

#### **MASTER OF COMPUTER APPLICATIONS**

### VISION OF THE DEPARTMENT

To be a center of excellence dedicated to providing education in computer applications, fostering a learning environment that cultivates professionals capable of contributing to innovation and social development.

#### MISSION OF THE DEPARTMENT

To achieve the vision of the department with sustained efforts to,

DMI: To excel in computer applications education by implementing innovative teaching

methods, striving for academic excellence.

DM2: To empower students with creative skills and leadership qualities, fostering an environment that encourages innovation and readies them for successful professional careers.

DM3: To emphasize ethical practices in technology, ensuring that our graduates make meaningful contributions to society by utilizing their expertise for the greater good.

### PROGRAM EDUCATIONAL OBJECTIVES

These objectives describe the expected accomplishments of our graduates during the several years following graduation...

PEO 1: Graduates of the MCA Programme will possess a deep understanding of theoretical foundations and practical applications in computer applications. They will be proficient in designing, implementing, and managing software solutions that address complex real-world problems, demonstrating competence in various programing languages and development methodologies.

PEO 2: MCA graduates will exhibit leadership skills and innovative thinking, enabling them to lead teams and contribute to the development of cutting-edge IT solutions. They will be adept at identifying opportunities for technological advancement, applying creative problem-solving approaches, and adapting to evolving industry trends to address the dynamic needs of the information technology sector.

PEO 3: Graduates will be socially responsible and ethically conscious professionals, recognizing the societal impact of technology. They will incorporate ethical considerations in decision-making processes, demonstrating a commitment to responsible computing practices. Additionally, they will engage in projects that contribute positively to the community and align with the principles of sustainable development.





COLLEGE OF ENGINEERING AND TECHNOLOGY

An Autonomus Institution ,Valley Campus,Coimbatore-641032

# NOUVELLE VOLUME:XI

#### **Words from Chief Editor:**

Welcome to the latest edition of Nouvelle, the official newsletter of our MCA department. We are thrilled to share the remarkable achievements and milestones our students and faculty have accomplished as we continue our journey of academic excellence and innovation.

In this issue, you will discover a wide range of articles that highlight our department's progress in both technical and non-technical fields. We are proud to showcase various projects, research efforts, certifications, and publications that demonstrate the hard work and dedication of our community.

Our students have been involved in groundbreaking projects and have earned prestigious certifications, positioning themselves as leaders in their respective areas. The faculty's research efforts have led to numerous publications in esteemed journals, contributing valuable knowledge to the academic community.

I extend my heartfelt gratitude to all the contributors and the editorial team for their unwavering dedication and effort. Their hard work and passion are what make this newsletter possible. Together, we uphold the spirit of curiosity, collaboration, and excellence that defines our department.

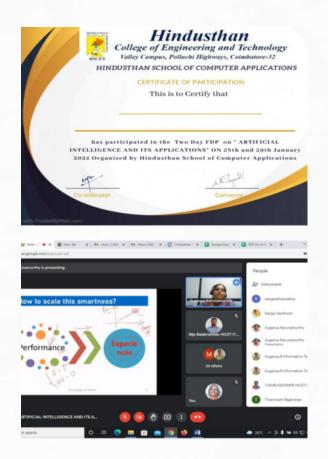


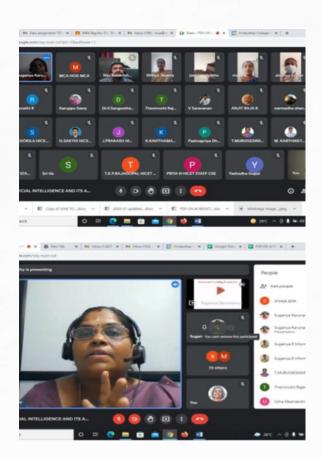
Dr A R JayaSudha Chief Editor,

Nouvelle



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#### 2 Day Faculty Development Programme Artificial Intelligence & Its Applications

A two-day Faculty Development Program on "Artificial Intelligence & Its Applications", which was delivered with the help of Dr. G. Suganya, the Assistant Professor and Head of the Department of CSE in Vellore Institute of Technology, Chennai and the Assistant Director of the Software Development Cell for 2 days(28.01.2022 and 29.01.2022

). During the first day, learners came to understand Artificial Intelligence as a disruptive technology focusing on basic concepts like supervised and unsupervised learning. They went through practical sessions that covered regression, classification, and clustering. The second day focused on neural networks and explored both single-layer and multilayer perceptrons. Further, there was an introduction to deep learning and its use in the healthcare sector, including medical image processing and biometrics. Overall the event proved to be insightful as well as informative where the participants gained a lot of knowledge about AI and its real-life applications.





