




Department of Information Technology

- 
- Message from Vice-Chairman
 - Message from Director
 - Message from HOD
 - Department Activity
(Technical+ Extra Circular) Activities
 - New Technology Trends
 - Topper list (8th Sem, 6th Sem, 4th Sem)
 - Achivement of IT Department
 - Mission & Vision

Message from Vice-Chairman, GLBITM

Congratulations to the Information Technology department for their dedicated work in producing the departmental magazine. Needless to say, efficient communication, in addition to several other factors, plays a critical part in the success of any firm. I am confident that this departmental magazine will reflect the department's work and improve communication among GLBians. I am convinced that the magazine will encourage students to engage in research, with a focus on entrepreneurship.



Mr. Pankaj Agarwal
(Vice Chairman)

Message from Director, GLBITM



Dr. Rajeev Agrawal
(Director)

To begin, I express my gratitude to the Department of Information Technology for their efforts in publishing a magazine dedicated to providing readers with a mix of timely and thought-provoking articles on technology and other topics. I am confident that this will reflect the institution's dedication to open discourse and will provide a glimpse of the department's varied activities and accomplishments. I am convinced that the magazine will encourage students to be more creative, with an emphasis on innovative learning. For their efforts, I express my gratitude to the dedicated staff and their team.

Message from HOD-IT

The concept that our department is publishing a magazine is a wonderful honor. The idea of keeping professors and students up to date on departmental happenings is commendable. It gives me great pleasure to know that our kids have great potential, and I am hopeful that their achievements will encourage other students to reach their goals, which will require them to have a clear vision and the determination to follow through. The Department Editorial Board has done an outstanding job developing and publishing the magazine. I wish the entire crew the best of luck in their future endeavors.



Dr. P.C Vashist
(HOD – IT)

Department Activity (Technical+ Extra Circular) Activities

Covid-19 Awareness Quiz Competition Programme

Department of Information Technology, GLBITM was organized an "Online Covid-19 Awareness Quiz Competition Programme" on 10th July 2020 for spreading awareness on Covid-19 among Students and other faculty members.

There was 10 questions and each question carry 1 point. After successful online submission, an appreciation e-certificate if you score more than 6 points (i.e., 60 %) is provide to every participant.

Online Poster Presentation Competition Programme

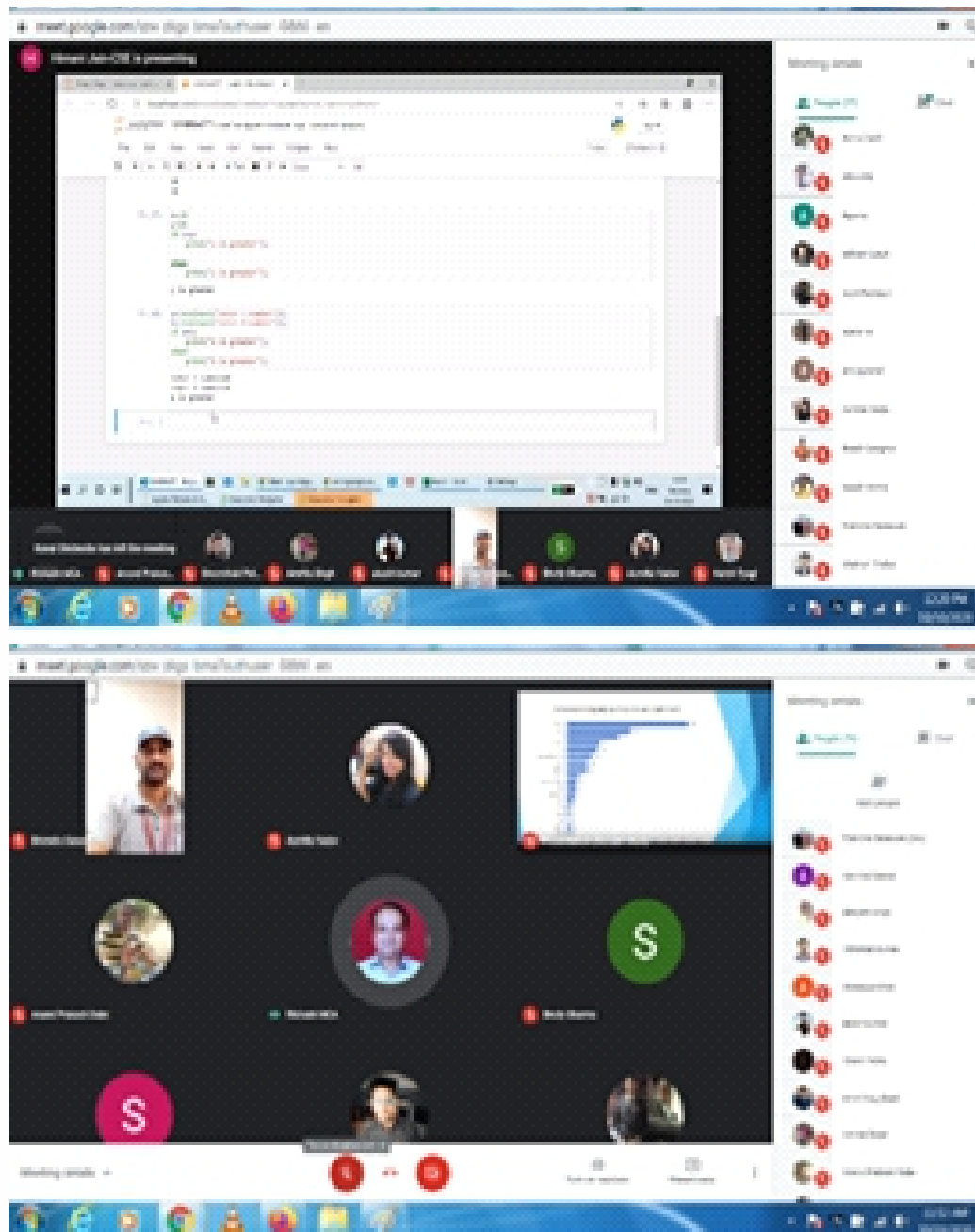
Department of IT organized online painting program on 17th July 2020 for students so that they can fill their life, environment with the color.

