency Technologies



About

The courses are designed in such a way that the students are exposed to theoretical concepts complemented by related practical experiments. In order to provide more thrust to research, students are required to give a research seminar and carry out research projects on any related topics of their specialization.

The Department has the state of the art computing facilities to enable the students, faculty and researchers to achieve their task with ease of operation in their area of interest.

Department Highlights

**Provides
state-of-the-art
technical
education**

**Associated
with IEEE
Robotics
and
Automation Society**

**Dedicated
quality
teaching**

**Alumni
are employed in top
reputed companies
such as TCS,
Infosys, Accenture**

**Associated
with
"IT
INNOVATORS
ASSOCIATION",**

Laboratories



Seminar Hall



Class Rooms

**Our department classrooms are equipped with LCD projectors,
Class ambience with proper ventilation.**



Faculty Cabins

In our department, individual cabins are allocated for every Faculty. Cabins are equipped with Ethernet facilities and adequate power supply.



Students Feedback



Vaidehi Rahangdale

Vel Tech University has provided me with a number of opportunities to grow and explore my skills. I have always found a positive and healthy environment and the faculties are highly supportive. My all faculties have excelled in their professions and are ready to help you do the same. VelTech provides great exposure to students by organizing different activities which are very much helpful for every student for deciding their future field. The endeavor and enthusiasm of Training & Placement Cell is very appreciable. Placement cell took a number of measures to ensure that we all students get properly placed and made best of opportunities available for us. I am really thankful to the Training and Placement Cell for giving ample number of opportunities to help me get through best of the Companies. I feel very happy that I got this great opportunity to be a part of this Institute. It has added a number of values to my life.

Students Feedback



Amulya

I am happy to share my thoughts on the college with you. My overall experience has been fantastic thus far, and the college has a fantastic infrastructure. Your college has given me numerous opportunities to develop and expand my abilities. The combination of athletics and studies has always been really beneficial to me. I am pursuing a career in the United States at the University of North Texas, where I am earning a Masters of Technology in the Computer Science Department. I am grateful to my department head, mentor, and employees for assisting me in achieving this goal in my life.

Students Feedback



Jayasurya

"I am honored to pursue my career at my university, which has offered me with a fantastic network of opportunities and avenues to the professional life that I had envisioned for the majority of my life. I wish I could go back in time and start from the beginning so that I could relive everything over and over again. Veltech inspired me to not only pursue my career but also to aid those who are deserving, and on the last day, I swore an oath to share my knowledge with everyone, especially those who cannot afford an education. Thanks to my university, professors, friends, and coworkers for making me brighter from time to time.

Students Feedback



Ankit Pradhan

VelTech has been more of a community to me rather than just an institution. The institute has imparted an enormous knowledge on varied fields throughout the academic period and have always helped us to bring the best among ourselves through every possible method of intra and inter events. I have enjoyed some special moments during my engineering years and all these moments are covered with laughter and learning and I am very grateful to all our faculty members and especially the HOD. The tie up with the abroad universities provides an opportunity to the students to interact with various esteemed colleges situated throughout the globe through the Research Internship and am glad to be a part of it in my final year of course from the East Stroudsburg University of Pennsylvania, USA. All our faculties have been the most helpful and cared for us like a responsible parent throughout and all these have helped me to fetch an off-campus placement as a Enterprise Implementation under Solutions at OneDirect - a SaaS oriented Customer Experience Management company with an annual pay of 7.5 CTC. The best part of the college is the acceptance of various cultures and promoting through multi-cultural events so that we develop the habit of respecting each other and understand humanity even in a better manner and make a better living for the environment.

Students Feedback



Bhavishya

My department provides really good placement opportunities combined with many internship programs, Seminars by expertise and other placement programs. Got placed in Infosys



Vibek
Jyoti Roy

I'm exceptionally appreciative to be a part of such reputed university like Vel Tech from where I came to be familiar with this extraordinary opportunity. Global Relation Department and Department of Information Tecgnology of Vel Tech University helped me a lot in the applying system, documentation planning. They had likewise provided me with the help of high arrangement machine arrangement and had allocated internal guide for help in project during internship period.

4 PLACEMENT

3 Offers



Soumik Datta

Verizon
9.6 LPA

Wipro
3.5 LPA

Cognizant
4.25 LPA

3 Offers



Bersika M.C Sweety

Wipro
3.5 LPA

Capgemini
4 LPA

Cognizant
4 LPA



Srija Gattu

Accenture
4.5 LPA

Capgemini
4 LPA



Yugandhar Surya

Cognizant
4 LPA

Capgemini
4 LPA

Wipro
3.5 LPA



L. Pradeep

4 LPA
Cognizant



Adarsh



Vibek Jyoti Roy

Wipro

3.5 LPA



Praveen Kumar M

RapidData
Technologies

3.5 LPA



Sharmila

Wipro HR
Services

3.3 LPA




Samudrala Mythri

HCL
4.75 LPA

D.Gowhtam


Tata Exlsi
4 LPAMohamed
Hisrakhan.S.SCognizant
4 LPA



Infosys

6.25 LPA


P. Bhavishya



Cognizant

4 LPA


Vaidehi Rahangdale



DXC
Technology

4 LPA

K. Rajitha



Cognizant
4 LPA

Anil Kumar



Nithya Bojja

5 LPA

Harman Samsung
Company

3.5 LPA

CGI



Bala Chandra Sekar
Reddy

HCL

4.75 LPA



N. Sathish Kumar

Wipro

3.5 LPA



Krishna kumar

Wipro

3.5 LPA



N. Sathish Kumar

Cognizant
Gen C
4 LPA



Abhishek Padhi

Capgemini
4 LPA

4 LPA
Mind Tree



Shubham kumar



Ramya S

Cognizant
Gen C
4 LPA



Ch.Pavan Kumar

Mind Tree
4 LPA



Thota Bharathi

5 LPA

Harman Samsung



Jaganathan V

Cognizant
4 LPA



Siddhu Tatikonda

Cognizant
4 LPA



TAGIT

4.5 LPA

Vinay kumar

Nihilent
4 LPA

Arijit Majumder

Wipro HR
Services
3.3 LPA

S. Sugadev

Wipro HR
Services

3.3 LPA

Cheetewar
ManithejAtos
3.1 LPA

B.Prakash

Atos
3.1 LPA

Mona N

Conducting technical events such as workshop, Seminar, FDP, Conference is the regular practice of IT department. In this academic year 2020-2021, events such as Workshops, Seminars, faculty Development program were organized by our faculty members. These activities help students to develop problem-solving, reasoning, critical thinking, creative thinking, communication, and collaborative abilities.