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#### Seminar on Agile Methodologies

A seminar on 'Agile Methodologies' was organized wherein Mr. K. Bagyalakshmi, project manager, Vernost Marketing Technology Solutions Pvt Ltd, Andheri East, Mumbai was invited as resource person on 22.06.2022. The event aimed to help the student understand what Agile Technologies are and their main values and principles. Participants got a sneak peek into different forms of Agile, with an emphasis on Scrum and Kanban. These two methodologies were then compared so that the students would be well equipped with information of the characteristics and uses of each. Thus, the seminar helped to improve student's understanding of Agile methodologies and provide them with useful tools for the further work.







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#### Seminar on "How to Improve Interpersonal softskills"

A seminar on how to improve interpersonal soft skills was organized with the help of the resource person Mr. Justin Diraviam on 25.09.2021, who is an assistant Professor of English in hindusthan college of engineering and technology, coimbatore. The event was aimed at improving people's communication with others, with emphasis on proper use of English in business life. Mr. Diraviam shared a lot about self-improvement strategies and ways to improve self-esteem and flexibility that are crucial to personal and professional development. The seminar also noted that friendly relationship with co-staff also positively contributes to the friendly working environment, and staff satisfaction. In conclusion, I can say that the seminar was useful and effectively to develop the skill acquisition of attendees in all spheres of interpersonal communication.

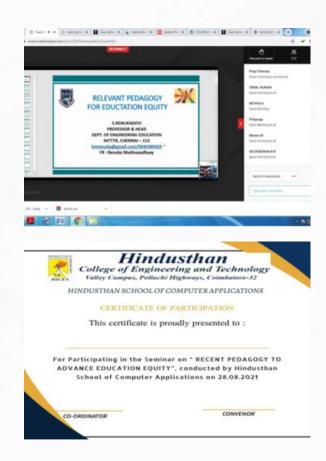






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#### Seminar On "Recent Pedagogy to Advance Education Equity"

A seminar was organized on 'Recent trend in Pedagogy for enhancing Education Equity' with the resource person as S. Renukadevi an Associate Professor from Chennai's NITTR. The seminar analyze the various profiles of equality in educational system and discussed how inequality has various impacts on students and the institutions. S. Renukadevi also shared useful suggestions regarding the actions that need to be taken to facilitate equitable practices both on the institutional level and within individual classrooms. The participants were able to grasp certain ideas about strategies and methodologies that would lead to coming up with an equitable education sector. In its essence, the event contributed to raising awareness and helped to present feasible strategies toward enhancing education equality, which will be helpful for educators and administrators.







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#### **Webinar On Positive and Uplifting Ideas**

A webinar on "Positive and Uplifting Ideas" was organized where the special guest was Mr. K. Premkumar who is a Systems Engineer in Tata Consultancy Services. This webinar was conducted on 29.12.2021. It was informative as it availed a list of suggested YouTube channels and websites for further learning to the faculty members and students. Acquainting participants with Angular JS and React JS technologies, Mr. Premkumar provided information on their usage in practice. Also during the webinar, it was introduced key aspects of Node JS and Express technologies, and main principles of Python frameworks, such as Django. The provided presentation provided relevant information and tools which can help the participants improve their professional competencies and be aware of the latest tendencies in the field.







