

BITS & BYTES e-Newsletter

2024-25-ODD



ALVA'S
Education Foundation®

Volume 8, Issue 1



Principal Message



The year 2024 has been an effective year & also memorable in the history of Aiet because the institution became an Autonomous Institution. Let me thank & congratulate you all for being part of this success. Also, I would like to congratulate the e-News Letter Editorial Team for bringing out the 8th Edition of the "Bits & Bytes" with many more activities of the 2024-25 ODD Semester. Wish you all Happy New Year 2025.

-Dr. Peter Fernandes, Principal, Aiet, Moodbidri

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ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOODBIDRI

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

(Accredited by NBA New Delhi 2019-2025 & NAAC with A+)

(Autonomous Institution, Affiliated to VTU, Belagavi)

Department

Vision

"Engendering competent, excellent professionals by transforming the knowledge and computing skills to individuals through modern innovative tools and techniques"

Editorial Team

Editor in Chief: Dr.Manjunath Kotari

Issue Editor: Mr.H Harshavardhan

Members: Dr.Aslam Nandyal

: Mrs.Deepika Kamath

: Mr.Venkatesh

Student Members:

Mr.Prakhyat Shetty

Mr.Neerav Patel

DEPARTMENT MISSION

- To produce skilled, creative software developers through rigorous training.
- To conduct specific technical courses to keep abreast to the latest technological developments and transformations in the domain.
- To establish Industry-Institute Interaction programs to enhance the skills of employability and entrepreneurship.
- To implement the ideas of research and innovations in interdisciplinary domains

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY, MOODBIDRI
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

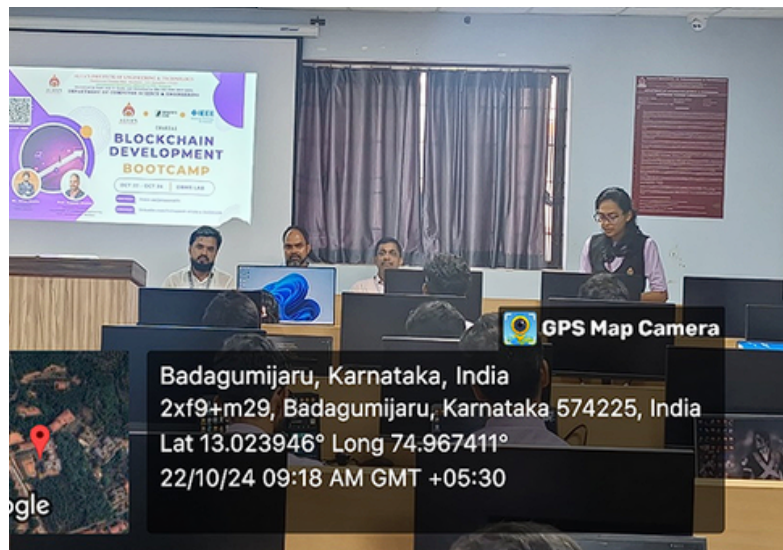
(ACCREDITED BY NBA NEW DELHI 2019-2025 & NAAC WITH A+)
(AUTONOMOUS INSTITUTION, AFFILIATED TO VTU, BELAGAVI)

Blockchain Development Boot camp

Date: 22nd to 24th Oct,2024

Introduction

The Blockchain Development Bootcamp, organized by the Edwin's Club in association with C-maniax Forum, Department of Computer Science and Engineering at Alva's Institute of Engineering & Technology, commenced on 22nd Oct, 2024 with an inaugural ceremony. The event was part of Alva's ongoing commitment to providing students with cutting-edge knowledge and skills in emerging technologies. The bootcamp was designed to equip students with a strong foundational understanding of blockchain principles .



With a combination of expert talks, interactive sessions, and practical workshops, the event aimed to foster an environment of innovation and critical thinking among students. The bootcamp also provided an excellent networking platform, bringing together industry experts, faculty members, and students eager to delve into the world of blockchain technology.

Event Opening and Welcome Address

The Blockchain Development Bootcamp officially commenced on October 22 with an opening ceremony held at the DBMS Lab of Alva's Institute of Engineering & Technology.



Ms. Kanishka highlighted the goal of the bootcamp: to provide students with hands-on experience in blockchain technology, a field rapidly gaining traction in various industries.

In his introductory remarks, Ms. Kanishka introduced **Mr. Jetso Analin, Co-Founder of Web 5 Nexus**, an industry leader in blockchain solutions, and **Prof. Rupesh Mishra, Assistant Professor in the Department of Computer Engineering at SFIT, Mumbai**. Both guests brought valuable expertise and insight, which set a professional and inspiring tone for the event. Their contributions to the field of blockchain were briefly outlined, creating anticipation among the attendees for the knowledge they would share over the next three days.



He expressed gratitude to both guest speakers for their presence and acknowledged their commitment to advancing educational initiatives for young learners. The Dr Aslam Nandyal highlighted Alva's dedication to providing its students with opportunities to engage with real-world technologies.

In closing, the HOD extended a warm welcome to Prof. Rupesh Mishra and thanked him for taking the time to share his knowledge with the students. His words underscored the significance of the bootcamp as a bridge between academic learning and industry practices, aiming to empower students with skills that would be valuable in their careers.

Topics Covered in the Blockchain Development Bootcamp

The Blockchain Development Bootcamp, held from October 22 to October 24, provided students with a unique opportunity to dive into the world of blockchain technology. The bootcamp was structured to guide students through the essentials of blockchain, from foundational concepts to hands-on project work, equipping them with both theoretical knowledge and practical skills.

Over the three days, students engaged in a variety of interactive sessions that covered the following key topics:

Introduction to Blockchain Basics: The bootcamp began with an introductory session that demystified the fundamental concepts of blockchain technology. Students learned about the core principles of blockchain, including decentralization, transparency, immutability, and security. This session covered the structure of blockchain as a distributed ledger system.

Overview of Blockchain Platforms and Ethereum: With the basics in place, the focus shifted to blockchain platforms, specifically Ethereum, one of the most popular platforms for decentralized applications (DApps). Students explored how Ethereum enables developers to create and deploy smart contracts—self-executing contracts with the terms directly written into code.

Setting Up and Using MetaMask: The students were introduced to MetaMask, a widely-used cryptocurrency wallet and browser extension that allows users to manage Ethereum assets and interact with DApps directly. They were guided through the process of setting up MetaMask, creating an Ethereum account, and managing test Ether (ETH) for transactions.