ILIZIAM Organized in 2021-2022



Department of Information Technology in association with IT innovator's association and IEEE Computational Intelligence Society jointly organized intra-department Annual Techfest titled "ILIZIAM'21" on 30th October, 2021, at Vel Murugan Auditorium. The Inauguration of the Tech Fest began with Prayer song and Lighting Lamp followed by Multimedia Presentation. It includes technical and non-technical events. The Technical events such as paper presentation, quiz, code debugging were conducted to enrich student knowledge. Both Winners and runners were provided with trophy and a certificate.

Technical Club Inauguration in 2021-2022

Department of Information Technology in association with IT innovator's association and IEEE Computational Intelligence Society jointly inaugurated Technical Club, on 6th April, 2022. This provides an opportunity for student's community to gain technical knowledge, skills and experience in leadership, communication, problem-solving, presentation and public speaking. This promotes hands-on learning and also engages students in problem solving and higher order thinking



Industrial Visit in 2021-2022



Department of Information Technology in association with IT innovator's association and IEEE Computational Intelligence Society jointly organized an industrial visit to U.R.RAO Satellite Centre, Bangalore, on 8th April, 2022. URSC is a leading Organization of ISRO for building satellites and developing associated satellite technologies. It provides an opportunity for student's community to carry out their project work as part of their academic curriculum. In order to make use of good talents from the academic institutes, professional students of engineering category have been given permission to perform project work in the area of design and development which are useful to the Organization.

Guest Lecture Organized in 2021-2022

Department of Information Technology in association with IT innovator's association and IEEE Computational Intelligence Society jointly organized a Guest Lecture on Deep Learning for Computer Vision, on 26th March, 2022. The resource person was Dr.Dharbaneshwar.S.J, Senior Data Scientist, ENTROPIK Technologies Pvt Ltd. This provides an opportunity for student's community to gain knowledge on creation of more accurate and complex computer vision models using Deep Learning.



Industry / Higher Institute Learning Interaction in 2022

Department of Information Technology offered an Industry/Higher Institute Learning 1 credit course. The course was offered between 7th March, 2022 to 11th March, 2022. The course title was "Introduction to Data Science" and faculty who handled the course was Dr.Jeyaprakash, East Stroudburg University, US. The course included 15 hours of instruction. The number of students who registered and benefitted by this course were 55.



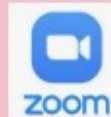
Department of Information Technology offered an Industry/Higher Institute Learning 1 credit course. The course was offered between 18th April, 2022 to 22nd April, 2022. The course title was "1157IT902 - Blockchain, Cryptocurrencies and Smart Contracts" and faculty who handled the course was Dr.Saravanan Muthaiyah, Multimedia University, Malaysia. The course included 15 hours of instruction. The number of students who registered and benefitted by this course were 44.



Department of Information Technology offered an Industry/Higher Institute Learning 1 credit course. The course was offered between 15th April, 2022 to 22nd April, 2022. The course title was "1157IT903 - Data Analysis and Business Intelligence for the Digital Economy" and faculty who handled the course was Dr.Saravanan Muthaiyah, Multimedia University, Malaysia. The course included 15 hours of instruction. The number of students who registered and benefitted by this course were 53.



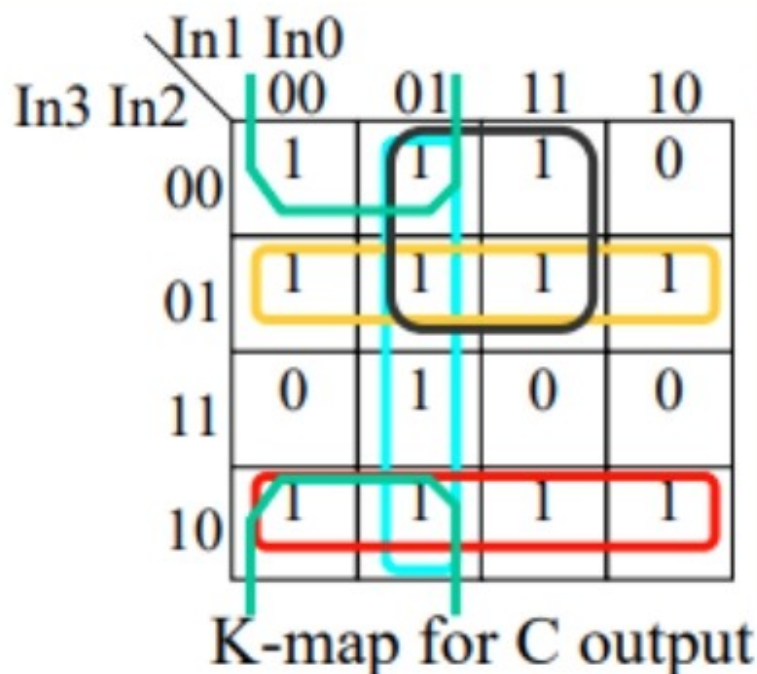
Innovating the teaching methods in the Engineering scope is a mandatory activity. Our department followed various pedagogical activities for the student in order to create interest over the courses and the developing technologies. Due to Covid-19, our faculty used video conferencing platforms such as zoom, Microsoft Teams to deliver online lectures.



Innovative teaching learning practices have been used by our faculty include Lecture method, Project based Learning, Student Seminars, Assignments, Problem based Learning, Experiential learning, Practical Learning, Audio-Visual presentations and Collaborative Learning, Participative Learning.