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#### **Webinar On Cyber Security**

A webinar on "Cyber Security" was arranged and the key speaker for the webinar was Mrs. Ananthi Rajiah, Senior Security Analyst and ISO 27001 Lead Auditor, HTC Global Services, Chennai on 18.08.2021. This was enlightening to the faculty members and students as it gave them insights into the impact of data in cyber security. Topics debated were on concerns raised by sales of mobile phones on data, use of cookies and their consequences, and the significance of the sentiment analysis. She discussed about the dangers of selling secondary storage and talked about specific areas such as the use of wrong passwords if in case of entering websites. It again emphasized the extent of cyber Security courses available, the fact that having good networking knowledge is essential and that VAPT (Vulnerability Assessment and Penetration Testing) courses are also valuable. Also, several positions and opportunities connected to cyber security, Chief Security Officer and job positions in the field of forensic science. The topics of the lecture also included the explanation of the importance of risk analysis within a company as well as giving attendees an overview of the area of study and the career prospects.





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#### Alumni Talk

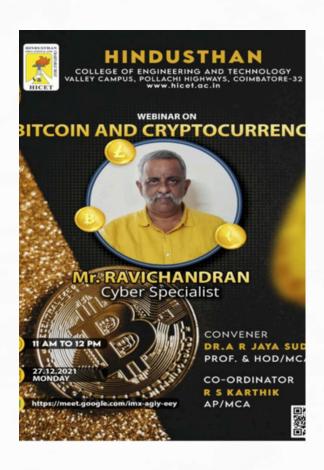
An Alumni Talk was delivered with Mr. Lehr Andrew Ezhil, Enterprise Architect at Tata Consultancy Services, Chennai as the resource person on 18.10.2021. In the during of the event, Mr. Ezhil how he went on it journey through IT and his feedbacks on his experiences as an employee and coping up with midlife crises. He spoke about handling stress and depression, mentioning that his organization focused on personal changes and epiphanies. Mr. Ezhil highlighted on the topic of self-automation as the key to all kinds of work and the need for subjects or individuals to always learn and learn to challenge themselves. He also offered insights into the processes that go into creating front- and back-end web applications, and the approaches for troubleshooting problems. The session ended by looking into the future where topics such as Serverless computing which gave the participants more insights on current IT trends.

**Hindusthan School of Computer Applications** 

"ALUMNI TALK"



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#### **Webinar on Bitcoin and Cryptocurrency**

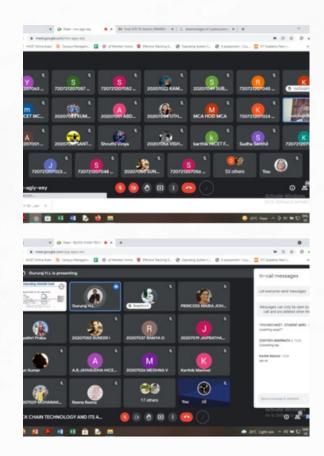
The guest speaker for the program on 27.12.2021 was Mr. S. N. Ravichandran, Cyber Specialist and MD of Nilgiris Chemical Stoneware Co. (P) Ltd, Coimbatore and the topic presented was "Bitcoin and Cryptocurrency". The first part of the event aimed at an explanation of the history of currency, the necessity for having the currency, the barter, and the Ponzi scheme. Mr. Ravichandran mentioned heavily about weakness of Bitcoin; such as it does not have foolproof system in place and you could lose everything very easily. He advised against borrowing and investing in cryptocurrency, noting several major drawbacks problems and concerns such as scalability, cybersecurity, fluctuating prices, nonexistence of intrinsic characteristics, and regulatory compliance. Also, he talked about the pseudo nature of the currency and its ability to be used for various illicit purposes, including arms dealing and money laundering practices. Through the webinar, the participants were able to have an insight into the risks as well as the issues arising from investment into cryptocurrencies.





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#### Webinar On Blockchain Technology and Its Applications

A webinar on "Blockchain Technology and Its Applications" was delivered with Dr. Gururaj H. L, ACM Distinguished Speaker and Associate Professor of Computer Science & Engineering, Vidyavardhaka College of Engineering, Mysuru as the Guest Speaker on 27.08.2021. The event enabled the faculty members and the students to have a clear insight of blockchain as a distributed ledger. To begin with, Dr. Gururaj described the genesis block and laid down some of the defining characteristics of blockchain technology. The audience got to learn about hashing mechanisms and the essence of a tamper-proof record. Another topic discussed during the webinar was mining, the principles of Byzantine Fault Tolerance and different types of consensus algorithms in blockchain systems. As a result, the session was helpful to improve the awareness of the attendees regarding the blockchain technology and its real-life usage.

