

St. Wilfred's



College of Computer Sciences

(Approved by AICTE & Affiliated to the University of Mumbai)

2 YEARS COURSE



Masters of
Computer Applications
Information Brochure(MCA)
2026 - 2028

OUR PATRONS

Leadership

Secretary's Message



“ Welcome to St. Wilfred's College of Management Studies, a place where we nurture future leaders and innovators. Our commitment is to provide an educational environment that is both challenging and supportive, encouraging students to push their boundaries and achieve their full potential. We focus on integrating cutting-edge technology and modern teaching methodologies to deliver a curriculum that is relevant and impactful.

We take pride in our vibrant campus community, where students from diverse backgrounds come together to learn, collaborate, and grow. Our focus on holistic development ensures that our graduates are not only well-prepared for their professional careers but are also responsible citizens of the world. We look forward

to having you with us. ”

Dr. Keshav Badaya

Secretary, St. Wilfred's Education Society

Chancellor, Chhatrapati Shivaji Maharaj University, Navi Mumbai

Chairman's Message



It gives me great pleasure to welcome you to St. Wilfred's College of Computer Sciences. In this era of rapid technological advancement, our goal is to empower students with the knowledge and skills needed to thrive in the digital world. We are committed to providing a world-class education that fosters innovation, critical thinking, and a passion for lifelong learning.

Our experienced faculty, state-of-the-art infrastructure, and strong industry connections provide an ideal environment for students to excel. We believe in a holistic approach to education, nurturing not just academic excellence but also personal growth and ethical values. Join us on this exciting journey to shape the future of technology.

Shri. Suresh Kumar Gupta

Chairman, St. Wilfred's Education Society

Director's Message



A warm welcome to all aspiring students. At St. Wilfred's College of Computer Sciences, we are dedicated to academic excellence and the holistic development of our students. Our MCA program is meticulously designed to bridge the gap between academia and industry, ensuring our students are job-ready from day one.

We believe in learning by doing. Our curriculum emphasizes practical, hands-on experience through projects, internships, and industry collaborations. We have a team of highly qualified and dedicated faculty who mentor and guide our students to achieve their career goals. We are confident that your time at St. Wilfred's will be a rewarding and enriching experience.

Mr. Ojas Badaya

Director, St. Wilfred's Education Society

Director's (SWCCS) Message



Welcome to St. Wilfred's College of Computer Sciences.

At St. Wilfred's, we believe that education is not just about acquiring knowledge, but about building character, confidence, and the skills necessary to excel in today's fast-changing world. Our college is dedicated to providing quality education in computer science with a focus on practical learning, research orientation, and holistic development.

We nurture our students to become competent professionals, innovative thinkers, and responsible citizens. Our dedicated faculty, advanced laboratories, and industry-integrated curriculum ensure that every student is ready to meet global challenges and seize emerging opportunities in the IT sector.

The college organizes seminars, international research conferences, club activities, research publications, cultural events, technical festivals and CSR initiatives on a regular basis to develop the students into a responsible citizen of the country.

They are tested for their skills, weaknesses, strengths and threats through swot analysis. The mentor mentee systems brings the students closer to the mentors and they guided for their betterment.

The college provides outdoor and indoor sports activities, yoga sessions, stress management workshops and craft and recycling activities to release stress and fear.

Best practices, namely *OJAS (Online Job Oriented Advanced Supplements)* and *Data Speaks Live Show* are conducted by the college for the citizens of India and these programmes train and aware them of the digital world and emerging technologies and cyber challenges.

I invite you to explore your potential with us and become a part of the St. Wilfred's family, where your aspirations are guided towards meaningful achievements and a successful future.

Dr. Shubhi Lall Agarwal

Director, St. Wilfred's College of Computer Sciences



VISION

“St. Wilfred’s College of Computer Sciences will become an internationally renowned Institute for imparting technical education to graduates and build technically sound leaders with value based leadership.”

MISSION

“To acquire excellence in providing value based technical education so that students can master technologies and inculcate techno-managerial skills for organizations.”

PROGRAMME OUTCOMES

- **PO1 (Foundation Knowledge):** Apply knowledge of mathematics, programming logic and coding fundamentals for solution architecture and problem solving.
- **PO2 (Problem Analysis):** Identify, review, formulate and analyze problems for primarily focusing on customer requirements using critical thinking frameworks.
- **PO3 (Development of Solutions):** Design, develop and investigate problems with as an innovative approach for solutions incorporating ESG/SDG goals.
- **PO4 (Modern Tool Usage):** Select, adapt and apply modern computational tools such as development of algorithms with an understanding of the limitations including human biases.
- **PO5 (Individual and Teamwork):** Function and communicate effectively as an individual or a team leader in diverse and multidisciplinary groups. Use methodologies such as agile.
- **PO6 (Project Management and Finance):** Use the principles of project management such as scheduling, work breakdown structure and be conversant with the principles of Finance for profitable project management.
- **PO7 (Ethics):** Commit to professional ethics in managing software projects with financial aspects. Learn to use new technologies for cyber security and insulate customers from malware
- **PO8 (Life-long learning):** Change management skills and the ability to learn, keep up with contemporary technologies and ways of working.

Masters of Computer Applications (MCA) Programme Curriculum



Curriculum as per the MCA NEP syllabus of University of Mumbai

SEM 1

COURSE	KEY OUTCOMES
Mathematical Foundation for Computer Science	<p>CO1 Apply different statistical measures on various types of data</p> <p>CO2 Evaluate using regression analysis</p> <p>CO3 Analyze different types of Probability and their applications</p> <p>CO4 Apply the concepts of random variables to expectation and variance</p> <p>CO5 Apply probability distribution to real world problems</p> <p>CO6 Formulate and test the hypothesis for business problem using various methods</p>
Advanced Database Management System	<p>CO1 Demonstrate complex database systems like parallel, distributed & object-oriented databases.</p> <p>CO2 Model data warehouse with ETL process and dimensional modelling and data analysis using OLAP operations.</p> <p>CO3 Discover Association among items using Association rule mining.</p> <p>CO4 Evaluate different data mining techniques like classification, prediction, clustering and understanding web mining techniques.</p>
Advanced Java	<p>CO1 Demonstrate use of data structure and data manipulation concept using Java Collection Framework and Lambda expressions</p> <p>CO2 Develop JSP using standard actions, custom tags</p> <p>CO3 Understand and develop applications using Spring Framework, Lightweight Container and Dependency Injection with Spring</p> <p>CO4 Develop applications using Aspect Oriented Programming with Spring</p> <p>CO5 Apply JDBC Data Access with Spring and demonstrate Data access operations with Jdbc Template and Spring.</p> <p>CO6 Build Spring Boot Web Application and Spring Boot RESTful WebServices and Database</p>
Software Project Management	<p>CO1 Define the key concepts of Software Project Management.</p> <p>CO2 Use various SDLC models to implement the projects.</p> <p>CO3 Demonstrate understanding of the requirements Analysis and Application of UML Models.</p> <p>CO4 Make use of estimation logic for estimation of software size as well as cost of software.</p> <p>CO5 Analyze the need of scheduling and change management during software development.</p> <p>CO6 Assess various factors influencing project management, quality assurance and risk assessment.</p>
Elective 1	
1. Accounting & Managerial Economics	<p>CO1 Understanding knowledge of basic accounting principles and the ability to interpret them in recording transactions and preparing financial statements. Remembering / Understanding</p> <p>CO2 Apply management accounting techniques such as cost sheet preparation, marginal costing, and break-even analysis to support financial decision-making. Applying, Analyzing</p> <p>CO3 Analyze demand and supply factors, market structures, and pricing strategies and the concepts of managerial economics to make informed business decision Analyzing</p> <p>CO4 Evaluate macroeconomic indicators and policies to assess their impact on the business environment and organizational strategies.</p>
2. Optimization	<p>CO1 Formulate mathematical model for a broad range of problems in business and industry</p>

Techniques	CO2 Apply mathematics and mathematical modelling to forecast implications of various choices in real world problems various choices in real world problems CO3 Think strategically and decide the optimum alternative from various available options CO4 Evaluate performance parameters of real system using simulation.
3. Digital Marketing and Business Analytics	CO1 Understand the role of Digital Marketing and key elements of Digital Marketing Strategy CO2 Demonstrate use of various Digital Marketing Tools for digital marketing campaigns CO3 Assess/Evaluate the effectiveness of social media marketing strategies for improving business CO4 Demonstrate web analytics using trending technologies in Digital Marketing
4. e-Commerce	CO1 Identify the anatomy of e-Commerce applications and its process models CO2 Categorize different Electronic payment systems CO3 Analyze various marketing strategies of e-Commerce for an online business CO4 Understanding the operations of e-enterprises CO5 Discuss mobile application and payment methods of m-commerce CO6 Understand various security issues and opportunities in e-Commerce

Laboratory / Practical

Advanced Data Structures Lab	CO1 Apply searching and sorting algorithms CO2 Implement linear data structures CO3 Implement non-linear data structures CO4 Analyze hashing technique for data storage and retrieval problems CO5 Choose the appropriate data structures to solve complex real life problems
Advanced Java Lab	CO1 Demonstrate use of data structure and data manipulation concept using Java Collection Framework and Lambda expressions. CO2 Build JSP web applications using standard actions and custom tags. CO3 Develop application using Spring Framework, Lightweight Container and Dependency Injection with Spring. CO4 Develop applications using Aspect Oriented Programming with Spring. CO5 Build JDBC application with Spring using JdbcTemplate. CO6 Develop Spring Boot Web Application and Spring Boot RESTful web services and database.
Advanced Database Management System Lab	CO1 Demonstrate distributed and ORDBMS concepts CO2 Demonstrate and analyze various OLAP operations CO3 Perform ETL transformations used in building data warehouse CO4 Demonstrate data preprocessing techniques CO5 Implement and evaluate different data mining techniques like classification, prediction, clustering and association rule mining in R
Web Technologies Lab	CO1 Build websites making use of various Node.js features CO2 Design a dynamic web application enabled with database connectivity CO3 Demonstrate React fundamentals and components of ReactJS CO4 Build an end-to-end application using ReactJS
Mini Project – 1A	CO1 Demonstrate the ability to produce a technical document CO2 Apply software project management skills during project work CO3 Build small groups to work effectively in team on medium scale computing projects CO4 Design and evaluate solutions for complex problems