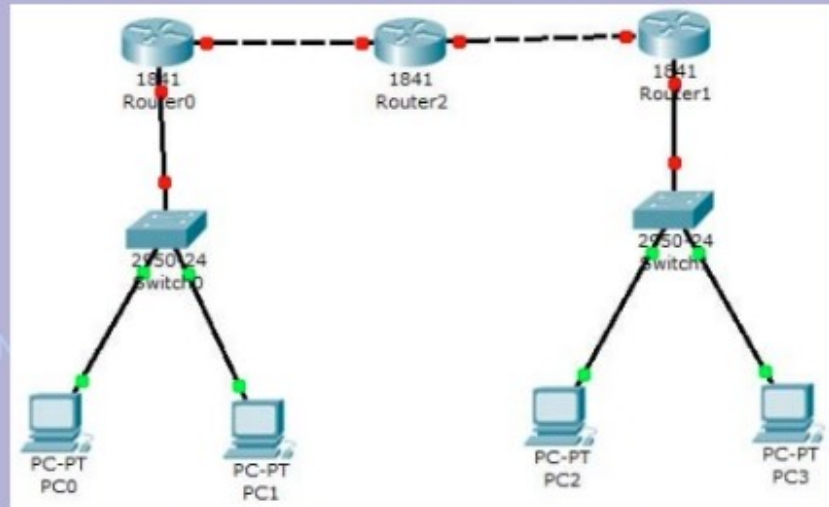
1 Project Based Learning

Our Faculty Ms. Deepa adopted a student centric method- Project Based learning for the course Computer Organization and Digital Design. She has made the students to design digital circuits by simplifying the Boolean functions.



1 Project Based Learning

Our Faculty Ms. Lijetha C Jaffrin adopted a student centric method- Project Based learning for the Institute Elective course Computer Networks. She asked the students to Configure a Network Topology using Packet Tracer tool.



TEACHING AND

Our Faculty Ms.Ramya adopted a student centric method- Project Based learning for the course Cloud Strategic Planning and management . She asked the students to develop Project based on Cloud Computing Concepts.

MODULES

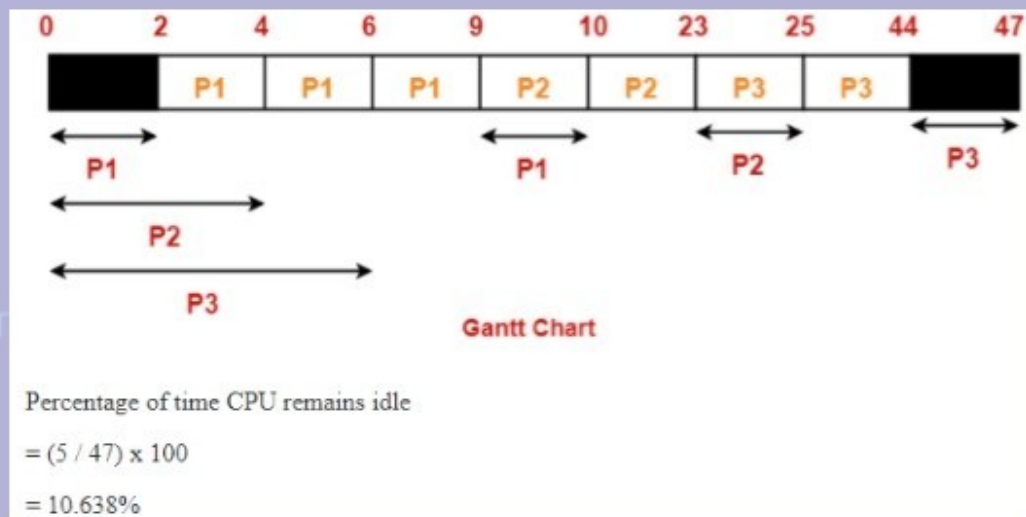
- Data upload
- Access control
- Block chain



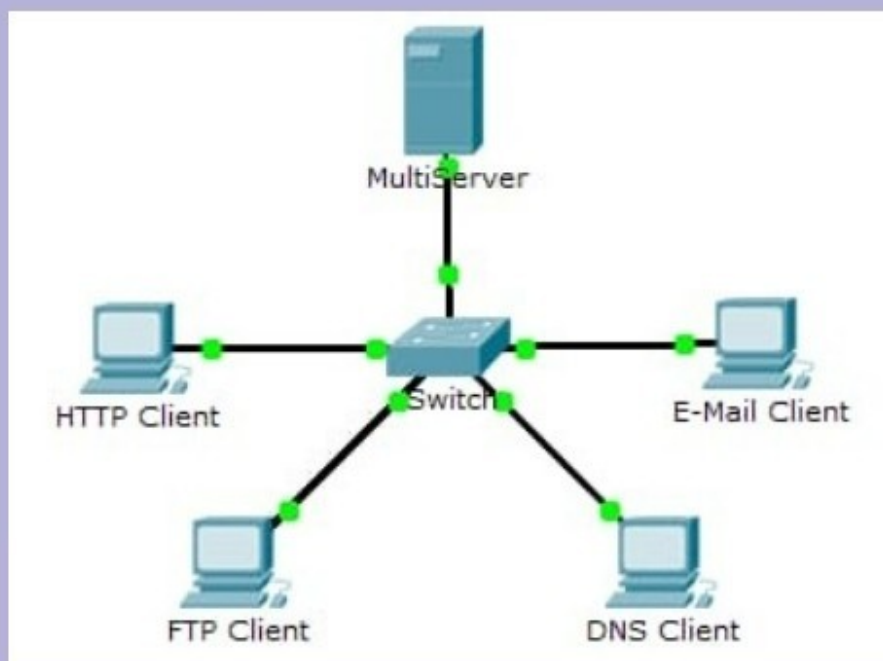
INNOVATIVE TEACHING AND LEARNING METHODOLOGIES

2 Problem Based Learning

Our Faculty Ms. JDeepa adopted a student centric method- Problem Based learning for the course Operating Systems . She asked the students to implement design CPU Scheduling algorithms.



Our Faculty Mr. P.N.Karthikayan adopted a student centric method- Problem Based learning for the course Computer Networks . He asked the students to simulate the protocol and understand the working principle behind the protocol.



3 Participative Learning

Our Faculty Ms.D.Ramya adopted a student centric method- Participative learning for the course Cloud Strategic Planning and management. A Debate was conducted on the topic "Cloud Computing in the growth of Organization".