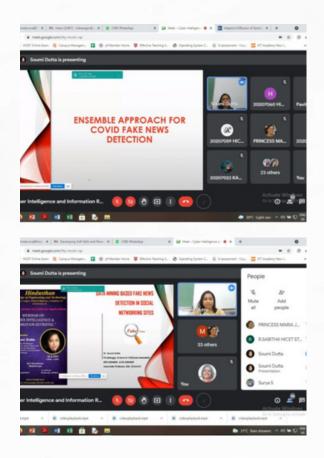






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#### Webinar On Cyber Intelligence and Information Retrieval

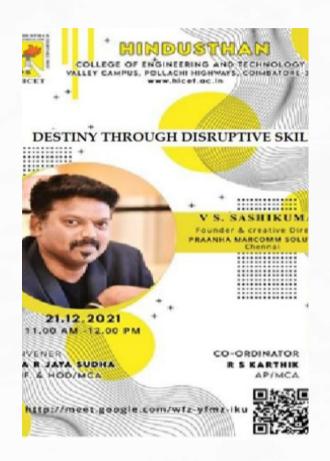
A webinar on "Cyber Intelligence and Information Retrieval" was organized where the guest speaker was Dr. Soumi Dutta, Ph. D (Engg.), Member, IEEE, Associated Professor, Institute of Engineering & Management, Kolkata on 23.08.2021. The event gave the faculty members and students important information on how to identify fake news and how to sort them depending on important characteristics needed to represent a fake news. He also discussed what is referred to as deep fake technology and what it is in today's society. Furthermore, the topic of risk analysis as part of the functioning of a company and its relevance when it comes to cyber intelligence was presented. The session provided the attendees with relevant information considering the difficulties and solutions connected with data reliability and protection.

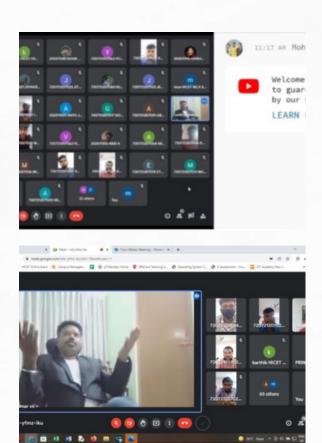






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#### **Webinar on Destiny Through Disruptive Skills**

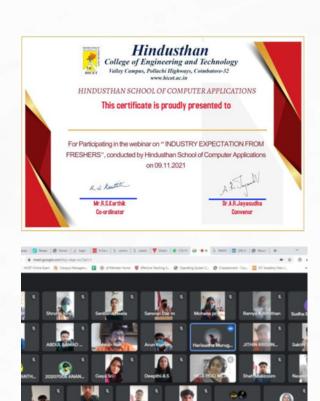
A webinar on the topic "Destiny Through Disruptive Skills" was held on 21.12.2021 with V.S. Sashikumar, Founder and Creative Director of Prannha Marcomm Solutions, Chennai, as the resource person. The program offered an in-depth study into the concept termed disruptive skills, alongside the innumerable characteristics required for acquiring the same. Sashikumar began by speaking about the five major characteristics needed by disruptive skills. It all begins with asking questions. Then, he emphasized the art of observing, which was followed by the power of networking, illustrated with examples of how one discussion of an idea created Apple and Blackberry. The fourth trait he mentioned was that of experimenting people have to experiment and try out new things. Finally, he spoke about the fifth trait, associating—relating two completely different ideas with one another. The webinar aided faculty members and students in arming themselves with a clear understanding of how to develop and leverage disruptive skills for personal and professional growth.