Introduction to Solidity Programming Language:

A significant portion of the bootcamp was dedicated to Solidity, the primary language used for writing smart contracts on Ethereum.

Hands-On Practice with Remix IDE: To implement their new skills in Solidity, students were introduced to Remix, an online Integrated Development Environment (IDE) specifically designed for Ethereum smart contracts. In this session, they learned how to write, compile, debug, and deploy smart contracts directly from their browser.

Understanding Hashing and Its Role in Blockchain Security: A session on cryptographic hashing helped students understand the importance of security in blockchain. Hashing functions, which convert data into fixed-length strings, play a crucial role in blockchain by ensuring data integrity and linking blocks together securely.

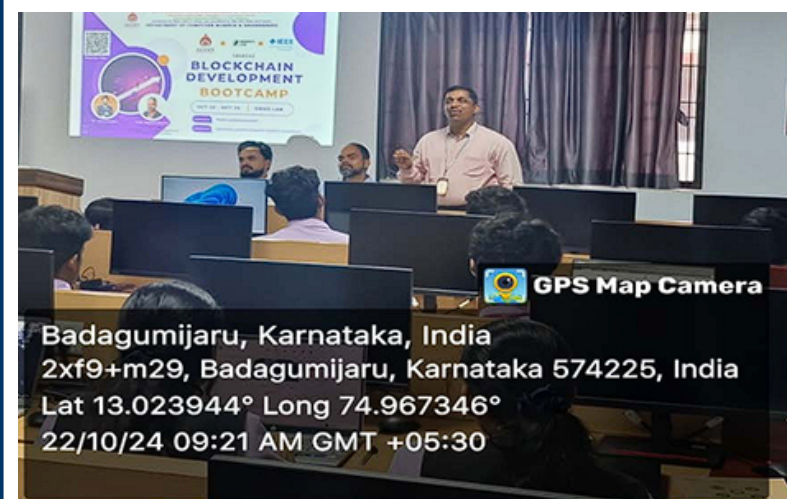


Crowdfunding Project: The highlight of the bootcamp was a hands-on project where students developed a simple crowdfunding application on the Ethereum blockchain. This project enabled them to apply their understanding of Solidity, smart contracts, and the Ethereum ecosystem in a practical, real-world scenario.

Exploring Real-World Applications of Blockchain: In addition to technical skills, the bootcamp included discussions on real-world applications of blockchain across different sectors.

Networking and Career Opportunities in Blockchain: The bootcamp concluded with a session on career opportunities in blockchain. The guest speakers, Mr. Jetso Analin and Prof. Rupesh Mishra, shared insights into the current job market, skills in demand, and various roles available for blockchain developers, architects, and consultants.

By the end of the bootcamp, students had gained a well-rounded understanding of blockchain technology, with hands-on experience in developing smart contracts, using blockchain tools, and working on real-world applications. The skills acquired during the bootcamp not only broadened their knowledge but also prepared them for potential future projects and internships in the blockchain domain.



The Blockchain Development Bootcamp held at Alva's Institute of Engineering & Technology was a transformative experience for all participants. Over the course of three days, students immersed themselves in the fundamentals of blockchain technology, learning not only the theoretical aspects but also gaining practical, hands-on experience with tools such as MetaMask, Solidity, and Remix IDE.

The event provided an invaluable opportunity for students to understand how blockchain operates, the potential it holds across various industries, and the skills required to contribute to this rapidly evolving field.

Harmful effects of Drugs and Cyber Crime

Resource Person:

Mrs. Geetha Kulkarni

**Assistant Commissioner of Police – CCRB
Mangalore**

Coordinated by:

CYBER SECURITY CLUB

Introduction

In the digital age, our dependence on technology has grown immensely. From smartphones to financial transactions, the internet connects people and services globally. However, this connectivity has also exposed individuals, businesses, and governments to a new form of criminal activity—cybercrime.



Cybercrime involves illegal activities conducted via computers or networks, targeting sensitive data, finances, or personal information. Cybercriminals exploit technological vulnerabilities to steal, manipulate, or destroy data, often causing significant financial and reputational damage.

This report aims to provide an in-depth understanding of cybercrime, its types, and its potential impact on individuals and organizations. Additionally, it will discuss preventive measures to protect against cybercrime, making the need for cybersecurity awareness all the more urgent in today's world.

1. Definition and Importance of Cybercrime Awareness

1.1 Definition of Cybercrime

Cybercrime refers to any unlawful activity carried out using computers, networks, or digital systems. It includes a range of illegal behaviors, from hacking and data theft to online fraud and identity theft. Cybercrime typically involves unauthorized access to a system or network, aimed

1.2 Importance of Cybercrime Awareness

With increasing digital dependence, cybercrime poses an ever-growing threat. The interconnectedness of global networks has opened up a wide range of opportunities for criminals. Awareness is crucial because:

- **Rising Threats**
- **Prevention**
- **Protecting Data**

2. Types of Cybercrime

2.1 Hacking

Hacking involves unauthorized access to computer systems to steal or manipulate data. Hackers exploit security flaws in systems to gain access and often use this data for financial gain, blackmail, or sabotage.

- **Phishing**
- **Ransomware**
- **Identity Theft**
- **Online Fraud**
- **Cyberbullying**

3. Cybercrime Statistics Global Overview

Financial Impact:

Cybercrime is one of the fastest-growing forms of crime, and by 2025, global damages from cybercrime are projected to reach \$10.5 trillion annually, up from \$3 trillion in 2015. This marks a significant rise, driven by increasingly sophisticated attacks like ransomware, phishing, and identity theft.

Cybercrime Frequency:

Globally, a new cyberattack occurs every 39 seconds, affecting millions of individuals and organizations each day.

In 2023, it was estimated that 33 billion records would be stolen, doubling from 16 billion in 2020.

Targeted Sectors:

The most affected industries are healthcare, financial services, and retail. .

Ransomware attacks have skyrocketed, with an average payout to cybercriminals exceeding \$1 million per attack in 2023, compared to \$312,000 in 2020.