SEM 2

COURSE	KEY OUTCOMES
Research Methodology	<p>CO1 Demonstrate knowledge of research concepts and processes</p> <p>CO2 Perform literature reviews, prepare the key elements of a research proposal</p> <p>CO3 Compare and contrast quantitative and qualitative research</p> <p>CO4 Define and develop a possible research interest area using specific research design</p> <p>CO5 Explain the rationale of research ethics and its importance</p> <p>CO6 Identify use of AI and plagiarism detection tools for report writing</p>
Artificial Intelligence and Machine Learning	<p>CO1 Understand different AI concepts and Develop an understanding of problem-solving techniques in Artificial Intelligence</p> <p>CO2 Apply Artificial intelligence techniques for problem-solving and acquire knowledge of artificial intelligence search strategies</p> <p>CO3 Identify and analyze different types of models of artificial neural networks</p> <p>CO4 Analyze the fundamentals of machine learning, the learning algorithms, and the paradigms of supervised and unsupervised learning</p> <p>CO5 Analyze and interpret the predictive performance of machine learning models</p> <p>CO6 Identify methods to enhance accuracy and resilience in forecasting by merging predictions from multiple models</p>
Information Security	<p>CO1 Discuss the requirement of information security , private and public key algorithms and to examine the mathematics of cryptography</p> <p>CO 2 Analyze authentication and integrity techniques available</p> <p>CO 3 Interpret the importance of firewalls and intrusion detection systems and signatures.</p> <p>CO 4 Relate to the security issues and technologies used in the web, internet, database and operating system</p>

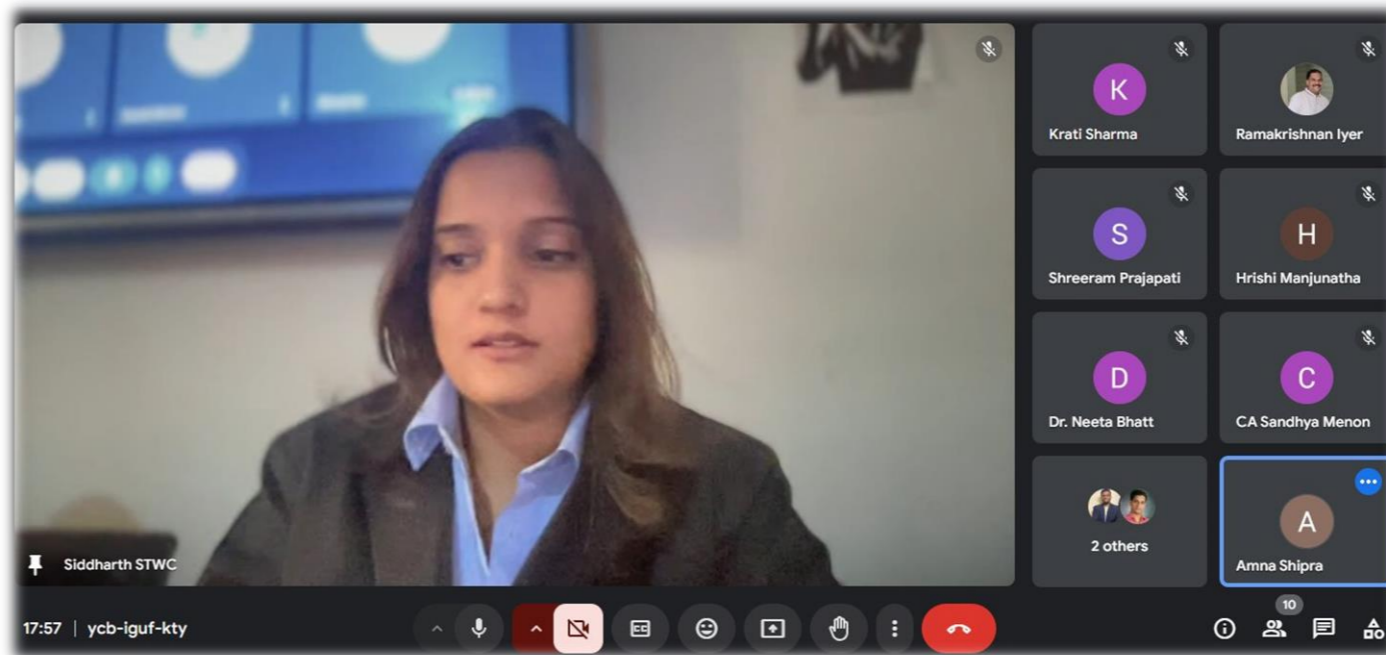
ELECTIVES 2



Internet of Things	<p>CO1 Compare M2M and IoT; characteristics of IoT systems, discuss applicability of IoT enabling technologies, and IoT levels.</p> <p>CO2 Explain IoT reference models and Architecture Reference Model (ARM) for IoT</p> <p>CO3 Examine various protocols for IoT and IoT security aspects</p> <p>CO4 Identify various phases in IoT generic design methodology</p> <p>CO5 Utilize cloud and web based concepts in IoT.</p> <p>CO6 Identify the applications of IoT in various domains.</p>
Robotic Process Automation	<p>CO1 Define the key concepts of Robotic Process Automation and evolution.</p> <p>CO2 Demonstrate development of BOT with specific tools</p> <p>CO3 Apply RPA implementation cycle considering security and scaling</p> <p>CO4 Examine specifications of RPA tools and justify applications of appropriate tool for problem.</p> <p>CO5 Assess performance of BOTs in context of intelligent automation</p>
Natural Language Processing	<p>CO1 Understand the computational properties of natural languages and the commonly used algorithms for processing linguistic information.</p> <p>CO2 Apply various Grammer formalisms and mathematical techniques in different fields of studies.</p> <p>CO3 Analyze various algorithms and approaches for the given task, dataset, and stage of the NLP product.</p> <p>CO4 Evaluate various techniques of machine learning, text categorization, and text summarization and information extraction.</p>
Design and Analysis of Algorithm	<p>CO1 Analyze the time and space complexity of various algorithms.</p> <p>CO2 Analyze divide and conquer, greedy and dynamic programming strategies.</p> <p>CO3 Analyze backtracking, branch and bound algorithms</p> <p>CO4 Explain and Analyze NP hard NP complete problem and string matching algorithm.</p>

ELECTIVES 3	
Green Computing & Sustainability	<p>CO1 Acquire expertise for improving the energy efficiency for laptops and personal computers by reducing the power consumption requirements</p> <p>CO2 Assess enterprise-wide and personal computing and computing energy consumption</p> <p>CO3 Recognize the necessity for long-term sustainability in IT</p> <p>CO4 Formulate plans for reducing IT heating and cooling requirements</p> <p>CO5 Evaluate the regulatory and governance issues surrounding IT</p> <p>CO6 Choose the best sustainable hardware for their applications</p>
Management Information System	<p>CO1 Understand theoretical aspects of Management Information Systems and its global perspective. Understand</p> <p>CO2 Recognize the procedures and practices for handling information systems effectively. Apply, Analyze</p> <p>CO3 Apply BI to enhance Decision making. Apply</p> <p>CO4 Recognize the necessity of IT security and Infrastructure in Management Information Systems.</p>
Cyber Security	<p>CO1 Understanding of basic concepts of cyber security Understanding</p> <p>CO2 Remember cyber laws and amendment act with respect to Indian perspective as well as global perspective. Remember</p> <p>CO3 Make use of various tools and methods used in cybercrime Applying</p> <p>CO4 Analyze various cybercrimes and real life case studies and identify in which section of cyber laws the case can be registered.</p>
Soft Computing	<p>CO1 Explain the components and applications of soft computing.</p> <p>CO2 Use different training algorithms of neural networks.</p> <p>CO3 Apply fuzzy logic techniques to find solution of uncertain problems.</p> <p>CO4 Analyze the genetic algorithms and their applications</p> <p>CO5 Understanding Hybrid Soft Computing techniques</p>
Mandatory Laboratory / Practical	
Soft Skills Development	<p>CO1 Develop interpersonal skills that help in communication, teamwork, leadership and decision-making.</p> <p>CO2 Methodically study, formulate and interpret different facets of organizational behavior.</p> <p>CO3 Develop holistic leaders and technocrats helping in individual and organizational growth.</p>
Artificial Intelligence and Machine Learning Lab	<p>CO1 Apply the basic concepts of Artificial Intelligence and its applications using PROLOG.</p> <p>CO2 Understand basics of Python Programming language and Implement Artificial Neural Network algorithms</p> <p>CO3 Analyze data preprocessing techniques for feature extraction and selection.</p> <p>CO4 Develop models using appropriate Machine Learning algorithms for real world problems.</p>
Devops Lab	<p>CO1 Recall and explain the key principles and benefits of DevOps</p> <p>CO2 Demonstrate the use of Git and GitHub to manage version control in projects and compare different workflows.</p> <p>CO3 Implement and evaluate containerized applications using Docker</p> <p>CO4 Configure Jenkins for automated build and deployment and assess its effectiveness in CI/CD workflows</p>
ELECTIVES 2 - Lab	
Internet of Things Lab	<p>CO1 Identify basic electronic components and interface them with Arduino, programmed for applications using Arduino simulator.</p> <p>CO2 Experiment with various electronic I/O devices and sensors with Arduino.</p> <p>CO3 Demonstrate IoT application using Cloud.</p> <p>CO4 Build IoT based projects using Arduino</p>
Robotic Process Automation Lab	<p>CO1 Define the key concepts of Robotic Process Automation and evolution.</p> <p>CO2 Demonstrate development of BOT with specific tools.</p> <p>CO3 Apply RPA commands to automate tasks.</p> <p>CO4 Summarize this tool as a summation of Robotic Process Automation, Cognitive Analytics, and Workforce Analytics.</p>
Natural Language Processing Lab	<p>CO1 Understand the information retrieval techniques using NLP</p> <p>CO2 Apply mathematical techniques to model linguistic phenomena with formal grammar.</p> <p>CO3 Analyze various NLP algorithms and text mining NLP applications</p> <p>CO4 Creating real world NLP applications such as machine translation, text categorization, text summarization, information extraction by applying NLP techniques.</p>
Design and Analysis of Algorithm Lab	<p>CO1 Implement and analyze recursive and non-recursive Algorithms</p> <p>CO2 Apply and compare Algorithms using the divide and conquer approach.</p>

	<p>CO3 Implement and apply Algorithms to Real-World Problems using greedy techniques.</p> <p>CO4 Demonstrate dynamic programming solutions for complex problems.</p> <p>CO5 Develop backtracking and branch and bound techniques for problem-solving.</p> <p>CO6 Understand, apply, and compare different string-matching algorithms.</p>
Mandatory Laboratory / Practical	
Advanced Web Technologies (AWT) Lab	<p>CO1 Develop Web applications using various controls and programming techniques.</p> <p>CO2 Implement Data Binding applications using ADO.NET</p> <p>CO3 Solve identity management problems in web Applications using session management and AJAX concepts.</p> <p>CO4 Create modern web applications using Web Services and Core MVC</p>
User Interface Lab	<p>CO1 Interpret user needs and context of User Interface design Specification and describe the process and importance of user research</p> <p>CO2 Demonstrate the tools and techniques for designing in forming models</p> <p>CO3 Develop high fidelity prototype for end-to-end solution.</p> <p>CO4 Apply best practices for evaluating user experience.</p>
Networking with Linux Lab	<p>CO1 Install and configure the network simulation tool and basic Linux networking commands.</p> <p>CO2 Construct various network topologies and Network Protocols</p> <p>CO3 Analyze the network traffic using network sniffing software</p> <p>CO4 Evaluate the network performance using various metrics</p> <p>CO5 Design and develop solutions to complex network problems using Network Simulator and Network</p>
Mini Project 1B	<p>CO1 Demonstrate the ability to produce a technical document.</p> <p>CO2 Apply software project management skills during project work.</p> <p>CO3 Build small groups to work effectively in team on medium scale computing projects.</p> <p>CO4 Design and evaluate solutions for complex problems.</p>



Experience a vibrant campus life that goes beyond academics - where innovation meets tradition, where friendships are forever, and where every moment contributes to your incredible journey.