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#### **Webinar on Industry Expectation From Freshers**

A webinar on the topic "Industry Expectations from Freshers" was conducted on 09.11.2021, and its resource person was Mr. Mahesh Nair, Founder and CEO of EssEmm Technologies, Coimbatore. The benefit of this program on the necessary skills that freshers must possess for their skills, insisting mainly on HTML, JavaScript, CSS—UI Designing—and PHP, has been utilizes by faculty members and students. He has thrown light on various effective learning strategies, one of them was engaging in live projects to gather practical information. He explained how freshers were allotted different streams of projects and how they would undergo training, which would ultimately meet up to industry standards. Also, the webinar stressed that freshers must identify their areas of interest in order to shape their careers. The session has successfully equipped the attendees with clarity on what the industry expects and what it takes to have their skills aligned with market requirements.



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#### **Webinar on Web Designing Principles**

A webinar on "Web Designing Principles" was conducted on 21.06.2022, and the resource person was Prasanth A, Creative Director from Coimbatore. He explained in detail twelve principles contrast, balance, emphasis, proportion, hierarchy, repetition, rhythm, pattern, white space, movement, variety, and unity. It was aired that good design originates from a clear understanding of the very basics of design. He also delved at length into the anatomy of the typeface. The webinar furthered the left-brain and right-brain distinct activities and focused on how both cognitive functions in design processes are critically important. The attendees were able to gain full knowledge on web design principles and the cognitive aspects involved, therefore creating effective designs that were also aesthetic.







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#### **Webinar on Gender Equity**

A webinar on "Gender Equity" was held with Ms. Priyadarshini, Independent Researcher and Policy Analyst, as the resource person on 20.12.2021. The program centered on achieving equity by way of rights and judgments in India, focusing on the legal frameworks backstage that anchor gender equality. She spoke about issues relating to equity in the inheritance law and its implications for women's rights. She also spoke of the need for gender equity in the workforce, pointing to the persistent issues with the gender pay gap. The session put up many dimensions concerning gender equity and noted, indeed, that much more had to be done to secure real equality.

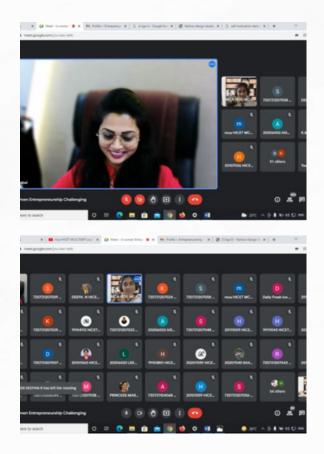






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#### Webinar On Is Women Entrepreneurship Challenging

A webinar was conducted with Mrs. Jeevitha Sakthivel, Founder and Fashion Designer of D Sign D Fashion Boutique in Adyar, Chennai, who acted as the resource person on 08.01.2022. The event aimed at enthusing and motivating girl students to take up innovation and entrepreneurship. Mrs. Sakthivel shared her journey of setting up a successful fashion boutique, elaborating on the challenges and success she met in her journey. She said that making a business from its foundation requires creativity, determination, and self-belief. Inspiration came in handy for every young woman who attended the session, feeling the entrepreneurial potential lying within them, and left with practical insights and motivation to start ventures of their own.



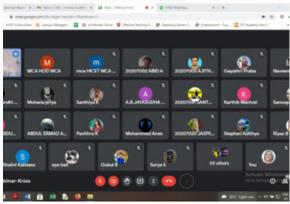




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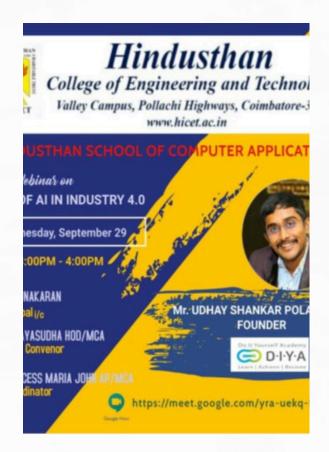
#### Webinar on Career Opportunities In The IT Industry