4. Common Techniques Used by Cybercriminals

- **Social Engineering**
- **Malware**
- **Denial of Service (DoS) Attacks**
- **Exploitation of Vulnerabilities**

5. Real-Life Examples of Cybercrime

Equifax Data Breach

In 2017, Equifax, one of the largest credit reporting agencies, suffered a data breach that exposed the personal information of over 147 million people. Hackers exploited a vulnerability in Equifax's system to gain access to names, Social Security numbers, birth dates, and credit card information.

6. How to Protect Yourself from Cybercrime

- Secure Passwords
- Avoid Public Wi-Fi for Sensitive Transactions
- Backup Data



CYBER SECURITY CLUB

“Cyber Ethics Awareness Program by Alva's Cyber Security Club”

Reported to:

Mrs. Deepika Kamath Club Co-ordinator

Students:

1. Sujaykumar B Adoor
2. Manoj M
3. Sharvari M S
4. Chandana N M
5. Vinith Kalikar



Introduction

Alva's Cyber Security Club recently conducted a vital awareness program on Cyber Ethics for the students of Alva's CBSE School. This session was designed to educate children about the dangers and safety measures of navigating the online world. The session was highly engaging and left a lasting impression on the children, who learned about various online threats such as cyberbullying, online predators, mobile phone security, and more. Through real-life examples and interactive discussions.

1. Online Predators

In today's world, children and teens are increasingly vulnerable to online predators who use social media, chat rooms, and gaming platforms to exploit them.

7. Cybercrime Laws

- India's IT Act
- International Efforts

8. Role of Cybersecurity in Preventing Cybercrime

- Tools
- Ethical Hacking
- Cybersecurity Awareness Programs

Conclusion

In an increasingly interconnected world, cybercrime is a threat that impacts every level of society, from individuals to large corporations and governments. Staying informed and taking proactive measures are essential to safeguarding our digital lives. By understanding the types of cybercrime, common techniques, and preventive strategies, we can collectively reduce the risk of attacks and foster a more secure digital environment.

More Online Safety Tips:

- Use monitoring software to track internet usage.
- Regularly check privacy settings on social media platforms.
- Discuss online activities openly with family members.

2. Cyberbullying

Cyberbullying can take many forms, from sending hurtful messages to spreading rumors and even sharing embarrassing photos or videos without consent. Chintu's story is just one example, but the scope of cyberbullying is much broader. Victims of cyberbullying often experience depression, anxiety, and low self-esteem. The harmful effects of cyberbullying can also lead to severe consequences such as withdrawal from school, loss of interest in activities, and in extreme cases, suicidal thoughts.



Legal Implications of Cyberbullying:

- Victims can file complaints with cyber police.
- Social media platforms have reporting tools for harassment.

3. Mobile Phone Security

With the increasing use of mobile phones among children, their security risks have also grown. Children are quick to explore new apps and features, but many apps are designed with vulnerabilities that can compromise personal data.

More Security Tips:

- Avoid using public Wi-Fi without a VPN (Virtual Private Network).
- Enable remote wipe options in case the phone is lost or stolen.
- Use strong and unique passwords for different accounts.
- Turn off location services unless necessary.

4. Mobile Phone Addiction

Mobile phone addiction is becoming a global issue, particularly among children and teenagers. The overuse of mobile devices can lead to a range of problems, including sleep disorders, academic decline, and even social isolation. In Sunny's case, his excessive phone use affected his family relationships and school performance.



Consequences of Mobile Addiction:

- Impaired concentration
- Increased risk of accidents .
- Psychological issues

Solutions:

- Introduce digital detox periods where no electronic devices are used.
- Encourage children to engage in physical activities or hobbies.
- Educate children on the value of face-to-face communication over texting.

Meeting Strangers Online

The dangers of meeting strangers online are multifaceted. The session discussed how Raju was tempted to meet his online friend without telling his parents.

Online Gaming Addiction

Online gaming is a popular pastime, but excessive gaming can lead to addiction, particularly in children. Vijay's case demonstrated how gaming addiction can disrupt sleep patterns and academic performance.

Picture Morphing and Online Harassment

Picture morphing is becoming a common method for online harassment, where personal images are altered to create explicit or inappropriate content. This was highlighted through Raveena's story, where her images were morphed and shared online without her consent.



Conclusion

The Cyber Ethics Awareness Program conducted by Alva's Cyber Security Club was a resounding success, providing valuable insights into safe internet usage. With the rapid growth of the internet and mobile technologies, children face unprecedented online threats. This session empowered them with the knowledge and tools needed to navigate these challenges safely.

IoT Applications and Basics of Arduino Programming

Objectives

Department of Computer Science & Engineering in Alva's Institute of Technology (AIET), Moodbidri, has organized a two days Workshop on "IoT Applications and Basics of Arduino Programming" from 3rd Sep, 2024 to 4th Sep, 2024. First of all, we would like to express our sincere gratitude to Management, Principal and HOD for encouraging us to conduct this workshop. All the final year students attended this workshop. The workshop was conducted by Dr.G.Srinivasan, Professor, Dept. of CSE, Alva's Institute of Technology (AIET), Moodbidri. He expressed the key points regarding Fundamentals of IoT, IoT Eco System, IoT architecture and protocols, IoT Gateway, security and privacy issues in IoT and basics of Arduino programming. The gist of the workshop is as follows IoT Architecture: IoT core, optimizing IP for IoT, IoT Gateway, cloud storage, data analytics, user interface, basics of Arduino Programming and Simulation of Arduino Program. This workshop will motivate the students to understand the implementation of IoT concepts in real time. The purpose of conducting this program is to understand the following things

- 1) To understand the fundamentals of IoT and Eco System
- 2) To understand the security and privacy issues in IoT
- 3) Understanding IoT frame work.
- 4) Understanding IoT Architecture and Protocols.
- 5) To learn about IoT core.
- 6) Understanding data analytics, cloud in IoT.
- 7) To understand Arduino programming basics.
- 8) To implement Arduino programming using simulation.

Report with Geo Tagged Photos

The Internet of things (IoT) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. A thing in the IoT can be a person with a heart monitor implant, a farm animal with a biochip transponder



Tenkamijar, Karnataka, India
2XF9+CF3, Tenkamijar, Karnataka 574225, India
Lat 13.023506°
Long 74.967871°
03/09/24 09:30 AM GMT +05:30

IoT Ecosystem

Framework provides a development environment. It provides appropriate infrastructure to design and implement the architecture

IoT framework comprises of large number of components

- **sensors, sensor systems, gateways, mobile app, embedded controller, data management platform, analytical platform, and so on.**
- **support interoperability among all devices, provides secure connectivity, reliability in data transfer, interface to 3rd party application to built on it, and so on.**
- **Network and its application should never be built without careful planning**
- **Architecture is how you design your application or solution.**

An IoT ecosystem is a network of interconnected devices, objects, people, and processes that communicate with each other to collect and exchange data.