SEM 3

COURSE	KEY OUTCOMES
Big Data Analytics and Visualization	<p>CO1 Demonstrate the key issues in big data management and its associated application for business decision.</p> <p>CO2 Develop problem solving and critical thinking skills in fundamental enabling technique using Map Reduce.</p> <p>CO3 Build problem-solving and critical thinking abilities through fundamental enabling technologies like NoSQL and the Hadoop ecosystem.</p> <p>CO4 Use of RDD and Data Frame to create Application in Spark. Applying CO5 Evaluate the suitability of various visualization methods in exploratory data analysis</p>
Elective - 4	
Computer Vision	<p>CO1 Explain fundamental concepts, techniques, and applications of Computer Vision.</p> <p>CO2 Implement image processing techniques such as geometric transformations, filtering, and feature extraction.</p> <p>CO3 Analyze and evaluate object recognition, motion estimation, and 3D reconstruction techniques.</p> <p>CO4 Develop real-world Computer Vision applications using state-of the-art frameworks and machine learning models.</p>
Deep Learning	<p>CO1 Demonstrate concepts, architectures and algorithms of Neural Networks to solve real world problems Bloom Level Understanding</p> <p>CO2 Identify deep feed-forward networks and different regularization techniques used in Deep Learning.</p> <p>CO3 Identify challenges in Neural Network optimization and different optimization algorithms used in Deep learning models</p> <p>CO4 Analyze deep learning algorithms which are more appropriate for various types of learning tasks in various domains</p>
Distributed System and Cloud Computing	<p>CO1 Illustrate principles and communication protocols of Distributed Systems, Design issues, Inter Process Communication, Remote Process Communication and Remote Method Invocation</p> <p>CO2 Analyse clock synchronization and various algorithms.</p> <p>CO3 Analyse Distributed shared Memory, issues in designing and implementing DSM systems.</p> <p>CO4 Analyse various algorithms in Distributed System Management, File management and process management.</p> <p>CO5 Analyse Cloud computing and cloud models Analysing</p> <p>CO6 Analyse design issues and challenges in cloud computing</p>
Elective - 5	
Computer Vision	<p>CO1 Understand Open CV Framework</p> <p>CO2 Develop applications using basic image processing techniques used in Computer Vision</p> <p>CO3 Design Applications to Detect Motion and Face in an image</p> <p>CO4 Create a Applications using CNN</p>
Deep Learning	<p>CO1 Demonstrate Tensor flow/Keras deep-learning workstations.</p> <p>CO2 Choose appropriate data preprocessing techniques to build neural network models.</p> <p>CO3 Analyze different regularization and optimization techniques used in deep learning.</p> <p>CO4 Build neural network models using deep learning algorithms CNN, RNN and LSTM to solve real world problems.</p>
Distributed System and Cloud Computing	<p>CO1 Develop Remote Procedure Call and Remote Method Invocation concepts.</p> <p>CO2 Develop a Remote Object Communication Program.</p> <p>CO3 Develop mutual exclusion concept using Token ring algorithm and develop any one of Election Algorithm</p> <p>CO4 Implementation of Cloud Computing Services.</p> <p>CO5 Implementation of Identity Management using Cloud Computing concept.</p> <p>CO6 Implementation of Virtual Machine using Cloud Computing Concepts</p>
Elective – 5 Lab	
Software Testing Quality Assurance Lab	<p>CO1 Apply manual software testing techniques to test a software application and create a test cases.</p> <p>CO2 Implement Selenium tool to perform automation testing.</p> <p>CO3 Implement TestNg frameworks to test the application</p> <p>CO4 Demonstrate validation checks and regression testing on the application</p>
Ethical Hacking Lab	<p>CO1 Applying foot printing tools for information gathering issue.</p> <p>CO2 Applying tools for scanning networks, enumeration and sniffing.</p> <p>CO3 Creating malwares like virus, trojan and keyloggers and using tools to study malware attacks.</p> <p>CO4 Creating applications and demonstrating attacks like sql injection and session hijacking.</p>

	<p>CO5 Applying tools and algorithms related to cryptography.</p> <p>CO6 Analyzing to find out vulnerabilities in a computer system using pen testing and analyzing case studies under IT act 2000 and IT Amendment Act 2008 of Indian cyberlaw. Generating report for the same.</p>
<p>Blockchain Technology</p>	<p>CO1 Implement encryption algorithms and hash functions</p> <p>CO2 Implement a bitcoin blocks and validating</p> <p>CO3 Demonstrate the role of Smart contract using Solidity</p> <p>CO4 Develop and deploy Dapp in Ethereum</p>



Elective - 6

<p>Design Thinking & Innovation Skills 2</p>	<p>CO1 Define the principles of Innovation, Creativity, Design Thinking and its applications.</p> <p>CO2 Apply empathy-driven research methods to identify and articulate user needs.</p> <p>CO3 Analyze user insights and generate innovative solutions using ideation techniques.</p> <p>CO4 Design and test prototypes through iterative processes, incorporating user feedback to improve solution effectiveness.</p> <p>CO5 Integrate design thinking principles into technology projects to develop innovative, sustainable, and user-centric solutions.</p>
<p>Digital Forensics</p>	<p>CO1 Define cybercrime and its categories, Identify the key concepts of digital forensics, List various types of digital evidence</p> <p>CO2 Describe the phases of an incident response plan and Explain legal frameworks and compliance standards</p> <p>CO3 Identify different forensic data acquisition methods</p> <p>CO4 Correlate Windows artifacts with user activity</p> <p>CO5 Explain network protocols and forensic methodologies.</p> <p>CO6 Explain email header analysis and explain different types of internet artifacts (cookies, cache, history).</p>
<p>Entrepreneurship Management</p>	<p>CO1 Define key concepts related to entrepreneurship, including the roles and characteristics of entrepreneurs, and the phases of entrepreneurship development.</p> <p>CO2 Explain the entrepreneurial mindset and the factors affecting entrepreneurial growth, including the barriers and challenges faced by entrepreneurs.</p> <p>CO3 Develop a comprehensive business plan, incorporating marketing, production, organization, and financial strategies for a new venture.</p> <p>CO4 Examine the role of small-scale industries and institutions supporting entrepreneurship, and analyze the impact of these institutions on entrepreneurial growth.</p> <p>CO5 Assess the significance of rural and social entrepreneurship and the ethical considerations in corporate entrepreneurship, including the social responsibilities of entrepreneurs.</p> <p>CO6 Design strategies to foster an entrepreneurial culture and promote intrapreneurship within organizations.</p>



MANDATORY Courses

<p>Big Data Analytics and Visualization Lab</p>	<p>CO1 Demonstrate HDFS Commands in Hadoop CO2 Apply Map Reduce Programming Paradigm to solve the algorithmic problems CO3 Build No SQL Database and Query it Using Mongo DB CO4 Analyze the Data Using Hadoop Ecosystem Projects: Hive and Pig CO5 Explain RDD and Data Frame Creation in Apache Spark CO6 Create various Visualizations using Tableau.</p>
<p>Mobile Computing Lab</p>	<p>CO1 Design and develop Android applications with user interfaces and UI controls. CO2 Implement database connectivity using SQLite, Shared Preferences, and Firebase for data persistence. CO3 Develop animation, multimedia, and location-based features within Android applications. CO4 Integrate RESTful APIs in Android applications to consume web services and parse JSON responses. CO5 Develop cross-platform mobile applications using Dart and Flutter, understanding widget-based UI design. CO6 Manage data handling in Flutter and publish Android applications on the Google Play Store.</p>
<p>Research Project (RP)</p>	<p>CO1 Write the Research Project Proposal CO2 Interpret others researcher's work critically while doing own research work CO3 Develop a conceptual framework/ model to address the identified problem statement by applying the research methodology concepts and theories CO4 Test and validate data to address the research questions/hypothesis CO5 Understand professional, ethical, legal, industry practices and responsibilities.</p>
<p>Individual Social Responsibility (ISR)</p>	<p>Course Outcome: Learners will be able to create awareness about institutional and individual social responsibilities, fostering societal development.</p>

Sem 4 - Internship Project, MOOC and Research Paper

SEM 4	
COURSE	KEY OUTCOMES
<p>Internship Project</p>	<p>CO1 Enhanced Technical Proficiency: Students will demonstrate the ability to apply programming languages software development techniques and industry-specific tools to real-world projects. CO2 Practical Problem Solving: Students will effectively analyze and solve complex technical problems using critical thinking algorithm design and appropriate technologies. CO3 Familiarity with Industry Standards: Students will gain practical experience with project management tools version control systems and collaborative workflows commonly used in the software development industry. CO4 Improved Communication and Teamwork: Students will strengthen their ability to work effectively in teams communicate technical concepts clearly and collaborate on project development. CO5 Course Outcome Professional and Ethical Practices: Students will exhibit professionalism time management and ethical behavior in a work environment preparing them for future careers in the IT industry.</p>

Research Paper / Product / Patent	<p>CO1 Show data coherently, effectively and counter hypothesis.</p> <p>CO2 Apply experience in preparation of research and development material for publication or presentation.</p> <p>CO3 Identify and assess relevant published work to identify scope for new research and/or development.</p> <p>CO4 Analyze data and synthesize research findings for formulation of new models / products / processes.</p> <p>CO5 Evaluate the findings / product features with established procedures</p> <p>CO6 Formulate the research paper / Patent Application / Product Literature and package.</p>
Massive Open Online Course (MOOC)	<p>CO1 Understanding of fundamental concepts related to the subject area.</p> <p>CO2 Apply theoretical knowledge to solve real-world problems or case studies.</p> <p>CO3 Analyze information, compare different perspectives, and assess the validity of arguments in the subject domain.</p> <p>CO4 Develop original ideas, propose innovative solutions, and design projects that integrate their acquired knowledge from the MOOC course.</p>

Admission Process

The students have to appear in the MHT-CET entrance examination conducted by Govt. of Maharashtra in March every year.

- Application fee is Rs. 1,100/- and applications are available online only.
- Application fee can be remitted through Net Banking.

Eligibility criteria

Passed any Graduation Degree (e.g. BE / B. Tech. / B.Sc. / BCA / B. Voc. / B.Com. /BA etc.) Preferably with Mathematics at 10 + 2 level or Graduation level and obtained at least 50% marks (45% in case of candidates belonging to reserved category) in the qualifying examination.

SWCCS IN NEWS

10BER 2025

CLASSIFIEDS

NEWS HUB

Mr and Ms #AI 'Fresher Hunt' celebrated at Wilfred's, Mira Road, Mumbai!

