DEPARTMENT OF INFORMATION TECHNOLOGY

AMBALIKA INSTITUTE
OF MANAGEMENT & TECHNOLOGY
AFFILIATED TO AKTU APPROVED BY AICTE

BYTE BEAT-

July 2023

Vision

To embrace students towards becoming computer professionals having problem solving skills, leadership qualities, foster research & innovative ideas inculcating moral values and social concerns.

Mission

- To provide state of art facilities for high quality academic practices.
- To focus advancement of quality & impact of research for the betterment of society.
- To nurture extra-curricular skills and ethical values in students to meet the challenges of building a strong nation

Program Educational Objectives (PEOs)

PEO1
All the graduates will become high class software professionals who could be absorbed in the software industry on the basis of sound academic and technical knowledge gained by them on account of adopting state of the art academic practices.

PEO2
All the graduates will demonstrate their talent in research and development activities involving themselves in such researches which could alleviate the existing problem of the society.

PEO3
All the graduates shall be committed for high moral and ethical standards in solving the societal problems by means of their exposure to various co-curricular and extra-curricular activities.

Program Outcomes (POs)

PO 1 Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of *complex engineering problems.*

PO 2 Problem Analysis: Identify, formulate, review research literature, and analyze *complex engineering problems* reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO 3 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

PO 4 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.

PO 5 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.

PO 6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 7 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.

PO 8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice .

PO 9 Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings

PO 10 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.

PO 11 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 in a team, to manage projects and in multidisciplinary environments.

PO 12 Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

PSO1

Professional Skills: Attain the ability to design and develop hardware and software based systems, evaluate and recognize potential risks and provide creative solutions.

PSO2

Successful Career and Entrepreneurship: Gain knowledge in diverse areas of IT and experience an environment conducive in cultivating skills for successful career, entrepreneurship and higher studies.

PSO3

Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

HOD'S Message

Congratulations to the students and faculty associated to magazine committee for successfully publishing the July Edition of departmental technical magazine. ByteBeat is creating platform which provides an opportunity to the students and staff toexpress their original thoughts on technical topics.

The magazine plays an instrumental role in providing exposure to the students to develop written communication skills and command over the language. It is a step towards building professional and ethical attitude in them. The entire journey of creating ByteBeat is an outcome of rigorous effort made by students and faculty. Students not only gain the knowledge about the latest technological developments and advancements through reading and writing articles but they also develop verbal and written communication skills.

This magazine has expanded its scope by introducing articles by major stakeholders. Apart from students and faculty, inputs have been collected from alumni & industryexperts.

On concluding note, I would like to thank all the Faculty for their involvement and wishing all the best for their bright future.

Mr. Alok Mishra

HOD(IT)

Editor-Incharge Message

This is the July Edition of the IT department magazine. As the leader of the IT department magazine, ByteBeat, this magazine is particularly special to me as it was a challenge to not only live up to the standards set by the previous magazine but also set new ones. ByteBeat is all about the technology that inspires students to do something, that leaves an everlasting mark on the world of technology. Thus it was our job to ensure inspiring technological developments are being brought to the students of AIMT, by the students of IT itself.

Since the team was experienced, having worked on the previous magazines, they knew exactly what had to be done and how it had to be done. I think we were lucky that we retained all members from the team behind the earlier magazines. Everything from collection of articles right down to the final edits was more or less smooth sailing. I worked closely with the team to ensure everything was done according to a schedule. The work was performed in an organised, almost professional manner and credits to my entire ByteBeat team, for their commendable job.

I would also like to thank every member of the ByteBeat team, without whose contribution, this magazine would not have been possible. I hope you enjoy reading this magazine as much as I enjoyed working towards its creation and more importantly I hope that the articles in this magazine inspire you.

Mr. Niraj Singh
Editor In-Charge

Editorial

At the outset, on behalf of the entire IT department and all the readers I extend my whole hearted gratitude to the Executive Director Mr. AMBIKA MISHRA, to our worthy Dean, Dr. R. S. MISHRA, and also to our HOD IT Mr. ALOK MISHRA for their dynamic,inspirational, enthusiastic contribution and motivation towards our department also boosting our confidence for the consecutive publishing of July Edition of the Magazine ByteBeat. This technical magazine named 'BYTEBEAT' signifies an emanation of knowledge. Team 'BYTEBEAT' will always remain indebted for the immense support and interest shown by you all.