For example, an IoT ecosystem could be used to monitor and control the energy consumption of a smart building or to track and manage a fleet of vehicles in real-time. Using the smart building use case. It could then trigger lights to be switched off and for the air conditioning system to operate on a reduced setting.



IoT Protocol Stack and Arduino Programming:

The students learned about the protocol stack of IP and IoT. In IoT protocol stack is implemented with 6LoWPAN Adaptation Layer.

Outcome of the event:

This workshop covered basic IoT architecture, eco systems and Arduino programming, presented by the faculty Dr.G.Srinivasan, using informative and effective presentation. Final year students learned about fundamentals of IoT, IoT Eco System, IoT architecture, protocols, IoT Gateway, Security issues in IoT, the differences between IP protocol stack and IoT protocol stack and the basics of Arduino programming

One-Day Workshop on Robotic Process Automation (RPA) Using UiPath

Date : 30th September 2024

Venue:

Department of Computer Science and Engineering, AIET, Mijar, Moodbidri

Organizer:

Neerav V Patel, Student Developer Champion-UiPath, Final Year CSE

Student Core Team:

Pratiksha Jain, Abhishek R G, Lohith S Gowda, Andani Gowda M R, Manoj P M, Aishwaraya G D

Total Participants: 41

Event Overview

The Department of Computer Science and Engineering at AIET organized a one-day workshop on Robotic Process Automation (RPA) using UiPath. The workshop provided participants with an understanding of RPA concepts and practical experience using UiPath, a leading RPA tool. The event was led by Neerav V Patel with support from his core team.



Details of the Workshop

Welcome and Understanding Robotic Process Automation (RPA):

The event commenced at 9:30 AM with a welcome session by Pratiksha Jain, who introduced the participants to Robotic Process Automation (RPA). She highlighted the importance of RPA, its applications across industries, and its growing significance in the automation landscape.

Quiz 1:

A quiz was conducted at the end of the first session to test the participants' understanding of RPA. Chethan L R from the 3rd year won the quiz and received a goodie as a reward for his performance.



3. Introduction to UiPath and Getting Started :

Abhishek R G and his team presented the second session from 11:00 AM to 12:20 PM. They introduced the participants to UiPath and demonstrated how to set up and get started with UiPath Studio. The session included:

- **Key features of UiPath**
- **Step-by-step guide on using UiPath Studio to create a simple automation bot**

Participants followed along and successfully set up their own UiPath environments



Quiz 3

The final quiz of the day was conducted from 4:10 PM to 4:30 PM. Ramya, a 2nd-year student, won the quiz and was awarded a goodie



Quiz 2 :

After the session, a second quiz was held. Kabir, a participant, won the quiz and was awarded a goodie for his performance.



The event concluded at 4:30 PM with closing remarks by Neerav V Patel, summarizing the key takeaways of the workshop and providing additional learning resources for participants to continue their journey in RPA through the UiPath Academy



Hands-on Session: RPA Challenge

After lunch, Neerav V Patel led a hands-on session from 1:40 PM to 3:20 PM, where participants were tasked with building bots using UiPath.

The session included:

- RPA Challenge Bot: Automating form entries using the App/Web Recorder for the RPA Challenge website.
- Data Extraction Bot: Extracting data from a website and writing it to an Excel sheet using UiPath's data extraction features.

The hands-on session was highly interactive, with participants fully engaged in creating their bots.

Key Outcomes:

- Participants gained a comprehensive understanding of RPA and hands-on experience with UiPath.
- The quizzes and interactive sessions fostered a highly engaging learning environment.

Computational Thinking workshop for Rural School Students

The Department of Computer Science and Engineering at Alva's Institute of Engineering and Technology organized a four-day Computational Thinking workshop for rural school students under the IEEE STEM Grant from 11th to 14th of November 2024. The program was inaugurated by Dr. Vasudeva, Chair of the IEEE Mangalore Subsection.



Dr. Manjunath Kotari, Professor and Head of the Department of Computer Science and Engineering, and Dr. Chandra Naik, Associate Professor and coordinator of the event, were present. Mr. Neerav Patel, President of the IEEE Student Branch AIET, Abhishek R.G., Vice President of the IEEE Student Branch AIET



Project Motivation:

The primary focus of school education is to equip children with language and analytical skills for every child. Along with these skills, computational thinking is an essential skill that every child needs to develop in the early stages of their education. Computational thinking has a broader scope in understanding any real-world problem, designing an appropriate solution to the problem, and representing the solution in a form that a human or a machine can execute.



Program Goals and Objectives:

The workshop aims to teach diverse problem-solving approaches, such as breaking down problems into smaller, manageable subproblems and solving them independently. Participants will also learn how to integrate these individual solutions into a unified outcome. The workshop places emphasis on skills like identifying appropriate abstractions to manage problem complexity, recognizing existing patterns or models applicable to new problems, constructing various procedures for problem-solving, and comparing results when multiple solutions are available. Computational thinking methods are conveyed through a series of captivating, engaging, and enjoyable activities.

The Objectives of the Workshop:

- Decomposition
- Pattern recognition
- Abstraction
- Algorithms

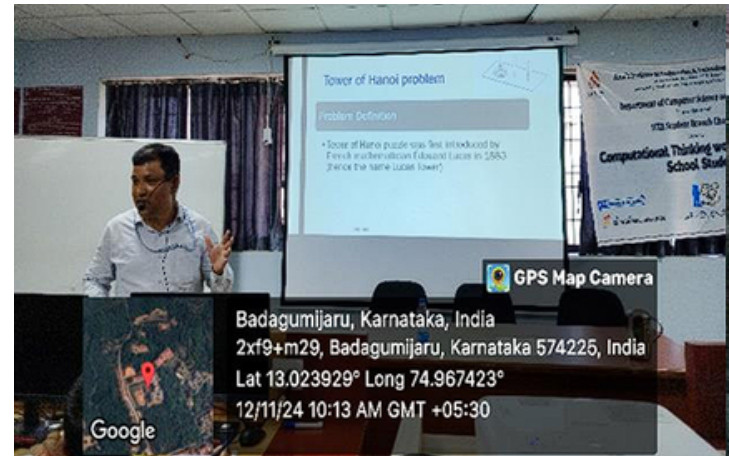
Event Summary:

On day-1, In the morning session, the program coordinator, Dr. Chandra Naik, introduced Computational Thinking (CT) and provided an overview of its pillars to the audience with numerous examples. Later, Ms. Harshitha M, gave a detailed explanation of decomposition through various activities.