Mumbai, Dinesh Singh :

On 27th September 2025, in St. Wilfred's College of Computer Sciences, Mr.&Ms. AI was organised by MCA students. Ms. Rashmita and Mr. Vedant were adjudged Ms. and Mr. Fresher by Mr. Rohit Kumar, a Senior Research Fellow at Indian Institute of Management, IIM Mumbai who is pursuing Ph.D in AI and optimisation in renewable energy. The freshers were well aware of AI technology and very much connected with Indian Values. Ms. Fresher is a content creator and also an



Odyssey Dancer and Mr. Fresher is looking to take patent on his application but also very close to Lord Krishna. A big thanks to Dr Keshav Badaya, Secretary, St. Wilfred's Education Society (SWES) for providing a

platform to students to learn MCA course in suburbs of Mumbai and build Technology Leaders. A big thanks to Prof. (Dr) Shubhi Lal Agarwal, Director of SWCCS for conceptualising this event and



testing students with a Sr. Research Fellow from Indian Institute of Management, Mumbai on technical skills of

students who are still associated with the roots and Indian values. The event was sponsored by freeh20 and organised by SWCCS staff members, volunteers of First year MCA and Mr. Siddharth Dhabade and Ms. Vanshika Kondar who are students of MCA Second Year. SWCCS is organising International Research Conference on Cybersecurity - Innovation, Research and Practices (IRCCSIRP 2025) on 3rd and 4th October 2025 in hybrid mode at Wilfred's Mumbai Campus.

4 THANE, THURSDAY, 25 SEPTEMBER 2025

Mumbai : In the world of AI, be original

Mumbai :

Its well said that all is well that ends well. The closing ceremony was a coding ceremony for MCA students who were guided by the techno leaders to code well and learn coding from scratch in order to make sure that the world gets error free systems! Mr. Saket Samel Vice Assistant President, Bank of America and Mr. Pinanshu Champaneri HR Business Partner Anunta said that they want real coders who understand the value of learning coding in order to bring the systems at place in an uninterrupted environment where clients are able to use the systems easily without any glitches. The students were tested for interview with a team and given feedback on their conduct and how they answered! A big thanks to Dr Keshav Badaya Sir Chancellor Shivaji Maharaj University and Secretary of St. Wilfred's Education Society for his visionary leadership and providing platform to students to learn MCA course in suburbs of Mumbai. The event was powered by our esteemed



sponsor FreeH20 which is an advertising company and a startup by Akshar Deshlahra. Without the support of #freeh20 the event was not possible! St. Wilfred's college of computer sciences. We thank Prof. (Dr) Shubhi

Lal Agarwal Director swccs for constantly guiding and encouraging students to participate and share their knowledge and experiences. The regular lectures will start from 22 September 2025 at regular timings.

Our Esteemed Speakers

It's a best practice of SWCCS to conduct Guest sessions for the students through seminars, conference, expert talks, live sessions and International interactions. The students are given all round exposure and motivated to become a value based leader who can help the society throughout their life.



Prof.(Dr) Sunita Srivastava

Dean, SRSB, Mumbai



Mr. Pinanshu Champaneri

HR, AnuntaTech, Mumbai



Mr. Oscar Crawford

Social Entrepreneur, Arizona, USA



Dr. Deepak Waikar

Chair IEEE Singapore Chapter, Singapore



Mr. Keyur Shah

National Head, Dhanjay Industries Pvt. Ltd., Mumbai



Dr. Sarmistha Sarma

Editor, Poinion Journal of Management Studies



IRCBDV 2025 Panelists

Mr Keyur Shah, Mr Pinanshu Champaneri and Mr Shreyash Rashinkar



Guest Speaker Prof.(Dr) R. G. Ratnawat

Dr. R G Ratnawat

Director, OIM, Navi Mumbai - IPR Session



Mr. Piyush Saxena

Ex AVP, ICICI Bank, Jaipur - AI Discussion



Dr. Shubhi Lall Agarwal

Director, SWCCS - Leadership Talk



Ms. Poonam Gawde

CEO, Tantraniketan - MOU Signing



Sakshi Joshi

Marketing Specialist, Godrej Mumbai

Teaching Pedagogy

Case studies: A case study is a detailed study of a specific subject in its real-world context. It can focus on a person, group, event or organization.

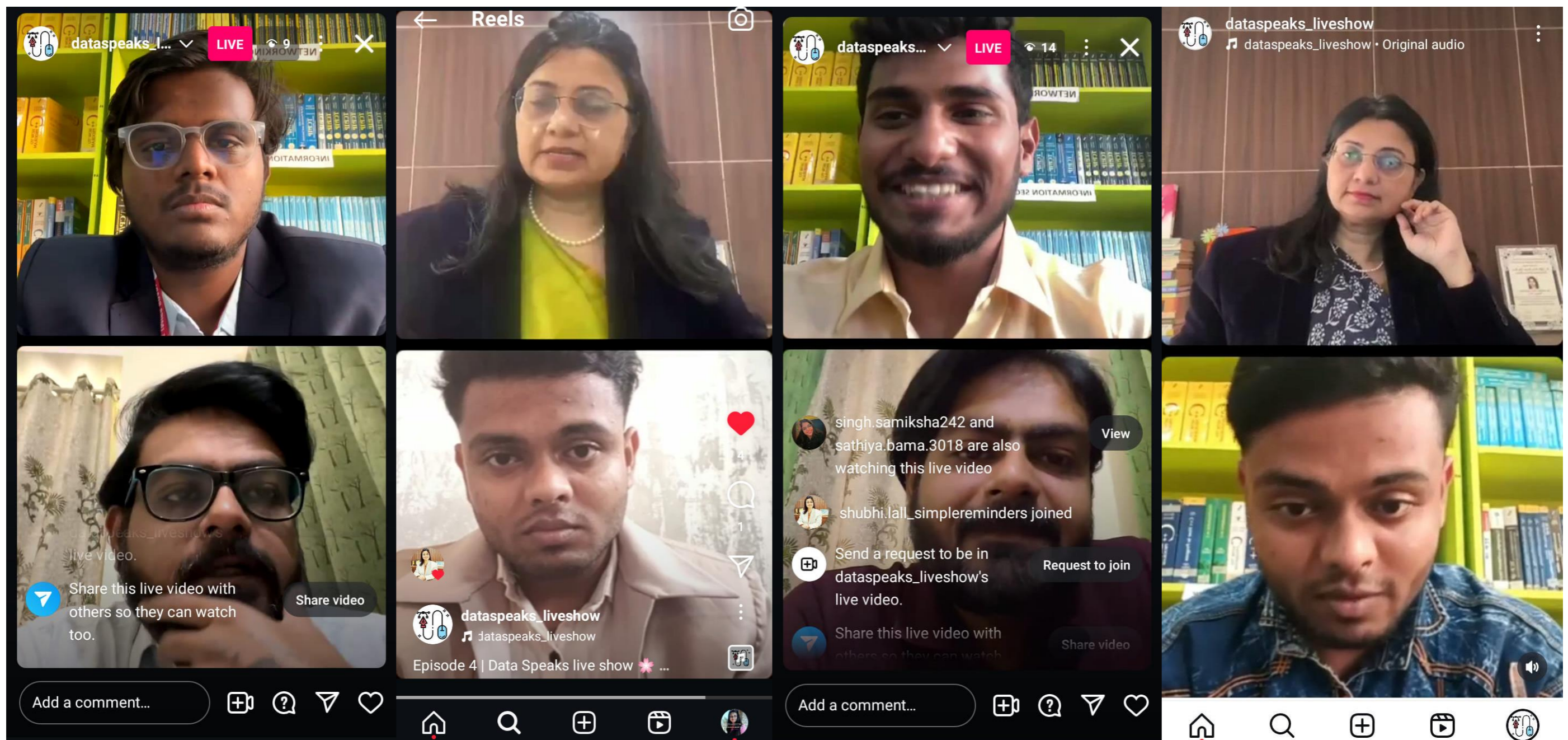


Mr. Saket Samel discussing the real life challenges in a software development company with the students

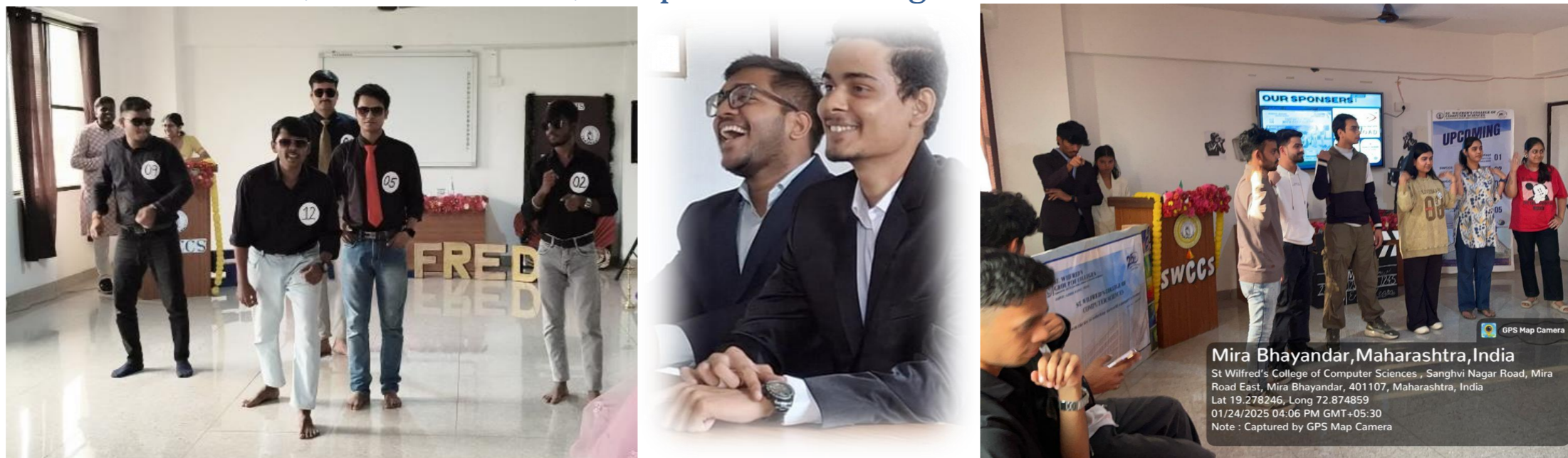


Pre 'Business Mela' Talk with the Participants

Best Practice: Data Speaks Live Show



- Group projects:** Group projects are collaborative assignments where individuals work together to complete a shared goal, fostering skills like teamwork, communication, and problem-solving



- Experiential learning:** A mock interview is a practice session that simulates a real job interview to help candidates prepare by rehearsing their answers to common questions, refining their communication skills, and getting feedback on their performance in a low-pressure environment.



EVENTS

International Research Conference

The Institute organizes International Research Conference to develop Research Culture and give a platform to the students to showcase their research, innovation and best practices in their domain.

The institute aims to develop a research culture amongst the students and faculty members. They are given exposure to the research papers, conferences, seminars, webinars, patents and journals.

Conferences on the trending topics like Cyber Security, Big Data Analytics and Visualization are organized on a regular basis to expose the students towards research and paper presentation. Research Methodology, Research Project and Research Paper writing are a part of MCA curriculum in all the semesters. The students are also expected to take patents on their original piece of work.