IT is an ever-expanding field and the power what technology holds today is definitely beyond one's imagination rendering splendid set of ideasand therefore, the current magazine in your hands is the July edition of the magazine themed as'Idea is a dawn. Dawn is an Inception'. This edition is full of exciting new technologies; we have also included certain articles from the industries. We have also covered important events and programs organized by the department of Information Technology Engineering in Ambalika Institute of Management & Technology (AIMT). Our endeavour with each edition is to update you on the latest trends of technologies coming up and flashing some light on the innovative minds of theyouth today. Lastly, quoting my special thanks to Vipin Rawat Sir for his support and guidance all along, the departmental faculty members and also to all my team members without whom this magazine wouldn't have been possible. We hope all the readers will enjoy this magazine as much as we enjoyed creating it.

Ms Divya
Editor Team
Co-ordinator

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Students

Software Development for Portable Gadgets: Innovating Mobility

In the fast-paced world of technology, the rise of portable gadgets has transformed the way we interact with digital devices. From smartphones and tablets to wearables and IoT devices, these portable gadgets have become indispensable tools in our daily lives, driving the need for innovative software development tailored to their unique capabilities and constraints.

Software development for portable gadgets presents a distinct set of challenges and opportunities compared to traditional computing platforms. These devices often have limited processing power, memory, and screen real estate, requiring developers to optimize their applications for efficiency and usability. Additionally, the diverse range of form factors and operating systems in the portable gadget market necessitates adaptability and versatility in software development practices.

Top 10 Mobile App Development Tools

- Xcode
- Android Studio
- AppCode
- Appcelerator
- Xamarin
- Adobe PhoneGap
- Ionic
- React Native
- Buddy
- Corona Labs

6 STAGES OF SOFTWARE DEVELOPMENT PROCESS

- PLANNING
- ANALYSIS
- DESIGN
- DEVELOPMENT & IMPLEMENTATION
- TESTING
- MAINTENANCE

One of the key considerations in developing software for portable gadgets is user experience (UX). With smaller screens and touch-based interfaces, UX design plays a critical role in ensuring that applications are intuitive, responsive, and visually appealing on portable devices. This entails simplifying user interfaces, optimizing navigation flows, and leveraging device-specific features such as touch gestures and sensors to enhance usability and engagement.

Furthermore, software developers must prioritize performance optimization to deliver smooth and responsive experiences on portable gadgets. This involves minimizing resource usage, optimizing code for speed and efficiency, and leveraging hardware acceleration where available to maximize performance within the constraints of the device's hardware specifications.

Security is another crucial aspect of software development for portable gadgets. With the increasing prevalence of mobile malware and privacy concerns, developers must implement robust security measures to protect user data and mitigate the risk of unauthorized access and data breaches. This includes encrypting sensitive information, implementing secure authentication mechanisms, and regularly updating software to address known vulnerabilities.

In conclusion, software development for portable gadgets represents a dynamic and evolving field at the intersection of mobility, usability, and innovation. By embracing the unique challenges and opportunities presented by portable devices, developers can create compelling and impactful experiences that enhance productivity, connectivity, and convenience for users in today's increasingly mobile world.

ANAMIKA KUMARI
IT 3RD YEAR
AIMT

How to startup a business

Starting a business involves several steps, and while the process can be challenging, it's also exciting and rewarding. Here's a general outline to guide you through the startup process:

Idea Generation: Start by brainstorming business ideas. Consider your interests, skills, and experience. Identify potential gaps or problems in the market that your business could address.

Market Research: Once you have a business idea, conduct thorough market research to assess the demand for your product or service, understand your target audience, and analyze your competition.

Business Plan: Develop a comprehensive business plan outlining your business concept, target market, marketing strategy, operational plan, financial projections, and funding needs. A solid business plan will serve as a roadmap for your business and help you secure financing if needed.

Legal Structure: Choose a legal structure for your business, such as a sole proprietorship, partnership, limited liability company (LLC), or corporation. Consider factors like liability protection, taxes, and regulatory requirements.

Register Your Business: Register your business name and obtain any necessary licenses and permits. The requirements vary depending on your location and the type of business you're starting.

Finances: Determine how you'll finance your business. This could involve personal savings, loans, investors, or crowdfunding. Set up a business bank account to keep your personal and business finances separate.

Build Your Team: Determine if you need to hire employees or if you can manage the business on your own initially. If you do hire, carefully consider the skills and expertise you need to complement your own.

Develop Your Product or Service: Refine your product or service based on feedback from your market research. Focus on delivering value to your customers and differentiating yourself from competitors.

Marketing and Sales: Develop a marketing plan to promote your business and attract customers. This may include creating a website, using social media, networking, advertising, and other marketing tactics. Develop sales strategies to convert leads into customers.

Launch Your Business: Once everything is in place, launch your business. This could involve a soft launch to test the waters or a full-scale launch with a marketing campaign.