Painting is a very calming activity that can help you relax and relieve stress in this pandemic situation. You'll be able to focus solely on what you're painting and let everything else go while doing so. This has a comparable physiological effect to meditation. As a result, you'll have a more positive attitude and a different perspective on the world.



Workshop on Python for Everybody

The Department of Information Technology at G L Bajaj Institute of Technology and Management, Greater Noida was organize a workshop on "Python for Everybody" on 10 October, 2020.



Expert Talk on Opportunities and Challenges in IT Sector

The Department of Information Technology at G L Bajaj Institute of Technology and Management, Greater Noida was organized an Expert Talk on "**Opportunities and Challenges in IT Sector**" on 23 November 2020, talk was delivered by Mr. Prashant Upadhyay, Associate Solution Architect, Birla Soft India Ltd. Sector-135, Noida, U.P.

Expert Talk on How to grow with science and Technology

The Department of Information Technology at G L Bajaj Institute of Technology and Management, Greater Noida was organizing an Expert Talk on "**How to grow with science and Technology**" on 18 December 2020 by the **Resource Person** Mr. Manoj Kumar Patariya, Head, NCSTC, Department of Science and Technology, Govt. of India, New Delhi

New Technology Trends

Engineer 4.0

Continuously developing competencies to meet future demands is one of modern industry's biggest challenges. Sandvik is participating in a pilot project called "Engineer 4.0" together with other companies, such as Volvo, SKF and Veoneer. The goal? To gain the necessary knowledge to drive and thrive in the digital revolution, also known as Industry 4.0.



Artificial Intelligence (AI) and Machine Learning

[Artificial Intelligence](#), or AI, has already received a lot of buzz in the past decade, but it continues to be one of the new technology trends because of its notable effects on how we live, work and play are only in the early stages. AI is already known for its superiority in image and speech recognition, navigation apps, smartphone personal assistants, ride-sharing apps and so much more.

Other than that AI will be used further to analyze interactions to determine underlying connections and insights, to help predict demand for services like [hospitals](#) enabling authorities to make better decisions about resource utilization, and to detect the changing patterns of [customer behaviour](#) by analyzing data in near real-time, driving revenues and enhancing personalized experiences.

The AI market will grow to a [\\$190 billion industry by 2025](#) with global spending on cognitive and AI systems reaching over [\\$57 billion in 2022](#). With AI spreading its wings across sectors, new jobs will be created in development, programming, testing, support and maintenance, to name a few. On the other hand AI also offers some of the highest salaries today ranging from over [\\$1,25,000 per year](#) (machine learning engineer) to [\\$145,000](#) per year (AI architect) - making it the top new technology trend you must watch out for!

[Machine Learning](#) the subset of AI, is also being deployed in all kinds of industries, creating a huge demand for skilled professionals. [Forrester](#) predicts AI, machine learning, and automation will create 9 percent of new U.S. jobs by 2025, jobs including robot monitoring professionals, [data scientists](#), automation specialists, and content curators, making it another new technology trend you must keep in mind too!

Mastering AI and machine learning will help you secure jobs like:

- AI Research Scientist
- AI Engineer
- Machine Learning Engineer
- AI Architect

Robotic Process Automation (RPA)

Like AI and Machine Learning, [Robotic Process Automation, or RPA](#), is another technology that is automating jobs. RPA is the use of software to automate business processes such as interpreting applications, processing transactions, dealing with data, and even replying to emails. RPA automates repetitive tasks that people used to do.