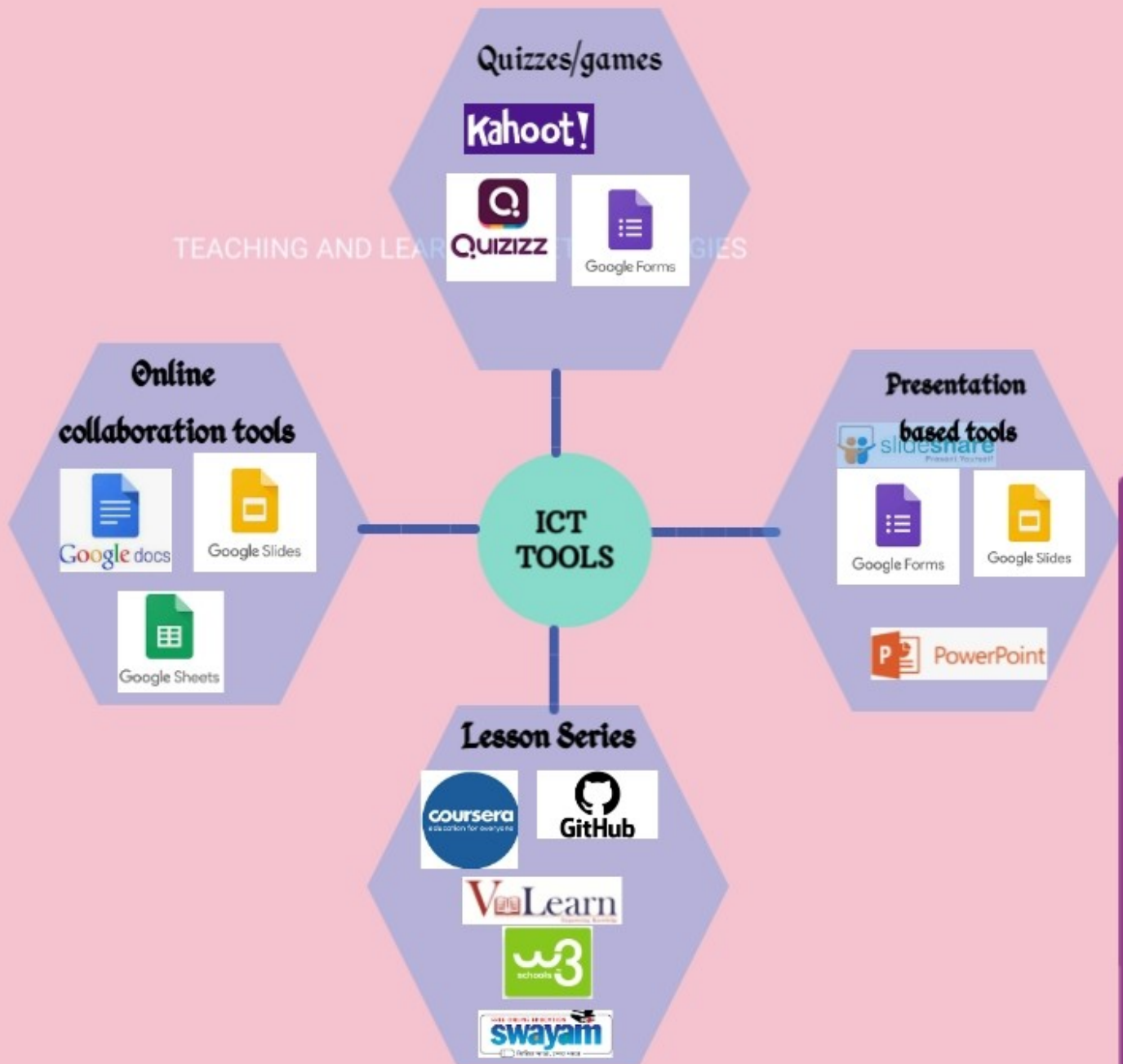


Our Faculty Ms.J.Deepa adopted a student centric method- Participative learning for the course Operating Systems. She conducted Group Discussion on the topic "real time examples of various scheduling algorithms". Various types of scheduling algorithms and its real time examples as well as when and where to apply which algorithm is discussed.