Evaluate and Adapt: Continuously monitor and evaluate your business performance. Gather feedback from customers, track your financials, and adjust your strategies as needed to ensure your business remains competitive and profitable.

Starting a business requires dedication, hard work, and perseverance. Stay flexible and be prepared to adapt to changes and challenges along the way. With determination and a solid plan, you can turn your business idea into a successful venture.

How to crack a GATE exam in college time…

❖ Introduction

Graduate Aptitude Test in Engineering (GATE) is one of the most competitive and toughest exams in the nation. Every year nearly 10 lakh students appear for this particular exam and among those, only **16-18% qualify** – these stats would help you to get an actual idea of the level of the GATE exam. To go for such a huge competition and appear for this exam is surely worthwhile as it offers you a **direct gateway for PG admissions** in the country's top colleges and **entry-level positions in Indian PSUs**.

❖ Success mantra

The importance of **REVISION** is **SUPREME**! In fact, after having a discussion with numerous GATE toppers and other candidates who appeared in the exam, we've found that it is the thing that impacts a lot in your final performance in the GATE examination. You all are recommended to revise all the topics at least 2 times to score well in the exam. Also, what most of the students do is they left the revision process for the last few days or weeks which is actually an inappropriate revision practice – you're required to revise regularly to get some positive outcomes.

One of the best strategies for revision is to prepare short notes or use flashcards while going through the concept for the first time and then use these during revision to recall all those concepts in a shorter time.

➢ Preparation Tips and Strategy to Crack the GATE Exam

1. Get a Clear Understanding of the GATE Exam Pattern and syllabus
2. Complete the Syllabus with a Smart Study Approach
3. Do Revise the Entire Syllabus Effectively and Efficiently
4. Solve Previous Years' GATE Papers and Attempt Mock Tests

ASHEESH KUMAR

IT 3RD YEAR

AIMT

Workshop on "**Network Management & Ethical Hacking withAndroid**"
by "**Mr. Shantu Purkait"**

Workshop on "**Intellectual Property Rights & IP Management**"by
"**Mr. Rajesh Mehtani**"

EVENTS

Seminar

Seminar on "**Cyber Security Trends, Challenges & Readiness for Next Generation"** by **Prof. Triveni Singh**, **IPS, SP Cyber Crimes, U.P. Police**

The technique of protecting networks, computers, servers, mobile devices, electronic systems, and data from hostile intrusions is known as cyber security. It is often referred to as electronic information security or information technology security.

Protecting data is the basic goal of cyber security. To defend against cyber attacks, the security sector offers a triangle of three interconnected concepts. The CIA trio is the name given to this idea. The information security infrastructure of an organization should be governed by policies that follow the CIA model. One or more of these rules have been broken whenever a security breach is discovered.

The three components of the CIA model are availability, confidentiality, and integrity.

INTERNAL HACKATHON 2023

The Smart Ambalika Hackathon (Internal Hackathon) was a one-day event that brought together students from Ambalika Institute of Management & Technology, Lucknow to showcase their innovative ideas and solutions for 20 problem statements from National Security agencies of our country.The event was organized by the Innovation Cell, Ministry of Education, Government of India, and was hosted at Ambalika Institute of Management and Technology

NOMINATED TOP TEAMS

Team Name- Creative Tech. Minds
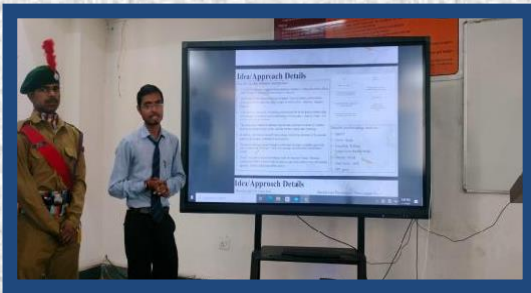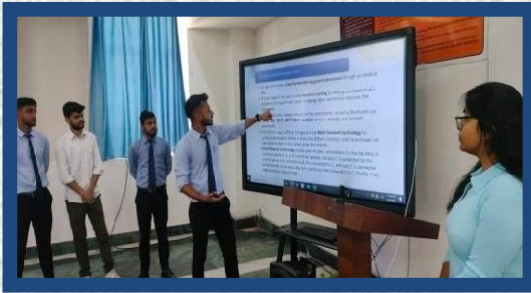**Team Name- TechnoCraft**
Team Name- Hackover
Team Name- Saftey Mode
Team Name- B-Squad

GLIMPSE OF INTERNAL HACKATHON

INFORMATION TECHNOLOGY

July 2023

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