The afternoon session started at 1:30 PM. During this session, Ms. Shrusti and her team introduced the Scratch programming language, covering its basic elements, loops, basic animation, and demonstrations of programs.

On day-2, The morning session started at 9:00 AM. Ms. Akhifa discussed pattern recognition, focusing on the identification of patterns in problems. Dr. Chandra Naik, the coordinator of the program, illustrated the elements of Computational Thinking (CT) using the Tower of Hanoi problem. This was followed by Mr. Karthikeya J.S. and Mr. Prathamesh Shetty, who taught graph and dynamic programming concepts with numerous examples.



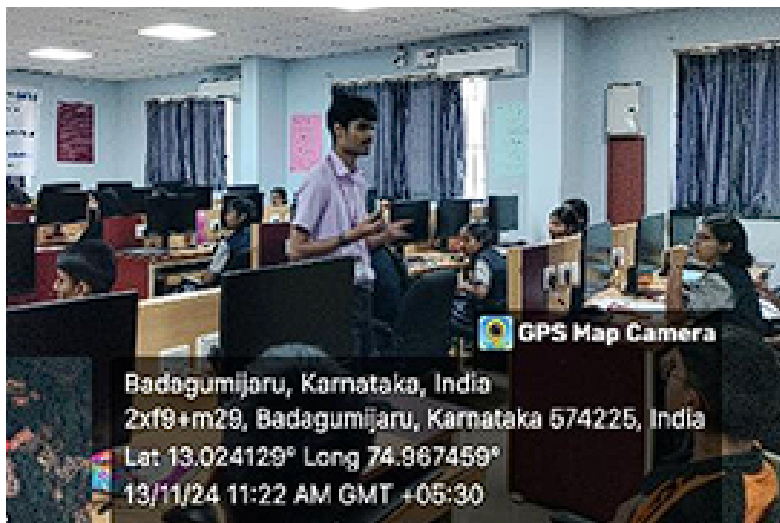
In the afternoon session, Ms. Varshitha R. taught how to develop simulation games using Scratch and demonstrated various pre-loaded projects, such as animations with moving objects, games, and motion-based animations. Finally, the team provided insights into implementing simple programs, such as finding the sum of two numbers and determining the largest of three numbers.



On day-3, In the morning session, Ms. Akhilesh and Kaniska Shetty discussed abstraction, focusing on abstracting essential elements in various real-world problems to reduce problem complexity. Furthermore, Mr. Sambram Hegde provided insights into searching and sorting through role plays. In the afternoon session, Ms. Keerthana M and her team taught the basics of Python programming. Finally, the team introduced a simple function program to the participants.



On day-4, In the morning session, Ms. Yogana and her team taught algorithm development and the basics of algorithms. They also guided the students in developing algorithms and flowcharts for simple programs, such as adding two numbers, finding the largest of three numbers, calculating the factorial of a given number, generating a Fibonacci series for a given range, and finding the GCD of two numbers. through various activities.



In the afternoon session, an assessment and feedback session was conducted. All participants were asked to work on self-chosen problems, design solutions using the four elements of Computational Thinking (CT), and demonstrate their solutions.



Assessment methods:

The main goal of the young student workshop is to provide participants with a solid foundation of computation and programming skills.

The students are asked to take quizzes on topics that are covered on each day to check immediate understanding of the topics covered.

Apple iOS LAB

“IOS APP DEVELOPMENT PROGRAMMING USING SWIFT C”

By :- Mr. Venkatesh

**For :-
II YEAR BCA STUDENTS OF ALVAS DEGREE
COLLEGE MOODBIDRI**

Introduction

Department of CSE organized a Ten Days training Program on “iOS App Development Programming Using Swift C” for the students of second year BCA Students of Alvas College Moodbidri. The training was held from 13th August 2024 to 24th August 2024. The trainer Mr. Venkatesh, welcomed the HOD and Students during the informal inauguration of the training program.



Dr. Manjunath Kotari inaugurated the program informally. In his inaugural speech, he said the students about the importance of iOS Programming. He also briefed about the android and iOS Applications. He suggested the students to develop an App in iOS and try to upload into iOS App Store.

Dr. Manjunath Kotari mentioned about our student's iOS programming App development experience in placement drive. He also suggested the students to refer the iOS reports prepared by the AIET students.

Mr. Venkatesh, Senior Associate Professor in the Department of CSE AIET, was the Trainer of this training Program. Total 23 BCA students of second year from Alvas degree college Vidyagiri were registered for this training.



Mr. Venkatesh explained about the importance of iOS and he compared the iOS with android. He started the training with very simple problem like displaying the welcome message in Swift C language. He explained the different types of symbol definitions in the Swift C and its difference. He also explained when the constants and variables are to be used by giving the example of car travelling from one place to another place.

Ms. Yakshitha, the iOS lab instructor, helped the students in timely execution of the day-wise exercises.

Syllabus Covered

The trainer Mr. Venkatesh started with Simple Program execution using Swift C Language. He covered various basic features of Swift C Programming Language like Strings, Arithmetic Operators, Logical Operators, Control Statements, Looping constructs, Arrays, Structures, Classes, Swift Optional etc... He took around three days for swift C. He explained the various features of swift C.

After Swift C, he started the iOS Programming. He begins with introducing the Components of the iOS Programming environment and its usage. He started with designing a simple iOS App called “LightOnOff”.



He continued his training by guiding the students to implement the similar App called "ColourToggle". He guided the students to implement these apps in many ways, by using UIButtons, by using UISwitches etc...



List of Programs

The trainer covered the all the fundamentals of iOS App Development during his training period. Few fundamental iOS Apps were developed by the students. He also engaged the students in building three Apple guided projects. The students are actively participated in the training program. The trainer guiding the students how to clear the different types of bugs.