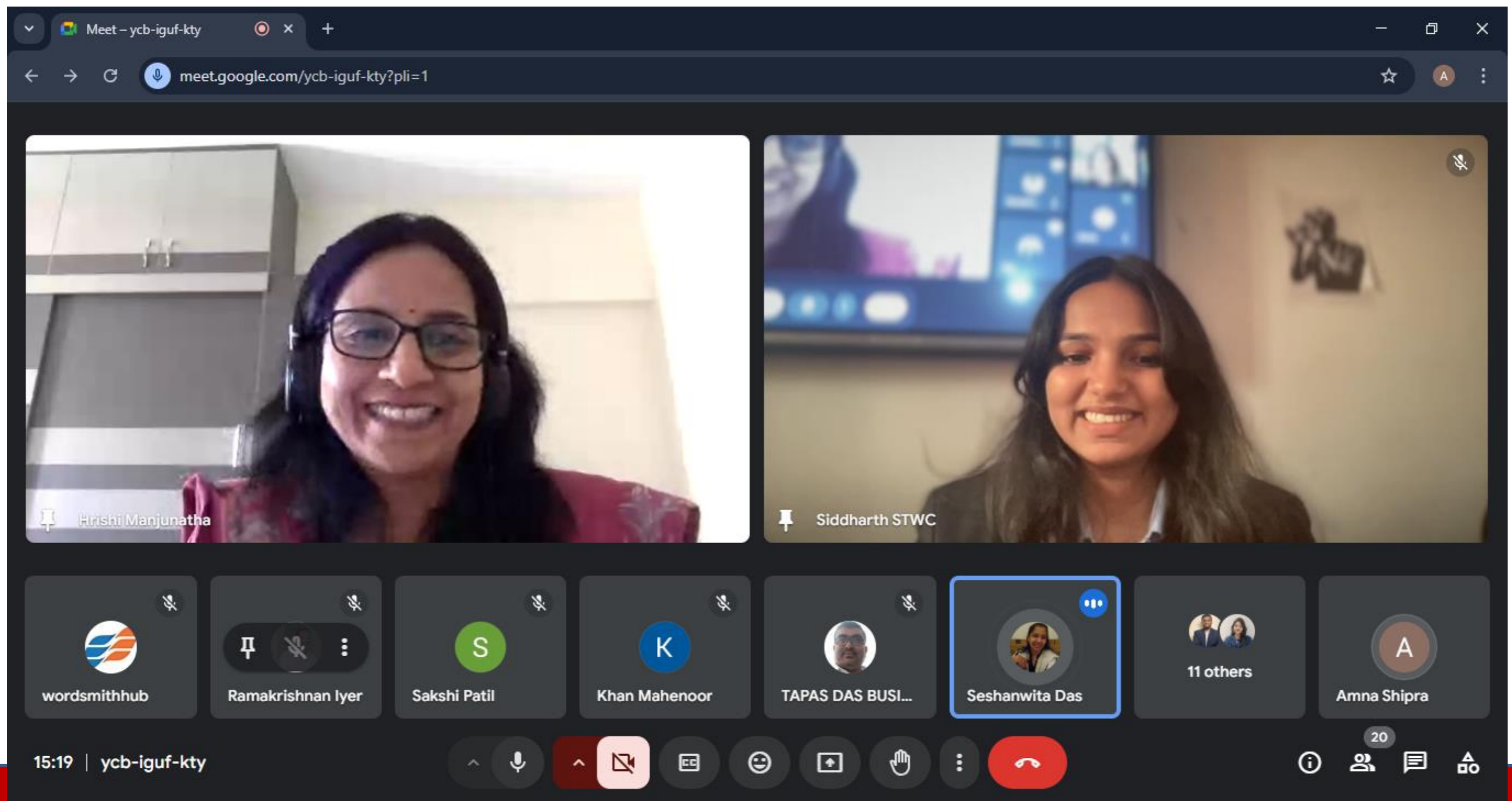
Dr. R. G. Ratnawat addressing the participants in the *International Research Conference on Big Data Analytics & Visualization – IRCBDV 2025*



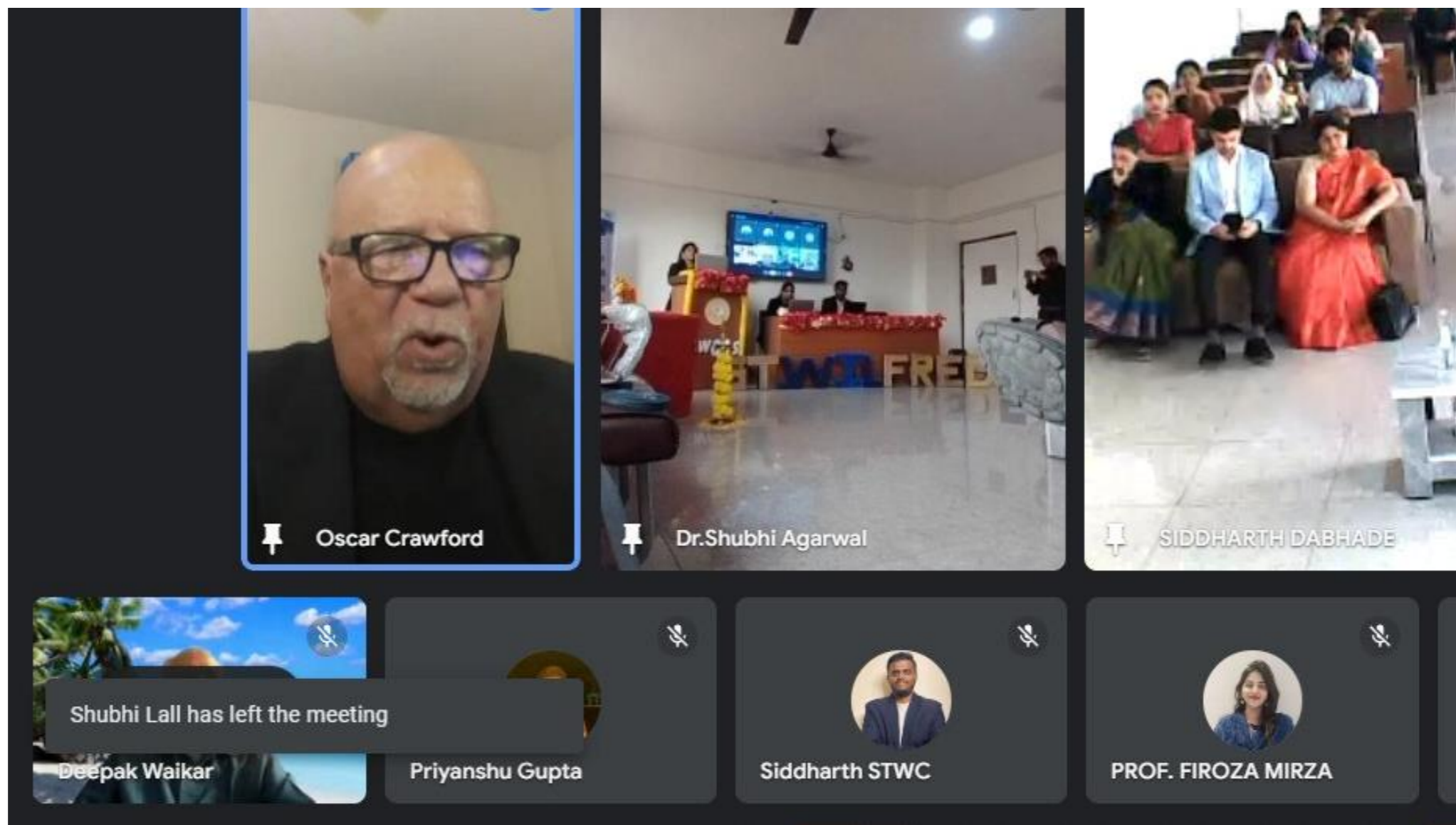
Mr. Sumit Bhardwaj, Executive Vice President, Citiustech Pvt. Ltd. participating in a panel discussion in online mode



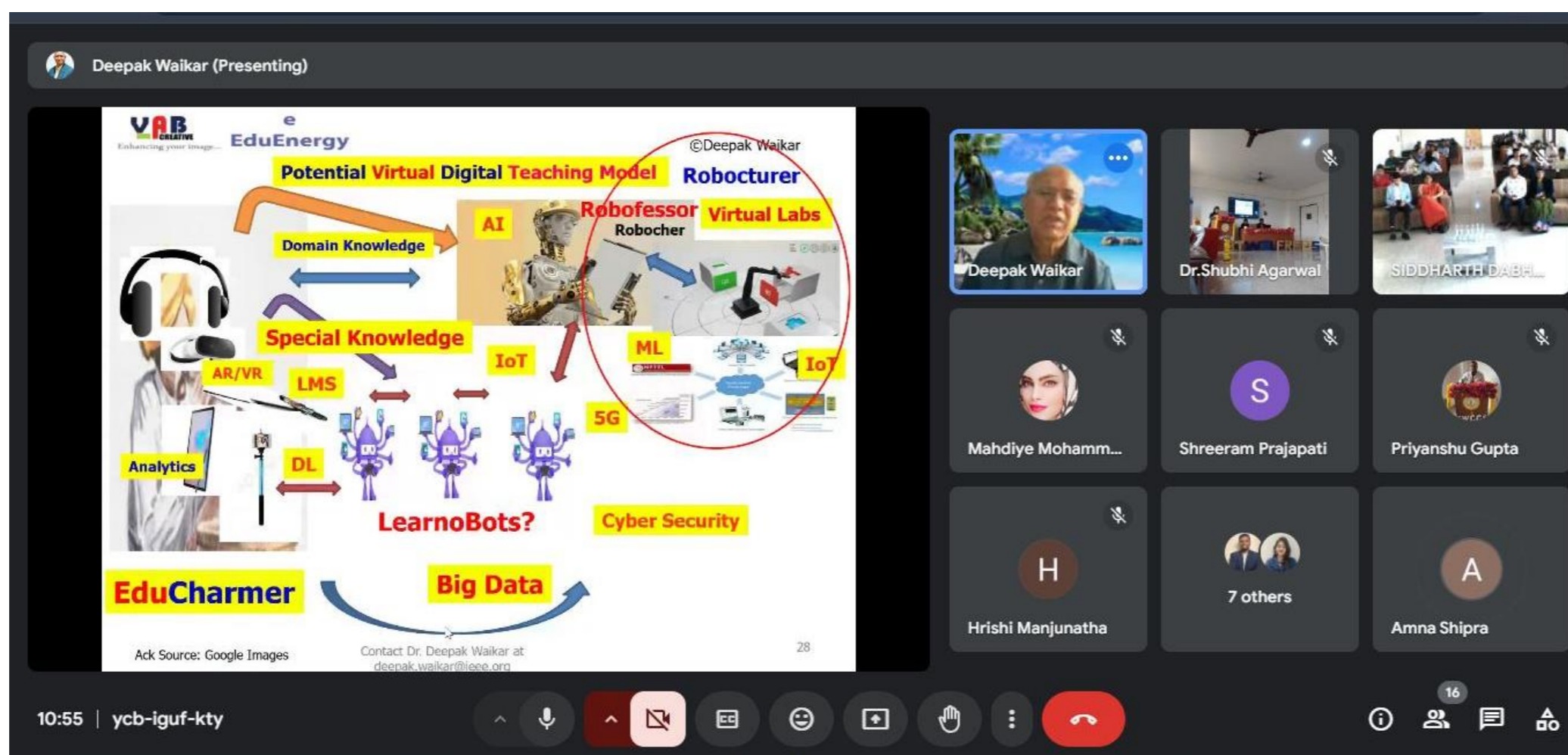
The winners of International Research Conference cheering after receiving the Best Research Paper Award