INNOVATIVE TEACHING AND LEARNING METHODOLOGIES

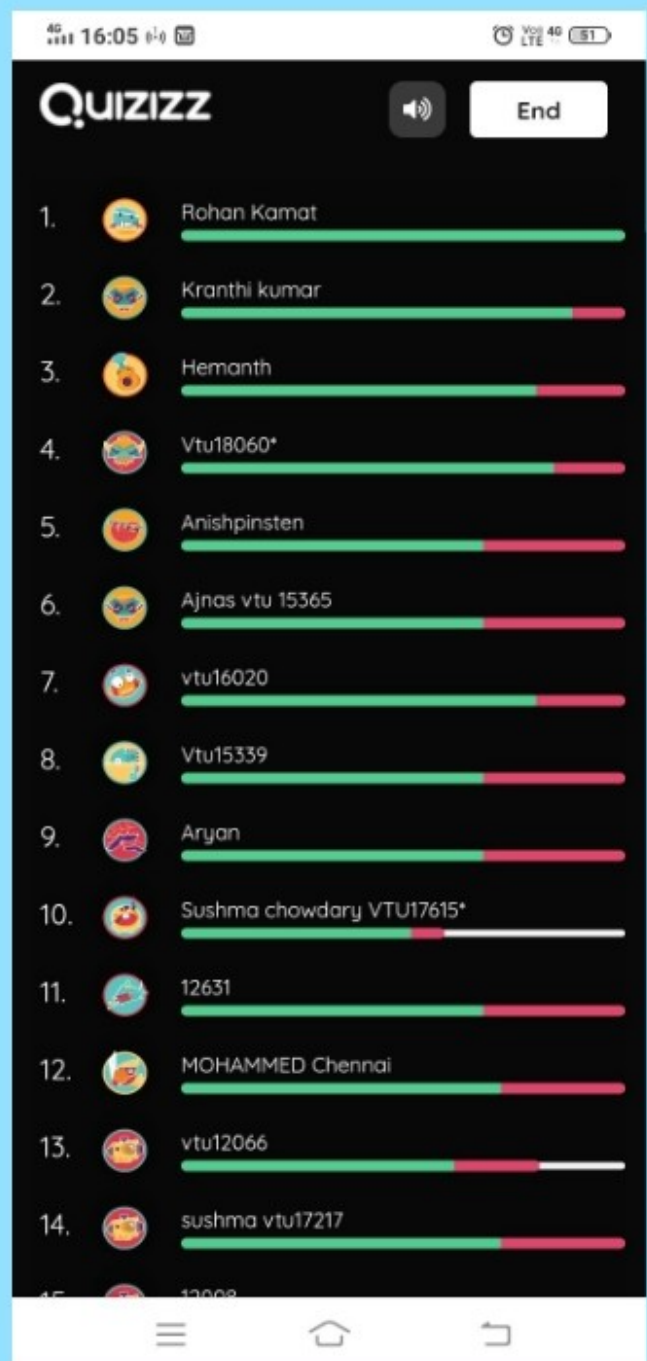
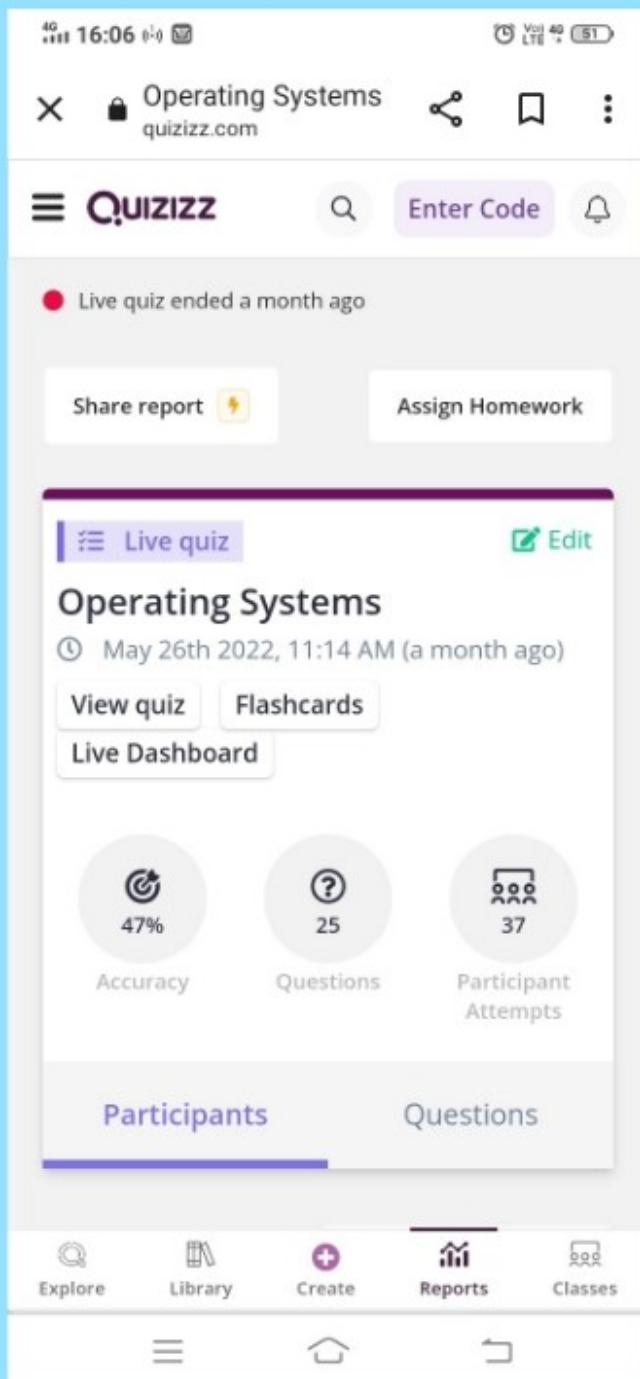
ICT tools help teachers create more 'Student-centric' learning environments. Our department faculty adopted many ICT tools which increased students' motivation, self-confidence and self esteem to learn and connected students to many information sources, supported students' in-depth learning. Various ICT tools adopted by our faculty were Presentation based tools, Quizzes/games, Videos, Lesson Series, Online collaboration tools, audio lectures etc.



INNOVATIVE TEACHING AND LEARNING METHODOLOGIES

Adopting ICT Tools in Teaching

Our Faculty Ms.J.Deepa adopted a ICT tool-Quizizz, a Quiz tool for the course Operating systems. She conducted quiz on DeadLock concept and this motivated students to understand concepts clearly.



INNOVATIVE TEACHING AND LEARNING METHODOLOGIES

Adopting ICT Tools in Teaching

Our Faculty Ms.Lijetha C Jaffrin adopted a ICT tool- Kahoot, a quiz tool, for the course Computer Networks. She conducted quiz on concepts of Basics of Computer Network , Network Devices, Network Topologies, LAN, WAN, MAN and this motivated students to understand concepts clearly.

The screenshot shows a Kahoot! quiz interface for 'COMPUTER NETWORKS UNIT-II'. It displays a list of 15 questions. Questions 1-4 are about data transmission modes and types. Questions 5-15 are about the OSI model layers and digital signals. The interface includes a progress bar (3/20), a star icon (0), and a list of questions with their respective images and text.

COMPUTER NETWORKS UNIT-II

3 20 0

Lijetha

Questions

1 - Quiz
what type of data transmission modes is this most like?

2 - Quiz
in what transmission modes can error checking occur?

3 - Quiz
what type of data transmission is this most like?

4 - Quiz
what type of data transmission mode is this most like?

5 - Quiz
Layers in the OSI model

6 - Quiz
Which TCP/IP model layer is the same as the OSI model's Network layer?

7 - Quiz
Define the 3rd OSI Model Layer

8 - Quiz
What address allows packets to be routed at the Network layer in the OSI model?

9 - Quiz
Frames are found at which layer of the OSI Model?

10 - Quiz
How many layers are there in the OSI Model?

11 - Quiz
Digital signals consist of

12 - True or False
Digital signals are continuous

13 - Quiz
The device used to translate analog to digital signals is a

Our Faculty Ms.Lijetha C Jaffrin adopted a ICT tool-Kahoot, a quiz tool, for the course Internet Of Things. She conducted quiz on concepts of IOT applications, Building Blocks of IOT and Pillars of IOT and this motivated students to understand concepts clearly.

The screenshot shows a Kahoot! quiz interface for 'Building blocks of IOT'. It displays four options: 'All the above', 'Processors', 'Sensors and gateways', and 'Applications'. The 'All the above' option is selected, indicated by a green checkmark.

Kahoot!

Building blocks of IOT

All the above

Processors

Sensors and gateways

Applications

The screenshot shows a Kahoot! quiz interface for 'Four pillars of IOT'. It displays four options: 'WSN, GPRS, WAN, CDMA', 'WSN, SCADA, RFID, M2M', 'None of the above', and 'Sensors, actuators, wsn, scada'. The 'WSN, SCADA, RFID, M2M' option is selected, indicated by a green checkmark.

Kahoot!