The bugs created by outlets and actions, the bugs created by swift etc..During fifth day of the training, the trainer conducted one-hour online test on the topics covered till that day. He also discussed about these questions ater the test. The list of iOS Apps and guided projects covered during the training are mentioned here below.

1 ColorToggle App

Design Three Buttons in the view and name them as "BuleGreen", "RedYellow", "FourToggle".



2 COPY EXERCISE

Design Two Labels, One Text Field and a Button on the view. Name the First Label with your First Name.

3 Arithmetic Calculation App

Design Two Text Fields with Larger Font Size and Bold. Design Four Buttons with names "ADD", "SUBTRACT", "MULTIPLY" and "DIVIDE" respectively.

4 Name Split App

Design a Label Field containing Full Name. (Full Name may have First Name, Middle Name, and Last Name).



5 Swaping App

Design Two Text Fields and One Button. Name the Button as XCHG. During the Execution, Enter any values in two text Fields.

6 Palindrome App

Design Two TextField and One Button. Name the Button as Palindrome.

7 NegativePositiveZero App

Design one text field score. Design one button SUBMIT. By clicking the SUBMIT Button, if the score is negative, then move to negative ViewController else if score is positive, then move to Positive View Controller else move to Zero View Controller



8 Multiple Usernames and Default Password app

Design Two text fields Username and Password. Password should be secured. Design one button SUBMIT. By clicking the SUBMIT Button, if username is "aiet" or "cse" or "mijar" or "moodbidri" and default password is "1234", display the message "Welcome to username"

9 Multiple Usernames and Multiple Password app

Design Two text fields Username and Password. Password should be secured. Design one button SUBMIT. By clicking the SUBMIT Button, if username is "aiet" and password is "aaa" or user name is "cse" and password is "bbb" or username is "mijar" and password is "cccc" or username is "moodbidri" password is "123", display the message "Welcome to username"

10 Incrementor App

Design one textfield My Score1 and one Button INCREMENT1 in First view controller. One textfield My Score2 and one Button INCREMENT2 in Second view controller. One Text Field My Score3 in Third View Controller.

11 OptionalObjectDispaly App

Design Marks View Controller containing the marks of Four Subject.



12 ImageGuess App

Draw one UIImageView myImage in the scene and a Button called GuessImage.

Apple Guided Projects

1. Standard Simple Calculator App:

The trainer guided the students how to develop the basic calculator prototype containing various components. This project covers the iOS Auto Layout features and Stack view concepts.



2. Apple Pie Game:

This is an image view application and random number-based project. This is a simple word-guessing game. Each player has a limited number of turns to guess the letters in a word.

3. Personality Quiz:

Players are presented with a lighthearted topic and answer questions that align them to a particular outcome.

This guided project will use "Which animal are you?" as the quiz topic. The four possible outcomes are: dog, cat, rabbit, and turtle. But if you prefer to choose your own topic and outcomes. As long as you're following the steps in the project, any topic is fine. You will learn more if you are having a good time.

Finally, the trainer strongly suggested the students to continue the self-study of advanced topics in the iOS Programming and try to develop the real time applications in iOS Environment and try to upload it to iOS App Store.

During the last day of the training, Dr. G Srinivasan is the guest for the informal valedictory function. He distributed the certificates to all participants.



In his valedictory speech, he said that this training is not the final. It is just a beginning of the iOS development. He suggested the students to improve their knowledge in iOS field by involving themselves in the app development.



OUTCOME

Total 23 students were trained during this training session. All 23 students were attended the training program regularly and got benefitted by this training. All the students build the three Apple Guided Projects successfully.

Training certificates are distributed by the guest Dr. G Srinivassan, Professor, Department of CSE, AIET to all the participants on the last day of the training.

Apple iOS LAB

“IOS APP DEVELOPMENT PROGRAMMING USING SWIFT C”

By :- Mr. Venkatesh

**For :-
V SEM STUDENTS OF CSE ALLIED
BRANCHES AIET**

Introduction

Department of CSE organized a training program on “iOS App Development Programming Using Swift C” for the students of V Semester Students of AIET CSE Allied Branches. The training was held from 17th September 2024 to 06th December 2024 on every Tuesday, Wednesday, and Fridays from 3.30 PM to 5.00 PM. The trainer Mr. Venkatesh, welcomed the HOD and Students during the first day of the training program.



Syllabus Covered

The trainer Mr. Venkatesh started with Simple Program execution using Swift C Language. He covered various basic features of Swift C Programming Language like Strings, Arithmetic Operators, Logical Operators, Control Statements, Looping constructs, Arrays, Structures, Classes, Swift Optional etc...

List of Programs

The trainer covered the all the fundamentals of iOS App Development during his training period.

- 1 ColorToggle App
- 2 COPY EXERCISE
- 3 ArithmeticCalculation App
- 4 NameSplit App
- 5 Swaping App
- 6 Palindrome App
- 7 NegativePositiveZero App
- 8 Multiple Usernames and Default Password app
- 9 Multiple Usernames and Multiple Password app
- 10 Incrementor App



- 11 OptionalObjectDispaly App
- 12 ImageGuess App

Apple Guided Projects

1. Standard Simple Calculator App
2. Apple Pie Game
3. Personality Quiz



OUTCOME

Total 18 students were trained during this training session. All 18 students were attended the training program regularly and got benefitted by this training. All the students build the three Apple Guided Projects successfully

FIELD VISIT TO MRF

Dates of visit : 16/10/2024

For : 2nd year BE students

Introduction:

A field visit was conducted to a Materials Recovery Facility (MRF) in NITTE to gain a deeper understanding of the waste management process. The purpose of the visit was to observe the procedures and processes in place for handling and processing waste materials. The report provides a detailed overview of the MRF and its operations . The Nitte MRF Facility is located in Nitte village, Karkala taluk. The facility is designed to manage and dispose of the solid waste generated in the area in an environmentally responsible manner. This report provides an overview of the facility and its processes and procedures for managing solid waste.



Facility Overview:

The Material Recovery Facility (MRF) in Nitte Gram Panchayat, set up under Swaccha Bharath Mission by Udupi Zilla Panchayat.MRF has the capacity to segregate 10 tonnes of dry waste daily. MRF aims to ensure scientific management of waste at the source and convert waste into a resource.



Waste Collection:

Waste collection is the first step in the waste management process at the Nitte MRF facility. The facility has a fleet of trucks that collect waste from homes, businesses, and other facilities in the area. The waste is then transported to the facility for processing.