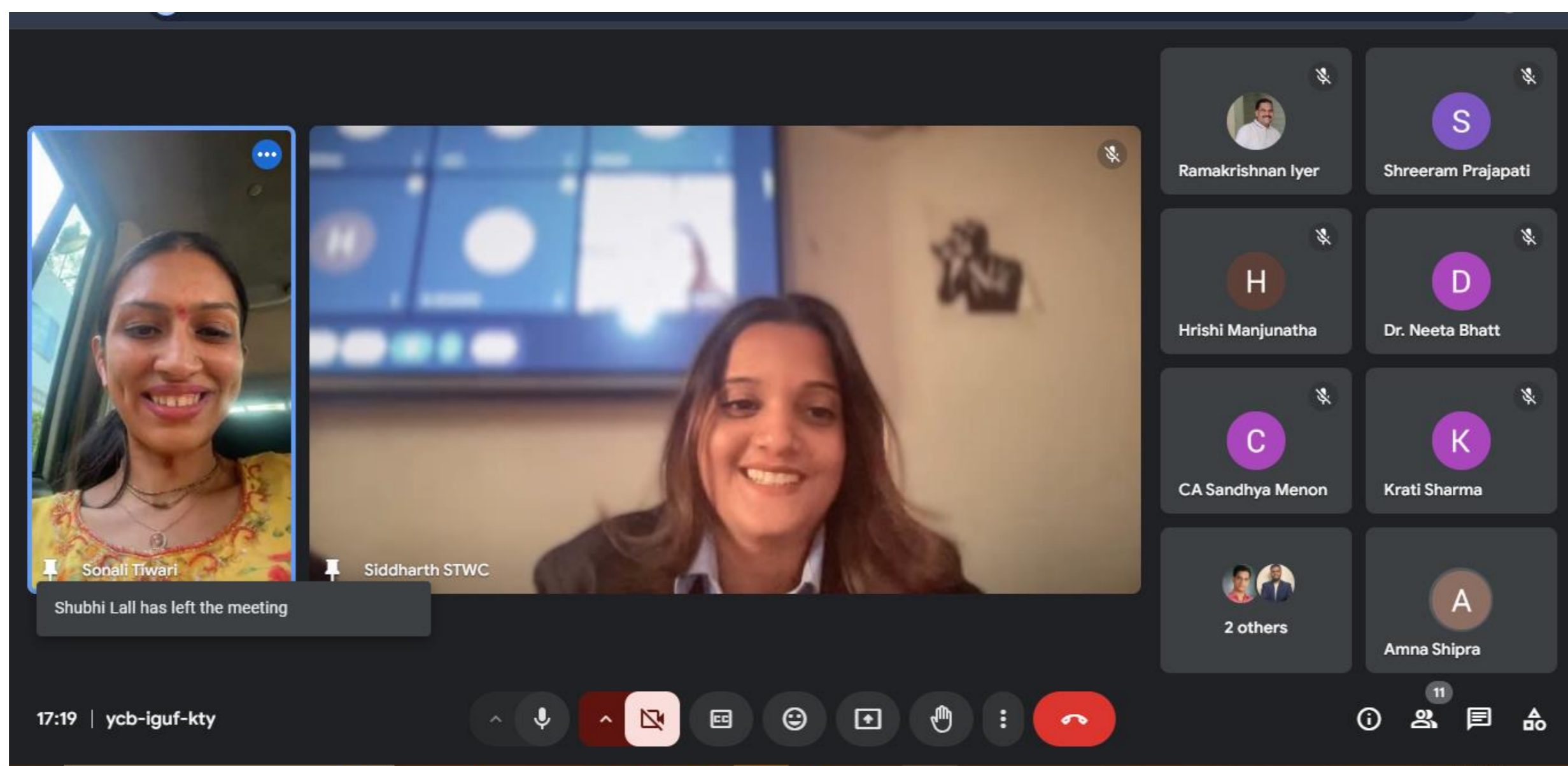
Ms. Anuradha Manjunath from Bangalore presenting her Research Paper in IRCBDV 2025



Mr. Oscar Crawford, Social Entrepreneur addressing the participants in IRCBDV 2025 on Data Analytics



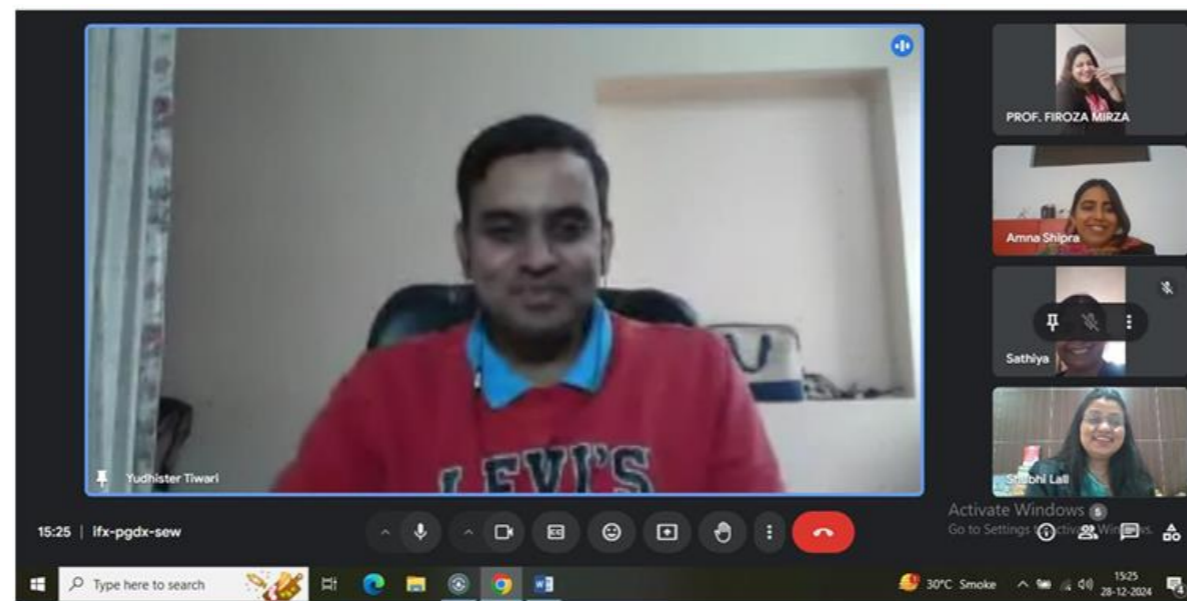
Dr. Deepak Waikar addressing the participants from Singapore



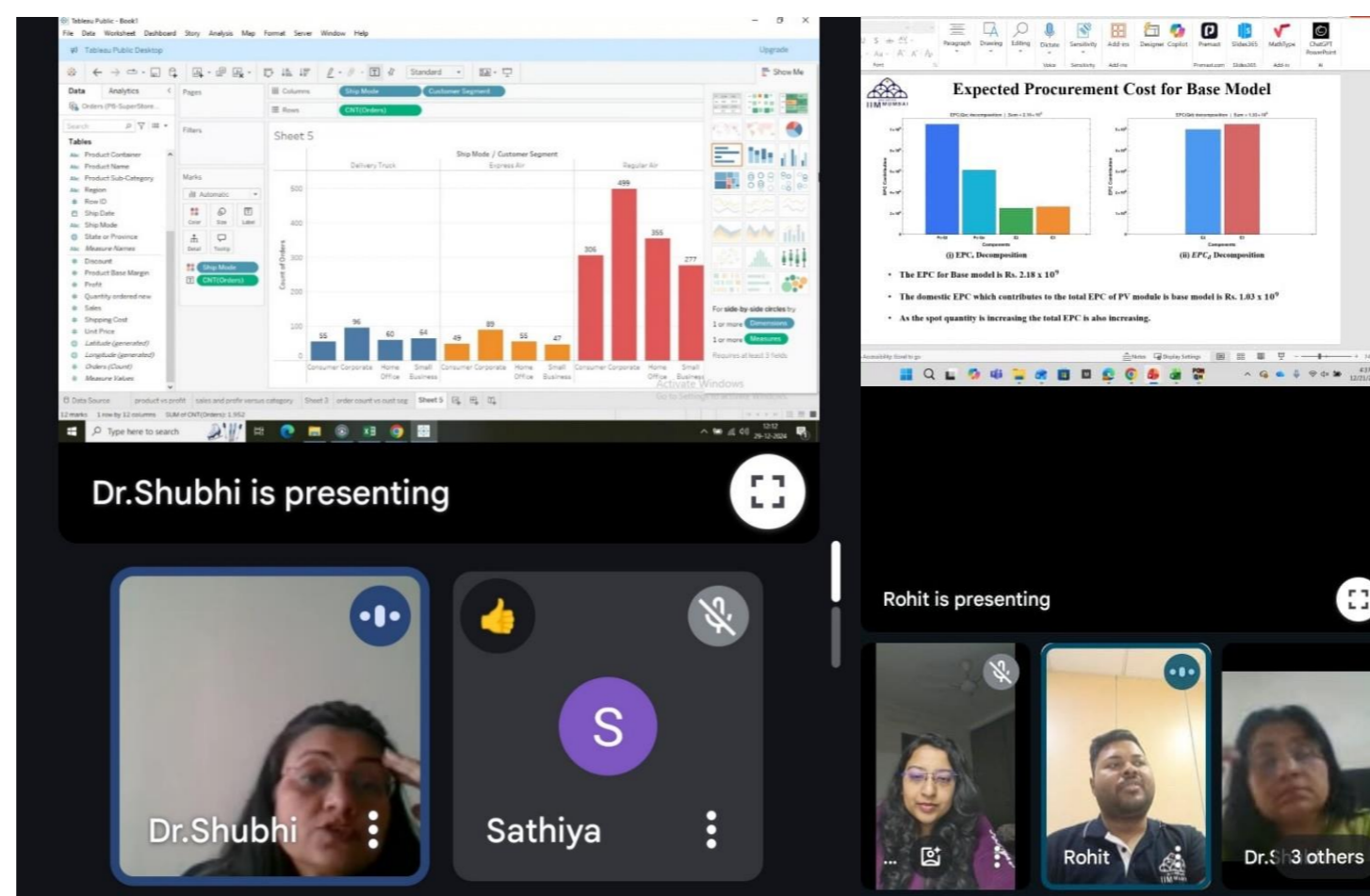
Ms. Sonali Tiwari, Author, Enthusiast and Blogger presenting her research work while travelling for office.