Four pillars of IOT

WSN, GPRS, WAN, CDMA

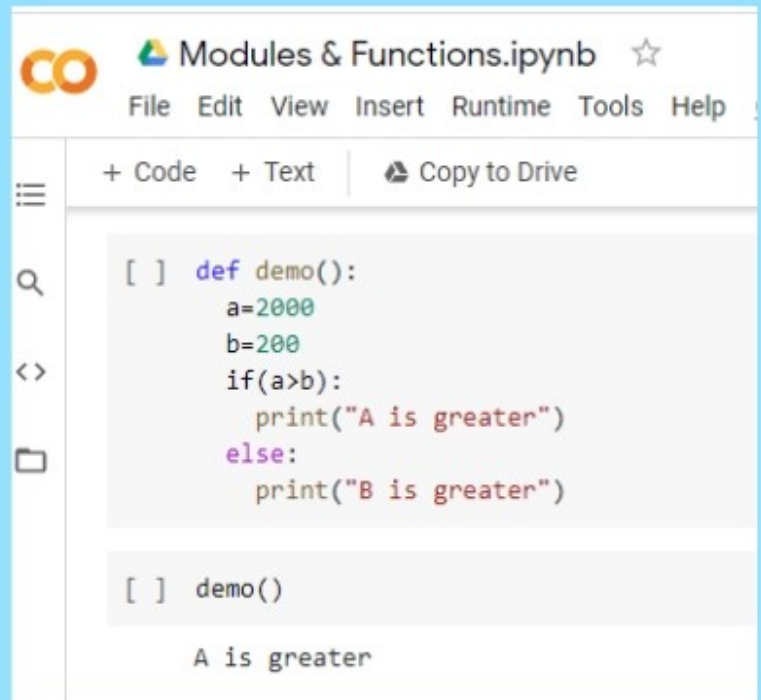
WSN, SCADA, RFID, M2M

None of the above

Sensors, actuators, wsn, scada

Adopting ICT Tools in Teaching

Our Faculty Ms.M. Dhilsath Fathima adopted a ICT tool-Google Colab, an application tool for the course Python Programming Fundamentals. She asked the students to implement the concepts Modules and functions in Python using Google Colab platform.



```
CO Modules & Functions.ipynb ☆
File Edit View Insert Runtime Tools Help

+ Code + Text | Copy to Drive

[ ] def demo():
    a=2000
    b=200
    if(a>b):
        print("A is greater")
    else:
        print("B is greater")

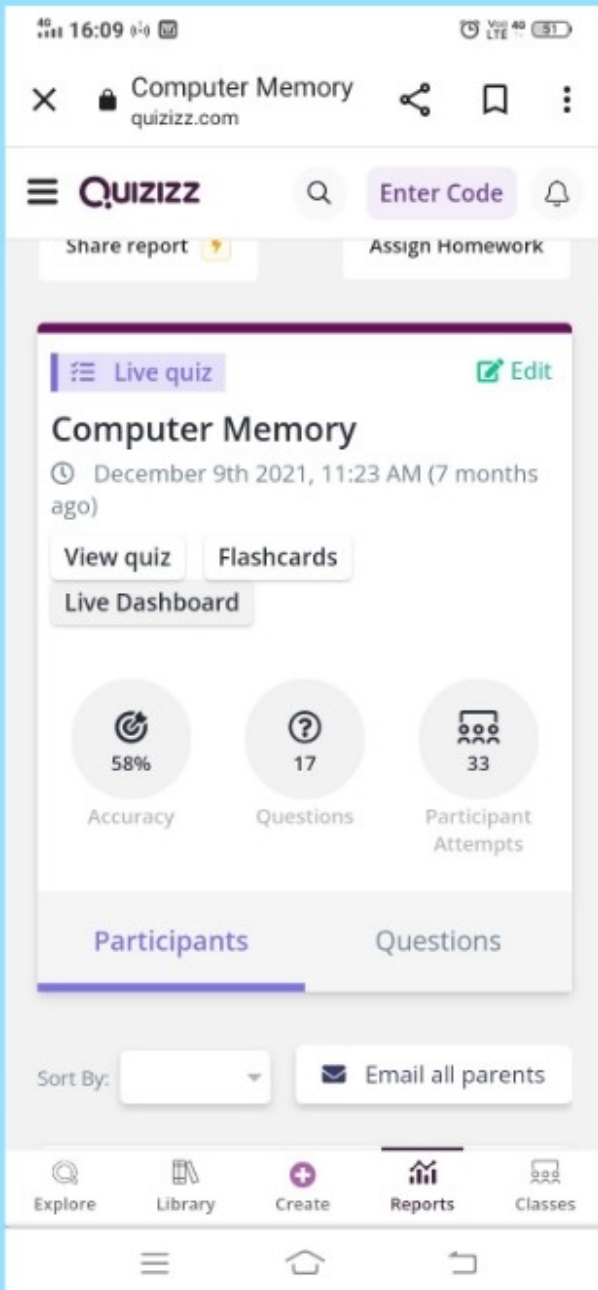
[ ] demo()

A is greater
```

INNOVATIVE TEACHING AND LEARNING METHODOLOGIES

Adopting ICT Tools in Teaching

Our Faculty Ms.J.Deepa adopted a ICT tool-Kahoot, a Quiz tool for the course Computer Organization and Digital Design. She conducted quiz on Computer Memory and this motivated students to understand concepts clearly.



INNOVATIVE TEACHING AND LEARNING METHODOLOGIES

Adopting ICT Tools in Teaching

Our Faculty Ms.D.Ramya adopted a ICT tool-Kahoot, a Quiz tool for the course Cloud Computing strategy Planning and Management. She conducted quiz on the concepts of Cloud computing types, Distributed computing and motivated students to understand concepts clearly.

The image shows two Kahoot! quiz result screens. The left screen is titled 'Types of cloud services' and shows a correct answer for 'All the above' with a green checkmark. The right screen is titled 'Deployment models in cloud' and shows a correct answer for 'All the above' with a green checkmark. Both screens display 'Correct' and 'Great job!' messages at the top.

Correct Great job!

Kahoot!

Types of cloud services

<input type="checkbox"/> Saas	<input type="checkbox"/> IaaS
<input checked="" type="checkbox"/> All the above	<input type="checkbox"/> PaaS

Next

Great job!

Kahoot!