Recycling:

Recycling is the process of converting waste materials into reusable objects to prevent waste of potentially useful materials, reduce the consumption of fresh raw materials, energy usage, air pollution (from incineration) and water pollution by decreasing the need for "conventional" waste.



Waste Disposal:

The final step in the waste management process at the Nitte MRF facility is waste disposal. Hazardous waste is disposed of in specially designed containers and transported. Non-hazardous waste is sent to landfills, where it is buried and covered with soil. The facility follows strict guidelines and regulations to ensure that waste is disposed of safely and responsibly.

Conclusion:

In conclusion, the Nitte MRF facility is well-equipped and staffed to handle the solid waste generated in the area. The facility follows a well-structured process for collecting, sorting, recycling, and disposing of waste, and employs the latest technology and equipment to ensure the waste is managed in an environmentally responsible manner. The facility is an important part of the community and plays a crucial role in reducing waste and protecting the environment.



CYBER SECURITY CLUB

“INDUSTRIAL VISIT TO CYBERVERSE”

Faculty : Vineeth Shetty

Date : 9/12/2024

Students:

1. Sujaykumar B Adoor
2. Vinith Kalikar
3. Darshan Halakerimath
4. Pavankumar C K
5. Aditya V

Introduction

The industrial visit to Cyberverse Company provided a unique opportunity to gain hands-on insights into live cyberattacks and their mitigation strategies. The visit included demonstrations of real-world scenarios such as cyberattacks on critical infrastructures like airports, palace stations, and other high-value targets. The sessions combined theoretical explanations with practical simulations.



Overview of Cyberverse Company

Cyberverse is a pioneering organization at the forefront of cybersecurity solutions and services. The company specializes in developing advanced threat detection systems that leverage machine learning, artificial intelligence, and behavioral analytics to identify and mitigate sophisticated cyberattacks in real-time.

Additionally, Cyberverse excels in crafting comprehensive incident response strategies, enabling organizations to detect, contain, and recover from cyber incidents efficiently. Their state-of-the-art simulation tools, such as vulnerable machine stimulators, offer hands-on training by replicating real-world cyberattack scenarios in controlled environments, empowering students, professionals, and educators with practical expertise.

Live Demonstration of Cyberattacks:

1. Cyberattack Simulation on Airports
2. Palace Station Security Breach
3. Metro System Vulnerability Demonstration
4. Industrial Facility Security Simulation
5. Other Critical Infrastructure Simulations:



Tools and Techniques Explained

1. Threat Intelligence Platforms:
2. Incident Response Frameworks:
3. Advanced Simulation Platforms:



Key Learnings and Takeaway :

- 1. Awareness of Threat Landscapes**
- 2. Importance of Training**
- 3. Collaboration and Communication**
- 4. Proactive Security Measures**

Future Collaborations and Initiatives

During the visit, Cyberverses Company proposed a significant collaboration with our institution to elevate the standards of cybersecurity education and research. Recognizing the growing demand for skilled cybersecurity professionals, Cyberverses aims to bridge the gap between theoretical knowledge and practical expertise through innovative learning tools and partnerships.



Key Proposals and Plans:

- 1. Setting Up Advanced Simulation Tools** Cyberverses plans to deploy their state-of-the-art simulation tools, including a vulnerable machine simulator, within our college premises.
- 2. Collaborations with HacFy and Alva's Engineering College** Cyberverses also expressed their intention to partner with HacFy, a prominent cybersecurity organization, and Alva's Engineering College to establish a broader and more collaborative cybersecurity ecosystem.
- 3. Capture the Flag (CTF) Hackathon** One of the most exciting aspects of this collaboration is Cyberverses's plan to sponsor and support a Capture the Flag (CTF) hackathon, scheduled for February next year.

Industrial Visit

“Pace Wisdom Solutions Pvt Ltd, Mangalore”

Date: 13 th November 2024

Participants: 20 Nos. of V Semester B.E. CSE(C-section)

Introduction

An industrial visit to Pace Wisdom Solutions Pvt. Ltd., Mangalore, was organized by Alva's Institute of Engineering & Technology, in collaboration with TiE Mangalore, on 13th November 2024. The visit was attended by 20 students from B.E. CSE (V-C section). The objective of the visit was to provide students with a deeper understanding of the technology industry, particularly focusing on software development, cloud solutions, and data analytics, while also offering hands-on exposure to industry practices and innovative solutions.



Activities and Sessions

- 1. Welcome and Introduction to Pace Wisdom Solutions**
- 2. Overview of Services and Technologies**
- 3. Guided Tour of the Development Floor**
- 4. Interactive Session with Industry Professionals**

Key Takeaways

- **Approach with minimized risk & Bespoke engagement models**
- **Staying together and repeatability**

Conclusion

The industrial visit to Pace Wisdom Solutions Pvt. Ltd. was an enriching experience for all the participants. It not only allowed students to see how the concepts they are learning in their courses are implemented in the real world but also gave them a broader perspective on the tech industry's dynamic and evolving landscape. By interacting with industry professionals and exploring cutting-edge technologies, students gained valuable insights that will help them in their academic pursuits and future career paths.



“Novigo Solutions Pvt Ltd, Mangalore”

Date: 13 th November 2024

Participants: 30 Nos. of V Semester B.E. CSE(C-section)

Introduction

An industrial visit to Novigo Solutions Pvt. Ltd., Mangalore, was organized by Alva's Institute of Engineering & Technology, in collaboration with TiE Mangalore, on 13th November 2024. The visit was attended by 30 students from B.E. Computer Science and Engineering.

The objective of the visit was to provide students with a deeper understanding of the technology industry, particularly focusing on software development, cloud solutions, and data analytics, while also offering hands-on exposure to industry practices and innovative solutions.



Activities and Sessions

1. Welcome and Introduction to Novigo Solutions
2. Overview of Services and Technologies
3. Guided Tour of the Development Floor
4. Hands-on Session with Tools
5. Interactive Session with Industry Professionals



Key Takeaways

- Real-World Applications
- Industry Tools and Practices
- Career Insights
- Collaborative Environment

Conclusion

The industrial visit to Novigo Solutions Pvt. Ltd. was an enriching experience for all the participants. It not only allowed students to see how the concepts they are learning in their courses are implemented in the real world but also gave them a broader perspective on the tech industry's dynamic and evolving landscape. By interacting with industry professionals and exploring cutting-edge technologies.