Management Development Programme – Online Job Oriented Advanced Supplements (OJAS)

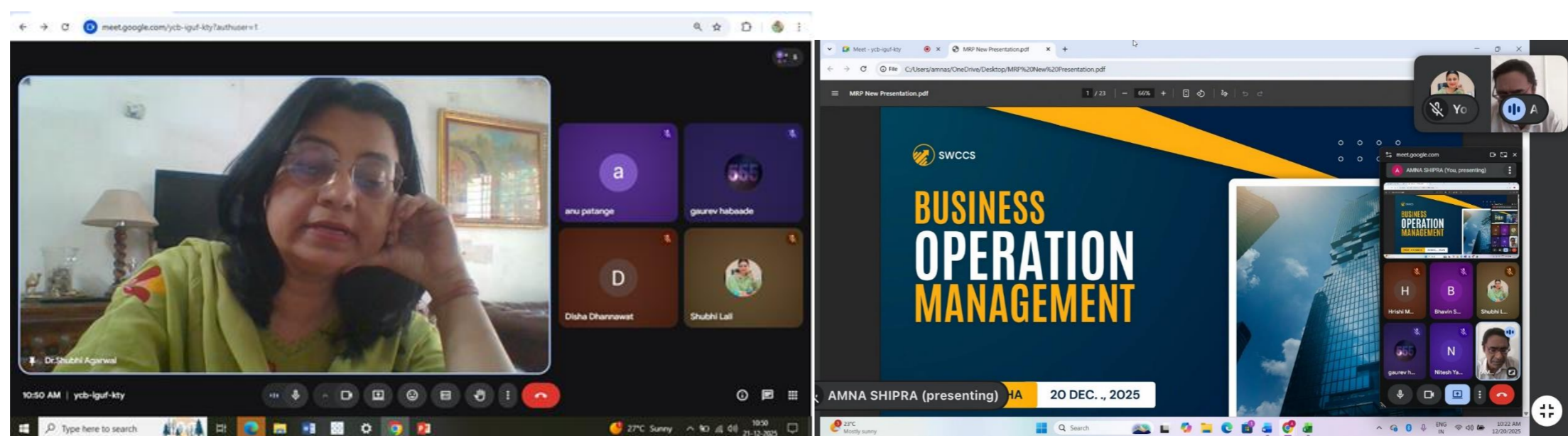
The institute will conduct MDP from time to time as per the new emerging technologies and their penetration in the various industry. The focus will be on imparting latest technical knowledge to the working professionals of the country who are in the mid of their carriers and want to learn from home after their office hours.



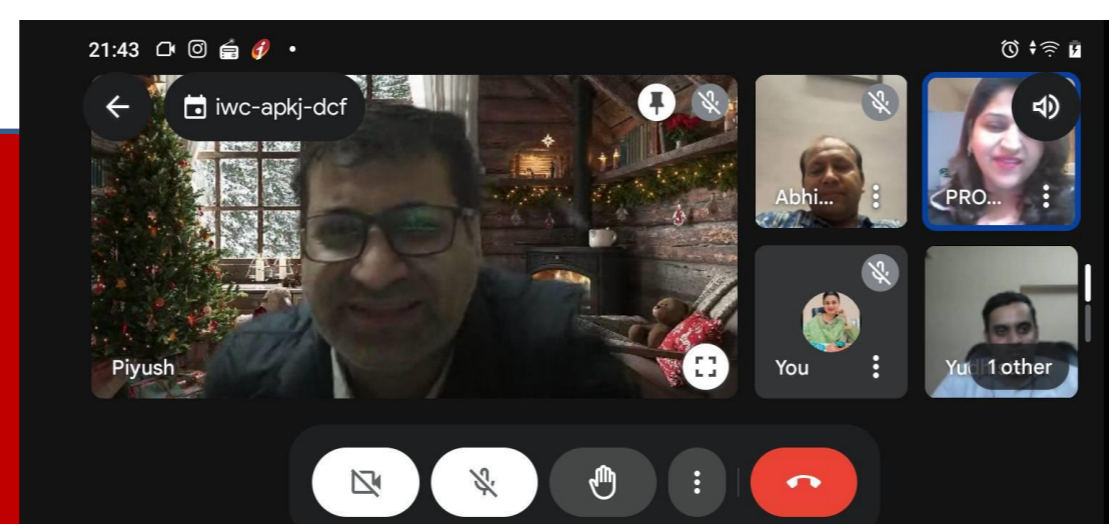
Mr. Yudhister Tiwari, Alumnus of St. Wilfred's PG College Jaipur attending the Management Development Programme OJAS – Online Job-Oriented Advanced Supplements



Dr. Shubhi Lall conducting Session on Tableau “The Data Visualization Tool”



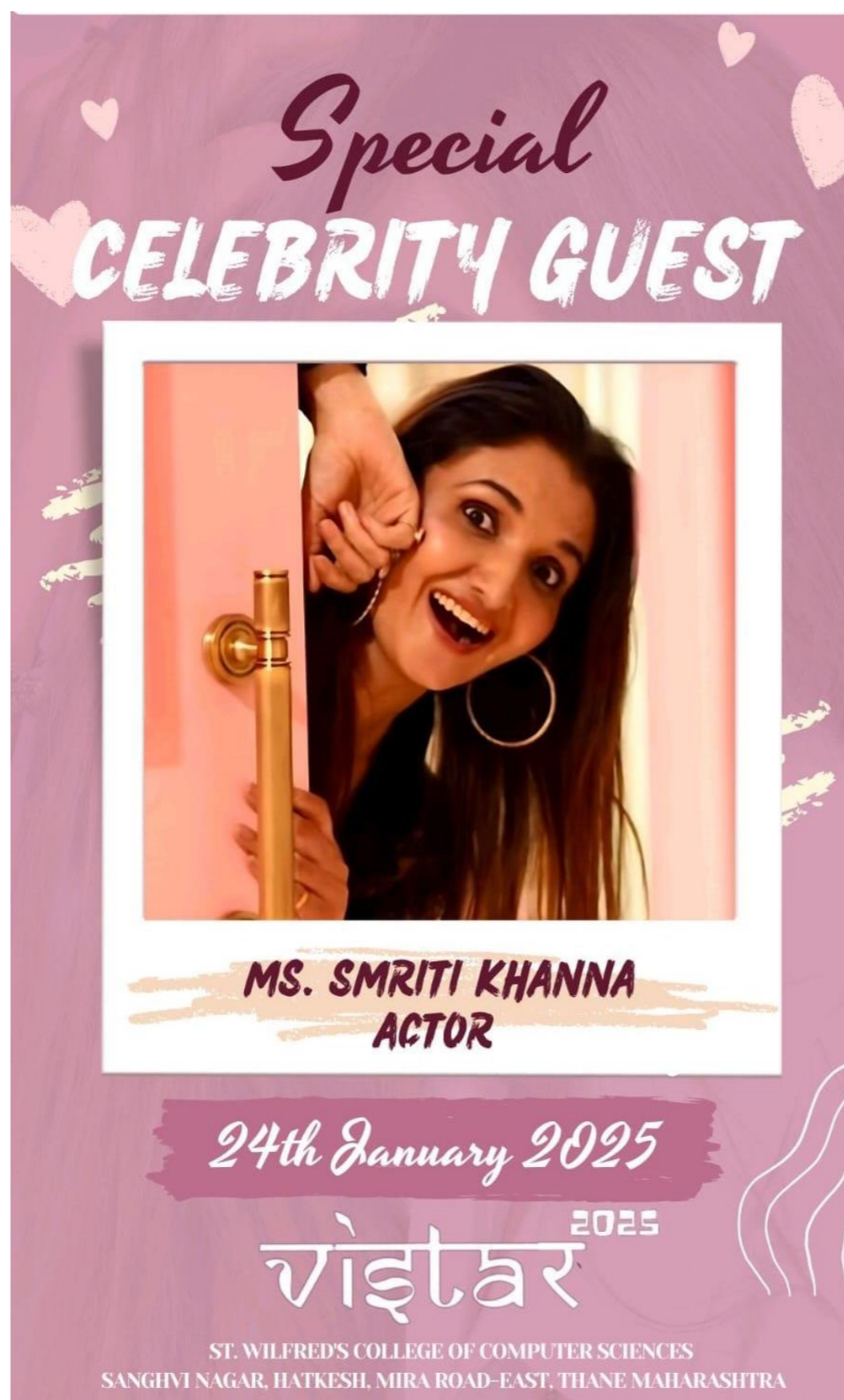
MDP on Supply Chain Analytics was conducted by Prof. Anupam Sinha and Dr. Shubhi Lall Agarwal



Mr. Piyush Saxena, Ex EVP, ICICI Bank and Visiting Professor attending MDP OJAS and interacting with other participants



Talk Shows


Students are interacting with eminent Celebrity Guest in fun filled guest sessions. They learn communication skills and understand the world in all aspects and culture.



Recreational Activities



 **ST. WILFRED'S GROUP OF COLLEGES** 



Glimpse of
Fresher's Party Batch 2024-25
Next Gen Innovators
25th October 2024

 **ST. WILFRED'S GROUP OF COLLEGES** 



Glimpse of
Fresher's Party Batch 2024-25



Glimpse of
Fresher's Party Batch 2024-25
Next Gen Innovators
25th October 2024

The Freshers' Party began with a session by Mr. Rohit Kumar, Senior Research Fellow at Indian Institute of



Dr Shubhi Lall Agarwal Director #SWCCS felicitated Mr. Rohit Kumar, Sr. Research Fellow at IIM, Mumbai

Research Facilities

The institute has a fully functional Research & Intellectual and Property Rights Cell and provides In-house International Journal of Scientific Harmonization of Digital Horizons (IJSHODH) Research Journal where students can submit their research articles and papers for review and final publication. ISSN in process.

The institute organizes Research conferences on a regular basis to help students in presenting their research papers and support students and faculty members in applying for patents and book publications.