Deployment models in cloud

<input type="checkbox"/> Public	<input type="checkbox"/> Private
<input type="checkbox"/> Hybrid	<input checked="" type="checkbox"/> All the above

Next

In our department, faculty and research scholars continue to excel in research by publishing more. Our faculty and research scholars published papers in reputed international and national journals. They also presented their research papers in international and national conferences. Most of our Faculty members were pursuing Ph.D. in reputed universities. Various areas of research interest include Data science, Machine Learning, Cloud Computing, Networks, Image Processing, software engineering, distributed database systems, healthcare systems, and Internet of Things etc.

Faculty Publications

Our faculty members published papers in various reputed journals like Journal of Sensors, International Journal of Ambient Energy, International Journal of Advanced Research in Engineering and Technology, International Journal of Intelligent Engineering and Systems, International Journal of Advanced Computer Science and Applications, Revue d' Intelligence Artificielle, Springer, Lecture Notes in Electrical Engineering, Cybernetics and Information Technologies, International Journal of Interactive Multimedia and Artificial Intelligence etc . The details of publications are as follows:



Faculty Publications - SCI Indexed

K.S.Sakunthala Prabha

"Decision tree based salp swarm optimization for multi medical data classification with feature reduction technique" in Brazilian archives of Biology and Technology

Lijetha C Jaffrin

"Security Issues in Cloud and Mobile cloud: A Comprehensive Survey" in Information Security Journal: A Global Perspective

Faculty Publications -SCIE Indexed

M.Dhilsath Fathima

"Regression Imputation and Optimized Gaussian Naïve Bayes Algorithm for an Enhanced Diabetes Mellitus Prediction Model." Brazilian Archives of Biology and Technology 64.





Faculty Publications -Scopus Indexed

Dr.C.Mahesh

**"Retinal llood vessels and Optic Disc Segmentation using U-Net"
Mathematical Problems in Engineering,**

**"An efficient image based feature extraction and feature selection model
for medical data clustering using deep neural networks" Traitement du
Signal**

**"A Comprehensive Review on Machine Learning Models for Medical Data
Classification" Proceedings - 2nd International Conference on Smart
Electronics and Communication"**

**"Research on varietal classification and germination evaluation system for
rice seed using hand-held devices" Acta Agriculture Scandinavica Section
B: Soil and Plant Science"**

P.N.Karthikeyan

**"Smart Glasses for Visually Impaired using Image Processing
Techinques" Springer: Lecture Notes in Electrical Engineering
(<https://www.springer.com/series/7818>) with ISSN: 1876-1100**





Faculty Publications -Scopus Indexed

R.Hariharan

"Multiple Imputation by Chained Equations–K-Nearest Neighbours and Deep Neural Network Architecture for Kidney Disease Prediction", International Journal of Image and Graphics, 2350014

"An Efficient Machine Learning Model for Prediction of Acute Myocardial Infarction", Recent Advances in Computer Science and Communications (Formerly: Recent Patents on Computer Science), 14(7), 2360-2368.

K.Jayanthi

Machine Learning Paradigm for Internet of Things Applications(Book)

"Early Detection of Pediatric Cardiomyopathy Disease Using Window Based Correlation Method from Gene Micro Array Data" Journal of Sensors

M Dhilsath Fathima

"HDDSS: An Enhanced Heart Disease Decision Support System using RFE-ABGNB Algorithm", International Journal of Interactive Multimedia and Artificial Intelligence, 10/2021, DOI: 10.9781/ijimai.2021.10.003.

"Hyperparameter Tuning of Ensemble Classifiers Using Grid Search and Random Search for Prediction of Heart Disease", Computational Intelligence and Healthcare Informatics

"Multiple Imputation by Chained Equations–K-Nearest Neighbors and Deep Neural Network Architecture for Kidney Disease Prediction", International Journal of Image and Graphics, 2350014

"Improved Adaboost Algorithm with Regression Imputation for Prediction of Chronic Type 2 Diabetes Mellitus", In Communication and Intelligent Systems (pp. 691-708). Springer, Singapore

"An Efficient Machine Learning Model for Prediction of Acute Myocardial Infarction", Recent Advances in Computer Science and Communications (Formerly: Recent Patents on Computer Science), 14(7), 2360-2368.





Faculty Publications - Scopus Indexed

J. Deepa

"Connecting Blockchain with IoT" - A review 5th International Conference on Micro- Electronics and Telecommunication Engineering, LNNS, SPRINGER, volume 373, DOI: 10.1007/978-981-16-8721-1_14

"Trust Model for secure Routing in Wireless Sensor Network using AI Technique, IEEE Explre

Lijetha C Jaffrin

"Role of Exploratory Analytics and Visualization in Heart Disease Prediction" International Journal of Engineering Trends and Technology Volume 70 Issue 1, 24-34, January, 2022

"Survey on Storage Auditing in Cloud" GIS Science Journal

Pushpa Kumar R

"Smart Glasses for Visually Impaired using Image Processing Techniques" Springer: Lecture Notes in Electrical Engineering (<https://www.springer.com/series/7818>) with ISSN: 1876-1100





Patents

Lijetha C Jaffrin

**Mask Detection using Deep Convolution Neural Network, Publication Number 17/2022
29/04/2022, Application Number 202241021438**



In this academic year, faculty members participated in the various events like Faculty Development Programs, workshops, seminars, webinars, Hands-on Training Program, Short Term Training Programs, sponsored by ATAL, ICT academy, top most universities to gain knowledge in various domains and to enhance their career.

Events attended by Faculty



FACULTY PROFESSIONAL DEVELOPMENT



FDP attended by Faculty

Sakunthala Prabha K S

Five days online FDP on Deep Learning towards Engineering and Bio-medical applications at Mepko Schlenk Engineering college, sivakasi from May 16-20 , 2022

K.Jayanthi

Five days online FDP on Deep Learning towards Engineering and Bio-medical applications at Mepko Schlenk Engineering college, sivakasi from May 16-20 , 2022

5 days FDP on Artificial Intelligence for Real Time Applications organized by the Dept of AI & DS, Mepco Schlenk Engineering College, 25 - 29 April, 2022.