Inauguration Ceremony of C Maniax Forum

Date : October 26, 2024

Venue: Auditorium, Alvas Institute of Engineering and Technology

Introduction

The inauguration ceremony of the C Maniax Forum took place on October 26, 2024, at the Alvas Institute of Engineering and Technology's auditorium. This significant event marked the official launch of a platform designed to empower Computer Science and Engineering students by fostering collaboration, innovation, and leadership. The audience included esteemed guests, faculty members, and eager students, all contributing to a vibrant atmosphere that set the tone for an impactful academic year.

The C Maniax Forum aims to create a dynamic community where students can engage in discussions, share ideas, and participate in projects that enhance their learning experience. By encouraging active participation and collaboration, the forum prepares students to become leaders in technology and engineering, ensuring they are well-equipped to meet future challenges in their careers.

Event Opening and Welcome Address

The event commenced with a formal escorting of dignitaries to the dais, a moment that was executed with both grace and respect. The distinguished guests included industry leaders, innovative entrepreneurs, and esteemed educators, each of whom has played a vital role in shaping the academic landscape. Their presence enriched the event, bringing a wealth of experience and knowledge to the gathering.



Prayer

To commence the event on a spiritually uplifting note, the Dwani Team led the audience in a heartfelt prayer. This moment served as a collective pause, allowing everyone present to reflect on the significance of the occasion.

Badge Distribution

The badge distribution ceremony marked a pivotal moment in the event. Newly elected leaders of the C-Maniax Forum were presented with badges that symbolize their commitment and leadership. Each badge signifies not just achievement but the responsibilities that come with it.

Annual Plan Presentation by the President

Mr. Neerav Patil, the newly appointed President of the C-Maniax Forum, took the stage to present an inspiring and ambitious annual plan, charting a course for the forum's objectives and activities for the upcoming year.





Guest Introduction

The introduction of the chief guests was handled with great care, setting the stage for their addresses. Mr. Jetso Analin was introduced by Mutturaj Unki, who emphasized his contributions to technology and entrepreneurship.

Tagore introduced Prof. Roopesh Mishra, highlighting his commitment to education and his influence on the academic community. Their introductions created anticipation for the insights the guests would share.

Talk by the Guests

The chief guests, Mr. Jetso Analin and Prof. Roopesh Mishra, delivered thought-provoking talks that resonated deeply with the audience. Mr. Analin shared valuable insights on the evolving landscape of technology and the importance of adaptability in students' career paths. Prof. Mishra emphasized the significance of continuous learning and innovation, urging students to embrace challenges as opportunities for growth.



Presidential Address by Head Of Department

Dr. Manjunath Kotari, the Head of the Computer Science Department, addressed the gathering with a motivational speech. He encouraged students to actively participate in the forum's activities and emphasized the importance of collaboration among peers.



Presentation of Momentos

As a token of appreciation, Dr. Manjunath Kotari, the Head of the Computer Science and Engineering Department, presented mementos to the chief guests. This gesture symbolized the respect and gratitude that the institution holds for their contributions to the fields of education and technology.



PLACED STUDENT LIST

IAST
SOFTWARE SOLUTIONS

Prathiksha J



LSEG

Shetty Yash Chandrashekhar



Poornam
Info Vision

Anamika Tiwari



SignDesk®

Poorvi Kirankumar Shettar

Abhishek Rudrappa Gadad

Tagore Sreevan

Andani Gowda M R

Sudarshan



Hija Happy

K G Shreya

Vikhyath Rai M S

Kagwade Abhishek Shashank

Gayatri C Bhagavantnavr

Anurag M S

Shreya

Ankitha

Harshika

Preran E



Velupugonda Bhavani Krishna

Soorya Prakash Acharya

Akshay V Mendon

Kishor Rai

Akshatha

PLACED STUDENT LIST



Deeksha Subrahmanya Shet

Ebenezer Mathew

Shahir Bilagi

Veeresh Akki

Dharunya S S

K Safeena



Ankitha Anand Joshi

Sannidhi Shetty

Neerav V Patel

Students' Achievements

- Sumith K.S (4AL21CS164), and Shubhanga C S(4AL21CS149) final year CSE students established a startup named **Vsync Labs** at ALET premise with the help of Management of A.E.F. The startup team is currently working under 2 projects viz.,
 - IoT based industrial Automation System** for SKF Elixer Pvt. Ltd.
 - Smart Attendance System** using Biometrics for Alva's Para Medical Institutions
- Prathiksha Jain(4AL21CS099), Shreyas Bhandari L(4AL21CS146), Sampath G.M (4AL22CS410) final year CSE students sucessefully completed the consulatancy project titled "**NAMAGAGI- Crowdfunding Portal**" for Dakshina Kannada District with the help of D.K District Administrations.
- Ansil Kumar (4AL22CS012) sucessefully completed the consultancy project titled "**Alva's Advidertisement Portal**" for Alva's Education Foundation .
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INSTITUTE VISION

“Transformative education by pursuing excellence in engineering and management through enhancing skills to meet the evolving needs of the community”

INSTITUTE MISSION

- To bestow quality technical education to imbibe knowledge, creativity and ethos to students community.
- To inculcate the best engineering practices through transformative education.
- To develop a knowledgeable individual for a dynamic industrial scenario
- To inculcate research, entrepreneurial skills and human values in order to cater the needs of the society.

PROGRAM SPECIFIC OUTCOMES

A graduate of the Computer Science and Engineering Program will exhibit:

- **PSO1: Professional Skills:** The ability to understand & implement the computer programs in the areas of Computer Architecture, System Software, Database Management Systems, Web Design, Multimedia and Computer Networking.
- **PSO2: Problem-Solving Skills:** The ability to solve real-world problems by suitable mathematical model with strong technological concepts in rapidly growing arena of computer technology.
- **PSO3: Successful Career and Entrepreneurship:** Knowledge in diverse areas of Software Engineering and Management & Entrepreneurship for IT Industry, conducive in cultivating skills for successful career development.

PROGRAM EDUCATION OUTCOMES

- **PEO1:**To provide students with fundamental strength in core disciplines of computer engineering to solve the problems of computing world.
- **PEO2:**To ensure that graduates conquer the difficulties of emerging adaptive technological changes.
- **PEO3:**To prepare students for successful career in the industry of international standard.