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Faculty Development Programmes

FACULTY DEVELOPMENT PROGRAMME
QUALITY FRAMEWORK
IN AN ORGANIZATION
FOSTERING A CULTURE OF QUALITY AND ACCOUNTABILITY THROUGH NAAC
 16th June - 23th June 2025

RESOURCE PERSONS

PROF.(DR) SHUBHI LALL AGARWAL
RANKING SPECIALIST
DIRECTOR & PROFESSOR
ST. WILFRED'S COLLEGE OF
COMPUTER SCIENCES
THANE, MUMBAI
MAHARASHTRA

PROF. (DR.) SHWETA BATRA
PROFESSOR & DEAN
ASIAN BUSINESS SCHOOL
A UNIT OF ASIAN EDUCATION GROUP

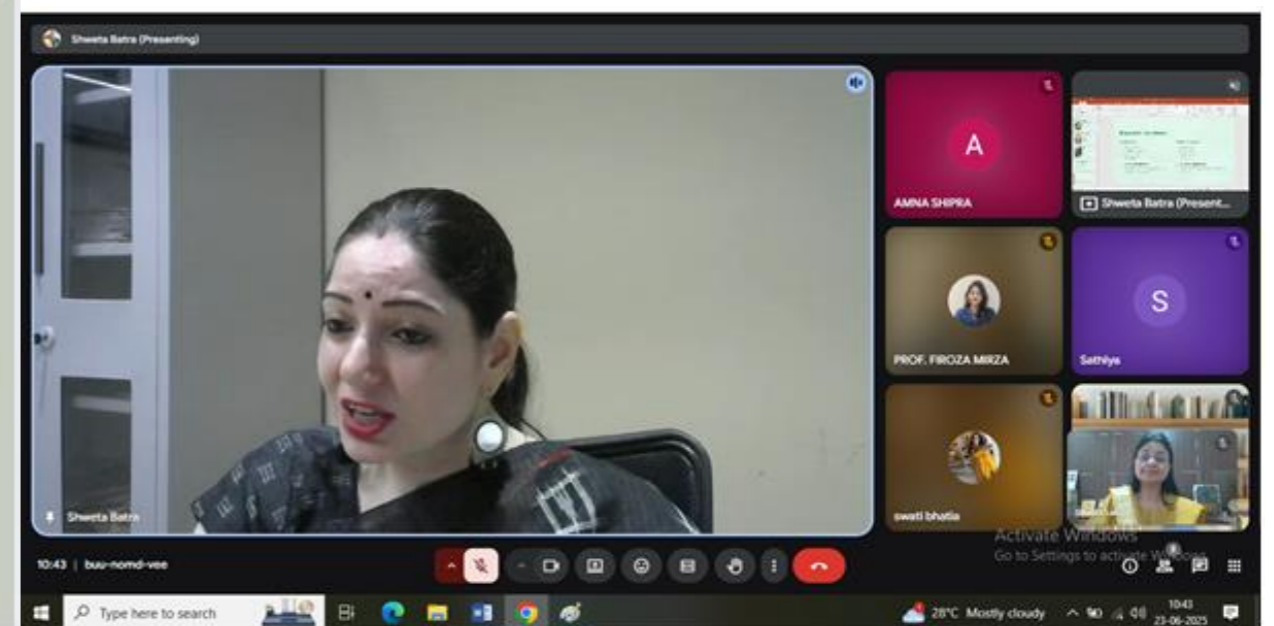
PROF. (DR.) SWATI BHATIA
PROFESSOR
Head Internal Quality Assurance Cell (IQAC)
ASIAN BUSINESS SCHOOL
A UNIT OF ASIAN EDUCATION GROUP

PROF.(DR) SARMISTHA SARMA
NAAC ACCESSOR
PROFESSOR, HEAD - RESEARCH CELL
ASIAN BUSINESS SCHOOL
NOIDA

FDPs are conducted on a regular basis for the faculty members to enhance and upgrade their skills. Quality Framework in an Organization: Fostering a Culture of Quality and Accountability through NAAC” was organized by IQAC and Research & IPR Cell.

Dr. Shweta Batra, Dean, Asian Business School, Noida delivering a session on ‘Quality Research and Plagiarism and AI Generated content creation as a worst practice in Research’. She talked at length on good research and asked all the participants to work on original idea. She asked the participants not to use AI apps in writing research papers. This will bring their creative side at a higher level in Research.

Dr. Shweta Batra delivering a session on ‘Quality Research’. Dr. Sarmistha Sarma and Dr Swati Bhatia attending the session with the participants.



Focus On PhD Quality, Not Publications
 We need to encourage scholars to become inquisitive explorers, papers will naturally follow

Mandala Jagadeesh Kumar

Does forcing students to mandatorily publish a research paper before thesis submission lead to a high-quality PhD thesis, or does high-quality PhD work lead to publications in good journals? This question is similar to the chicken or egg conundrum because we know that only high-quality PhD work can result in high-quality publications. In the 2008 PhD regulations, UGC prescribe that PhD scholars must publish at least one research paper in a refereed journal before submitting the thesis. This mandatory publication condition was introduced by UGC apparently to ensure the doctoral thesis screening isn't rigorous enough.

An unproductive rule

Such a mandatory provision has university students to publish in predatory journals. A recent study by UGC confirms this. In a top university considered in this study, on average, during the three years (2015-16) to 2017-18, about 35% of students published in Scopus-indexed journals. Only 10% published more than one journal paper. But because of the mandatory condition to publish a journal paper before PhD thesis submission, nearly 75% of the students were forced to publish in journals that are not Scopus indexed.

• In STEM fields, journal publication is generally an accepted method of disseminating new knowledge.

• And in some disciplines, such as computer science, researchers prefer publishing in a conference over a journal.

• Social scientists routinely publish books and papers in journals, which could be why the Scopus index lists nearly 10,000 STEM journals as opposed to 14,000 humanities and social science journals.

• 14,000 journals are by no means a small number and therefore do not justify publishing in low-quality predatory journals.

• To say that university PhD scholars publish less in

undergraduate research training will enhance the teaching-learning process and the research ecosystem when absorbed in educational institutions.

We also need to understand that publication of research paper is a serious activity. Universities should train students and encourage them to publish, present at conferences and apply for patents. It often takes time to publish a research paper in a peer-reviewed journal and, therefore, it should not be linked to submitting PhD thesis.

Under pressure

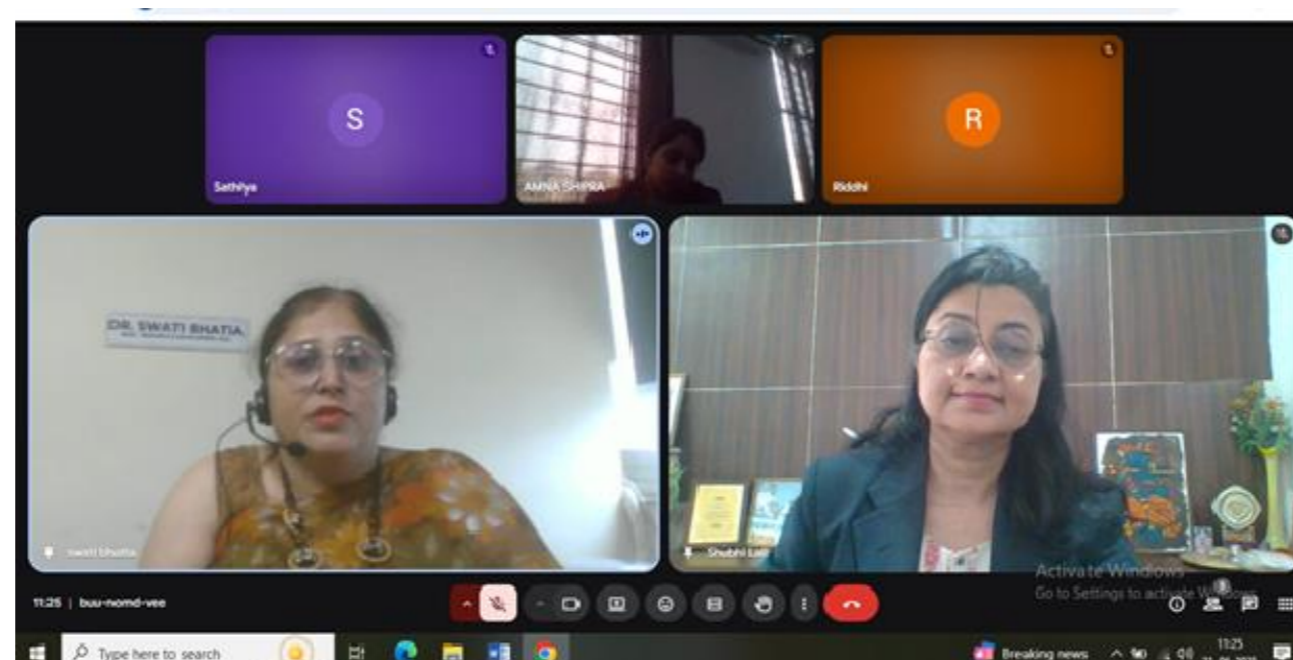
After submitting a manuscript to a journal, it may take four to six months to get the first review. Often, the paper may be rejected at this stage. It takes several months to revise and resubmit the manuscript to the same journal or another. It may again take several months to receive the final decision. If research backs, the paper is accepted, or the reviewers may ask for further revisions.

Since the process is time-consuming, making it mandatory to publish a research paper before the submission of the thesis puts under pressure on students and forces them to publish in fly-by-night journals.

Ultimately, a good PhD work will lead to go publications. We need to encourage students to become inquisitive explorers during their PhD work, and the publication of research papers will naturally result from this.

The center is chairman of UGC and ACUTE Visiting professor

Dr. Swati Bhatia, Professor & IQAC Coordinator, Asian Business School, Noida delivering a session on “Mentor Mentee Session” for students and its importance in higher education. She also explained the documentation of mentor mentee records for effective communication and easy understanding of the mentee. History data in files can be referred with the mentee to track his progress and resolve the gaps easily.



Industrial & Educational Visits

Under Experiential learning pedagogy, the college organizes Industrial Visits for the students to give industry exposure and organizational behavior.

Prior to IV, students are trained on personality, communication, and team behavior and leadership skills. The IVs are closed by group presentations from students on the industries visited by them. Suitable candidates are given on the spot Pre Placement Offers. Students were taken to tantraniketan for IOT workshop.



Industrial Visit to Tantra Niketan, Mumbai



Industrial Visit to TCS, Hinjewadi, Pune



Educational Visit to SWCMS Accounts Museum, Thane, Mumbai

Clean and safe culture


The institute strongly believe in a clean and safe culture in the campus and students are sensitized towards the bullying culture. They are also involved in various events and activities which support sustainability, hygiene and clean practices.




TRAINING AND PLACEMENT CELL

The college has a fully functional Training & Placement Cell which conduct **Employability Enhancement Programme** throughout the year.

The students undergo a series of activities and events for a transformation in mindset and personality. They are exposed to speakers, guests, workshops, conferences and various bridge courses.



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MR. SWAPNIL MIRAJKAR

Software Development Manager, KPMG LLP,
United States of America

They are also motivated to join certification courses, internships, live projects, industrial visits and international lectures. They also work on code sets and projects and share their

work on platforms like LinkedIn.

- Group Discussions
- Mock Interviews
- Guest Sessions
- Live Projects
- Trainings on various technologies
- Industrial Visits to Technical places
- Bridge Courses
- Aptitude Tests



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Ishita Gorakh Gharat
Spatial Data Specialist (Intern)
Here Solutions India Pvt. Ltd.



Ms. Mohini Bagal
Flutter Software Developer
Aspirations Consulting Services,
Mumbai



Sayed Saif Saeed
Software Developer
Teleperformance Global Services
Pvt. Ltd.



Pranali Dalbanjan
Consultant - Dot Net Developer
Xangars Infotech Solutions



Adicherla Rohini
Associate - Robotics
On My Own Technology Pvt.Ltd.



Shipra Maaz
Software Engineer
Expond Techniva



Chodvadiya Meet
JavaScript Developer Trainee
Feat Systems Pvt Ltd.



Yadav Ashish
Software Developer
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