J.Deepa

5 days FDP on "Computer Vision and Deep Learning using NVIDIA DGX1" Boston Training Academy in collaboration with Veltech University, 25-29 October 2021

P.N.Karthikayan

5 days FDP on "Computer Vision and Deep Learning using NVIDIA DGX1" Boston Training Academy in collaboration with Veltech University, 25-29 October 2021

5 days AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Deep Learning and Computer Vision" from 2021-06-07 to 2021-06-11 at Kamla Nehru Institute of Technology

6 days Online FDP on "Machine Learning and Deep Learning" organized by Department of IT, Easwari Engineering College, 21-26 February 2022

6 days FDP on Ambient Intelligence in Deep Learning, organized by dept of IT, Sai ram Institute of Technology, 26-31 July 2021

M. Dhilsath Fathima

FDP on advancement in artificial intelligence and machine learning organized by Oxford college of engineering banglore. From 12 July 21 to 17 July 21

5 days FDP on Cybersecurity, Dept of CSE, Presidency University during 14-18 March 2022



FACULTY PROFESSIONAL DEVELOPMENT

FDP attended by Faculty



D. Sugumaran

5 days FDP on "Engineering Graphics", Velammal Engineering College, 30/08/2021 - 3/09/2021

5 days FDP on 'Future trends in Artificial Intelligence and Data Science', Rajalakshmi Institute of Technology, 31-Dec-21 to 08-Jan-2022

5 days FDP on "Artificial Intelligence for Real Time Applications", Mepco Schlenk Engineering College, 25-Apr-22 to 29-Apr-22

D. Ramya

5 days FDP on "Applications of Deep learning and artificial intelligence in Computer vision", St. Joseph Institute of Technology, 20/07/2021 - 24/07/2021

5 days FDP on 'Advanced Applications in Artificial Intelligence and Machine Learning', Marathwada Mitra Mandal's Institute of Technology (MMIT), Pune, 02/08/2021 - 06/08/2021

5 days FDP on "Recent Trends", SRMIST, 09/08/2021 - 13/08/2021

Lijetha C Jaffrin

6 days Online FDP on "Machine Learning and Deep Learning" organized by Department of IT, Easwari Engineering College, 21-26 February 2022

6 days FDP on Advancements in AI and ML, organized by Information science and engineering, Oxford college of Engineering, Bangalore, 12-17 July 2021

6 days FDP on Ambient Intelligence in Deep Learning, organized by dept of IT, Sai ram Institute of Technology, 26-31 July 2021

Hariharan R

5 days FDP on recent advances on artificial intelligence from 22.02.22 to 26.02.22 at GIET University

6 days FDP on advancement in artificial intelligence and machine learning organized by Oxford college of engineering bangalore. From 12 July 21 to 17 July 21



FACULTY PROFESSIONAL DEVELOPMENT



Webinar attended by Faculty

D. Ramya

1 day Webinar on "Machine Learning with Python: A Practical Training" organized by St. Joseph's Institute of Technology, 05-08-2021

1 day Webinar on Artificial Intelligence and Machine Learning -Covid-19 organized by Chalapathy Institute of Engineering and Technology, 09-08-2021

Webinar on 'How to avoid plagiarism?' organized by VIT, chennai, 16-07-2021

Webinar on "Introduction to Data science, Machine Learning and Deep learning", St. Joseph Institute of Technology, 27-07-2021

Webinar on "Promotion of Collaborations, Impactful papers and Decision sciences", SRMIST, 29/07/2021 - 31/07/2021

Lijetha C Jaffrin

1 day webinar on "Machine Learning with Python: A Practical Training", Organized by the Department of Computer Science and Engineering, St. Joseph's Institute of Technology on August 5th 2021

1 day Webinar on "AI and Machine Learning in Research Perspective" Organized by Department of IT, Dr. MGR Educational and Research Institute, on 14.3.2022

R.Pushpa Kumar

1 day Webinar on "AI & ML in Research Perspective" on 14-3-2022 . Dr.M.G.R Deemed University



FACULTY PROFESSIONAL DEVELOPMENT



Webinar attended by Faculty

D.Sugumaran

1 day Webinar on Multidisciplinary Research Perspective Towards Sustainable Development Goals organized by Sri Krishna college of Engineering and Technology, 17-08-2021

P.N.Karthikayan

1 day Webinar on Artificial Intelligence and Machine Learning -Covid-19 organized by Chalapathy Institute of Engineering and Technology, 09/08/2021

STTP attended by Faculty

R.Hariharan

Short term training program on big data analytics using soft computing tools in Rajiv Gandhi University from 29 nov 21 to 04 dec 21



FACULTY PROFESSIONAL DEVELOPMENT



Workshop attended by Faculty

J Deepa

30 days workshop Master class on Data Science and Analytics at Pantech e Learning Pvt Ltd, Chennai From 20.01.2022-18.02.2022

D.Ramya

30 days workshop Master class on Data Science and Analytics at Pantech e Learning Pvt Ltd, Chennai From 20.01.2022-18.02.2022
Workshop on "Data science applications using ML and DL techniques", CIT ,19-07-2021



**P.Bhavishya**

First prize in paper presentation competition in the national level technical symposium "Gyanith 2020" organized by National Institute of Technology Puducherry and won cash prize of amount Rs.5000.

Secured 1st place in event Knowledge Check conducted in Virtual National Level Symposium, Sparkle 21 organized by Department of IT, Dr. MGR Educational and Research Institute, 3rd July, 2021

Krishna Kumar

Won 1st prize in paper presentation in technical symposium held at PGP college of engineering and technology, 2021

Ankit Pradhan

Secured III at a global event Global CyberPeace Challenge 3.0 (Cyber Policy and Strategy Track) hosted by the CyberPeace Foundation, Delhi in the month of February, 2022

Vibek Jyoti Roy

Secured 1st prize in the paper presentation in Dr. MGR Educational and Research Institute, 3rd July, 2021

Canada Internship:
Globalink Research Internship Under Mitacs, Athabasca University, Canada, 16th March, 2021 (Student's Engagement Detection in Online Learning)

UK Internship
Research Internship Under University of Bolton, UK, Investigating Data Streaming Classification Techniques for Effectively Detecting Concept Drift and Solutions

Ramya S , Praveen Kumar

Awarded with the Certificate of Recognition for the innovative concept on Localizing Object Location from Camera and RADAR sensors using Fusion presented at TECHgium, L&T Technology Services.





Vel Tech

Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)

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[h-FyIQ/featured](https://www.youtube.com/channel/UCm7oNMToMtmgC4Cwd)
-  https://www.instagram.com/veltech_institute/