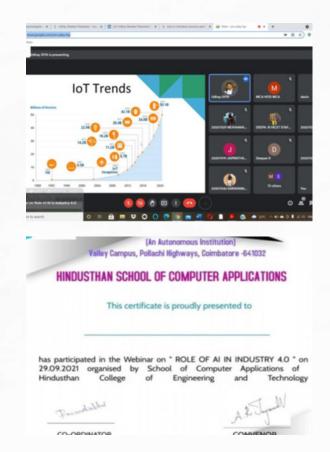
A webinar on "Career Opportunities in the IT Industry" was organized on 26.10.2021 with Mr. P.K. Raghuram, Director of KRIOS Technologies Pvt Ltd, Chennai, as the resource person. Indeed, the program covered all the diverse career opportunities in various sectors like logistics, healthcare, and e-commerce. He reiterated the future of blended learning and the adoption of the flipped method of teaching, coupled with the role of LMS in online education. He discussed how, out of 20%, work was done by humans while the rest is done by robots. The ever-increasing role of robotics was discussed also taking into consideration the huge growth of e-commerce and work from home culture. Mr. Raghuram shared his views on the rise of agile technology, growing opportunities in DevOps, and the need for imbibing design thinking in an organization. He discussed how there is close scrutiny on the ever-increasing demand for cybersecurity professionals amid declining fresher recruitment and reduced budgets. The estressed point of the session was to make self-motivated, independent learners with strong technical and soft skills like teamworking, communication, and problem-solving. He also mentioned the importance of internships, a well-written CV presentation, GitHub repositories, and behavioral skills. Mr. Raghuram encouraged the students to focus on their goals with determination and wisdom, amid which he mentions these as key factors to succeed in this vastly changing IT Industry.





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#### Webinar on Role of Al in Industry 4.0

"Role of AI in Industry 4.0" was the topic taken for the webinar by Mr Udhay Shankar Polavaram, Founder of Diya – Do It Yourself Academy in Bangalore on 29.09.2022. He informed that it is high time when technology leapfrogged and AI entered our day-to-day life. Mr. Polavaram threw more light on the integration of AI with IoT, which actually involves devices interlinked to work in a network, and he mentioned the evolving patterns in the integration of both technologies. All participants became acquainted with current applications of AI in major industries and the promising future of IoT in operational efficiency and connectivity. The webinar provided insight into how AI is reshaping Industry 4.0, together with the stage of advanced technological innovations and transformative business practice venues.

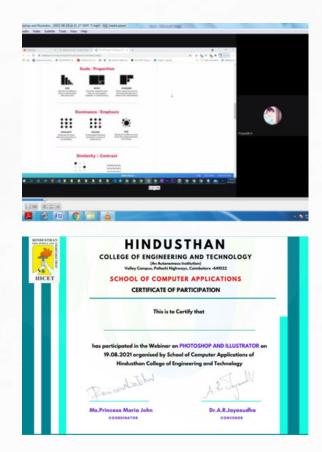






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#### Workshop on Photoshop & Illustrator

A workshop on "Photoshop & Illustrator" was handled by Prasanth A, Creative Director, Coimbatore on 19.08.2021. It was a workshop aiming to train the participants in the basics of both Adobe Photoshop and Illustrator. The training was provided to the participants regarding the use of the basic selection tools and the perfect editing of images. There were practical sessions on manipulation of layers by ordering, positioning, scaling, rotating, and adjusting them as per requirement, and creating composite images using advanced selection and layering techniques. This provided an insight into principles relating to typography, how to set up and modify type using a range of tools and panels. By the end, workshop attendees had hands-on fluency with graphic design tools and could create and manipulate visuals easily.

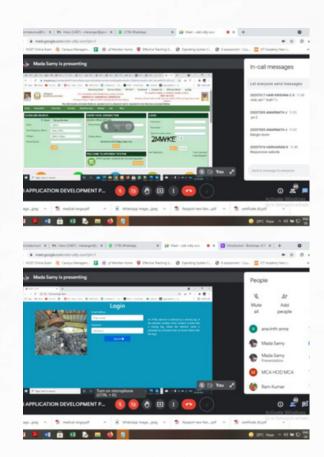






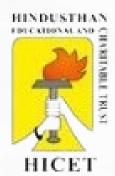
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#### Workshop On Web Development - Phase 1: UI Designing