Although Forrester Research estimates RPA automation will threaten the livelihood of [230 million or more](#) knowledge workers or approximately 9 percent of the global workforce, RPA is also creating new jobs while altering existing jobs. McKinsey finds that [less than 5 percent of occupations can be totally automated](#), but about 60 percent can be partially automated.

For you as an IT professional looking to the future and trying to understand latest technology trends, RPA offers plenty of career opportunities, including developer, project manager, business analyst, solution architect and consultant. And these jobs pay well. An RPA developer can earn over ₹534K per year - making it the next technology trend you must keep a watch on!

Mastering RPA will help you secure high paying jobs like:

- RPA Developer
- RPA Analyst
- RPA Architect

Achievement of IT Department

Year wise topper list

8th Sem 1st Topper: SAKSHI TRIPATHI (1619213086)

8th Sem 2nd Toppers: SUCHITA PANDEY (1619213111)

6th Sem 1st Topper: DIKSHA AGRAWAL (1719213039)

6th Sem 2nd Topper: DIMPAL KUMARI (1719213040)

4rd Sem 1st Topper: OJAS SINGHAL (1819213075)

4rd Sem 2nd Topper: PRINCE GAUR (1819213081)

Achievement of IT Department

Research Papers

Mr. Mahesh Kumar Singh: Knowledge-Based Recommendation System for Online Business Using Web Usage Mining.

Ms. Paramita De: Segmentation and Recognition of Bengali Characters from Document Images

Mr. Dheerendra Kumar Tyagi: State Space Modeling of Earned Value Method for Iterative Enhancement based Traditional Software Projects Tracking

Ms. Priyanka Saxena: Improved Rules and Authorization Key Processing for Secured Online Training

Dr. Neha Tyagi: Load Distribution Challenges with Virtual Computing

Vision

To develop competent IT professionals catering to the needs of Industry and society in a global perspective.

Mission

To attain academic & professional excellence with collective efforts of all stakeholders through

M1: Dissemination of basic concepts and analytical skills.

M2: Exposure to new tools in the area of Information technology.

M3: Effective interaction with industry for better employability.

M4: Inculcating values and professional ethics with social responsibility.

Program Educational Objectives

PEO1: To provide students a strong foundation in mathematical and IT fundamentals with emphasis on different programming languages/ platforms.

PEO2: To prepare students with a strong foundation in IT tools and analytical skills.

PEO3: To analyze, design, and develop efficient and cost-effective IT solutions for society.

PEO4: To become a successful professional in the software industry with leadership quality and value.

PEO5: To provide a supportive academic environment and guidance for life-long learning.

Program Outcomes (PO's)

Students of this Program are expected to demonstrate:

PO1- Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the Solution of complex engineering problems.

PO2- Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3- Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4- Conduct Investigations Of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 - Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6 - The Engineer and Society: Apply to reason informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 -Environment, and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 - Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Program Outcomes (PO's)

PO9- Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10- Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11-Project Management and Finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader.

PO12 - Life-long Learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in th

Program-specific Outcomes

PSO 1: Design and develop an application/product that efficiently utilizes system software and hardware to cover current user requirements in social and economic form.

PSO 2: Apply and acquire knowledge of computer network in the implementation of secure data communication and reliable network system.

PSO 3: Design and implement knowledge-based discovery, machine-based learning by using the concept of DBMS, soft computing, neural network, image processing, and pattern recognition etc.

PSO 4: Design and develop mobile-based applications that use the concepts of the latest application system development technologies.

Department of Information Technology

The Department of Information Technology at G.L. Bajaj Institute of Technology & Management was founded in 2007 with the goal of producing qualified IT professionals who can meet the needs of industry and society on a global scale. By exposing students to new IT tools and technologies, the Department hopes to help them achieve professional greatness. The flagship branch of engineering, information technology, focuses on scientific research, scientific programming, application programming, and software engineering. The Department has well-equipped laboratories, lecture halls, seminar halls, tutorial rooms, and faculty sections, all with cutting-edge technology and software. The Department has a mix of senior and junior faculty members who serve as mentors to the department's equally dedicated and hardworking students.

From HOD's Desk

It gives me great joy to congratulate the editorial team on continuing and publishing their collective thought process as a magazine. It serves as a display of their research efforts and accomplishments, as well as a reflection of the department's creative and cultural activities. It gives me great pleasure to know that our students have enormous potential, and I am hopeful that the accomplishments of the students featured in this magazine will encourage other students to reach their goals, which will require them to have a clear vision and determination to pursue it. The Department Editorial Board has done an outstanding job developing and publishing the magazine. I send my warmest greetings.

PATRONS

Dr. Ram Kishore Agarwal
(Chairman)

Mr. Pankaj Agarwal
(Vice Chairman)

Dr. Rajeev Agrawal
(Director)

Dr. P.C Vashist
(HOD – IT)

EDITORIAL BOARD

Dr. Pushpa Choudhary

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