A workshop on "Web Development – Phase 1: UI Designing" was conducted, and the resource person was Mr. V. Madasamy, Web Developer, PlenitudeIT, Kuala Lumpur, Malaysia on 18.09.2021. The workshop has triple objectives: educate faculty members, update students with the necessary concepts and tools in front-end development, and make them industry ready. He introduced the participants to frontend design and covered all of the basics of HTML, CSS, and Bootstrap. Participants gained practical experience in form designing and bright front-end designing with the aid of UI designing tools. Participants went through practical sessions wherein participants were taken through the process of creating a sample login form, proving that the UI designing principles and tools could be used in real-world scenarios. By the end of this workshop, the participants should have learned vital concepts and acquired hands-on experience with their practical implementations—two of the most pivotal elements for web development and UI designing.



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#### **Workshop on Importance of Soft Skill**

A workshop on "Importance of Soft Skills" was organized by Mr. Badrinath S, Soft Skill Trainer and Project Coordinator of Smiligence Technologies, Tamil Nadu on 21.05.2022. The workshop began with an ice-breaking session where students were divided into groups to present their personal interests, things they like and dislike, fancy, and ambitiously want to achieve. This activity was meant to provide a comfortable environment where all participants would feel free to communicate openly. Mr. Badrinath showed them how to make a good resume that would highlight soft skills and achievements. Then, all the techniques and strategies for the interview process were covered in detail during the workshop itself, right from confidence-enhancing body language to communication skills, with its own special tips for tackling the usual barrage of questions. By the end of the workshop, there was value from the students about what soft skills meant for professional success and the acquiring of practice tools that would enhance employability in today's cutthroat job market.



#### **MASTER OF COMPUTER APPLICATIONS**

#### **Vision of the Department**

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PO	GRADUATE ATTRIBUTES	PROGRAM OUTCOME
1	Computational Knowledge	Apply computer fundamentals, computing specialization, mathematics, and domain knowledge relevant to the computing specialization. Employ this knowledge to formulate abstract and conceptual computing models, addressing defined problems and requirements.
2	Problem Analysis	Examine and address complex computing problems by identifying, formulating, and researching relevant information. Suggest solutions based on well-supported conclusions drawn from fundamental principles of math, computer science and related fields.
3	Design / Development of Solutions	Create and assess solutions for intricate computing challenges. Develop and appraise systems, components, or processes that fulfill specific requirements, giving careful thought to public health and safety, as well as cultural, societal, and environmental considerations.
4	Conduct Investigations of Complex Computing problems	Apply research-based knowledge and methods, such as designing experiments, analysing and interpreting data, and synthesizing information, to generate valid conclusions.
5	Modern Tool Usage	In complex computing tasks, utilize, choose, modify and employ suitable techniques, resources, and modern computing tools while recognizing their limitations.
6	Professional Ethics	Embrace and adhere to professional ethics, cyber regulations, and the responsibilities and norms associated with professional computing practice.
7	Life-Long Learning	Demonstrate the capability to pursue self-directed learning for ongoing growth as a computing professional.

РО	GRADUATE ATTRIBUTES	PROGRAM OUTCOME
8	Project Management and Finance	Apply computing and management principles effectively in individual work, team participation, and leadership roles. Manage projects and navigate multidisciplinary environments as a proficient team member and leader.
9	Communication Efficacy	Convey complex computing activities clearly to the computing community and society. Demonstrate the ability to create informative reports, design documentation, deliver effective presentations, and give and comprehend clear instructions.
10	Societal and Environmental Concern	Create and assess solutions for intricate computing challenges. Develop and appraise systems, components, or processes that fulfill specific requirements, giving careful thought to public health and safety, as well as cultural, societal, and environmental considerations.
11	Individual and Team Work	Apply research-based knowledge and methods, such as designing experiments, analysing and interpreting data, and synthesizing information, to generate valid conclusions.
12	Innovation and Entrepreneurship	In complex computing tasks, utilize, choose, modify, and employ suitable techniques, resources, and modern computing tools while recognizing their limitations.