

ABES INSTITUTE OF TECHNOLOGY



e-Newsletter



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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“I think computer viruses should count as life. I think it says something about human nature that the only form of life we have created so far is purely destructive. We’ve created life in our own image.”

— Stephen Hawking

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Spotlight...

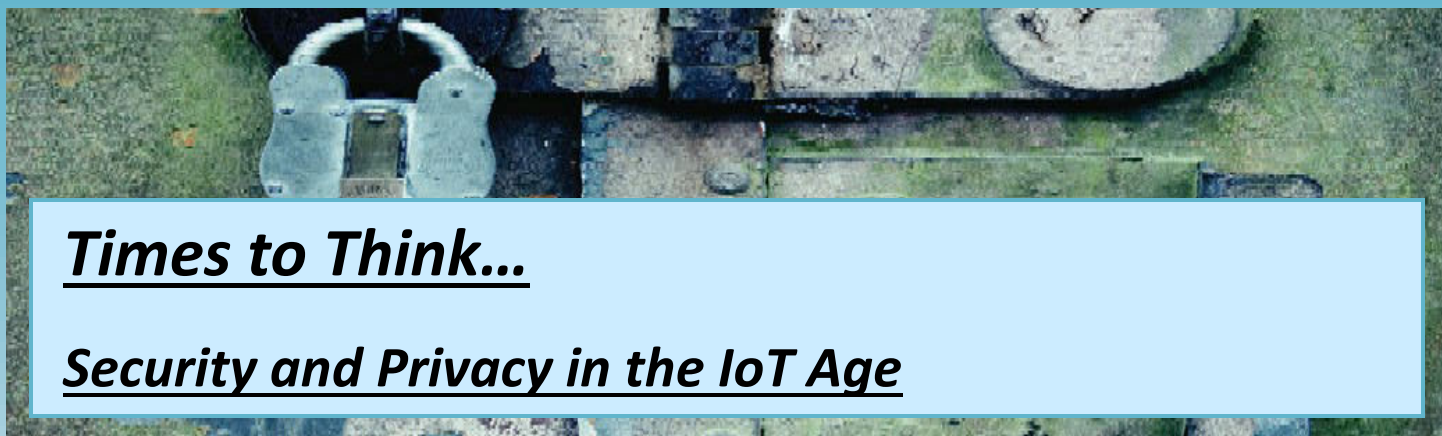
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Vision

“To provide excellence by imparting knowledge to the learners enabling them to become skilled professionals to be recognized as a responsible citizen.”

Mission

- Provide quality education in the field of computer science and engineering through experienced and qualified faculty members.
- Motivate learners for higher studies and research oriented activities by utilizing resources of Centres of Excellence.
- Inculcate societal values, professional ethics, team work, and leadership qualities by having exposure at National and international level activities.



Times to Think...

Security and Privacy in the IoT Age

Internet of Things (IoT) devices and services are now integral to most daily activities. However, the IoT brings not only add convenience but, many new security threats. Many applications in IoT ecosystems, from smart homes to customized healthcare, contain sensitive personal information that can become the targets of network attacks. Unfortunately, **ensuring the security of IoT objects is not straightforward for three major reasons. First**, the IoT's heterogeneous nature makes it vulnerable to many kinds of attacks. **Second**, heavyweight protection mechanisms are infeasible for resource-constrained IoT devices. **Third**, many IoT objects are deployed only once and thereafter are rarely maintained or updated.

Due to these challenges, **penetration testing (PT)**, which employs offensive attack techniques to discover vulnerabilities, is often used to complement defensive security methods before IoT objects are deployed. Because malicious attacks need only a single exploit to be successful, improving PT coverage is crucial. To enhance manual PT, security researchers use automated tools to carry out **three types of specialized PT: interface testing, transportation testing, and system testing.**

Interface testing targets interfaces that interact with external users or devices. Major vulnerabilities can exist in an application if its input validation mechanisms are not in effect. In the Open Web Application Security Project (OWASP) tester guidelines for IoT applications (www.owasp.org/index.php/IoT_Testing_Guides), the categories "insecure web interface" and "insecure network services," among others, would be addressed by interface testing.

Transportation testing focuses on misuse issues and design flaws in communication protocols and weak cryptographic schemes. In the OWASP guidelines, "insufficient authentication/authorization," "lack of transport encryption/integrity verification," and "privacy concerns" fall into this type of testing.

System testing examines firmware, OSs, and system services for implementation, flaws, insecure system settings and other known vulnerabilities. In the OWASP guidelines, "insufficient security configurability" and "insecure software/firmware" are relevant for system testing. To cope with the heterogeneity and large quantity of IoT objects, we propose modularization of test modules to scale up all three types of testing. At the same time, due to IoT devices' resource limitations, intelligent approaches are desirable for generating test plans based on available test modules to reduce wasted resources and redundant effort while extending test coverage.

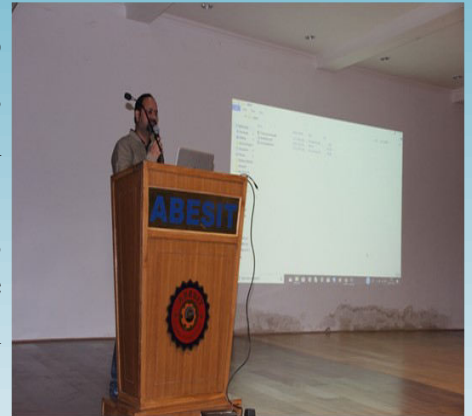
To **cope with the heterogeneity**, large number, and resource constraints of IoT objects, PT tools and techniques should apply the principles of modularization and intelligence. Modularization provides the flexibility to test various targets, and intelligence enlarges test coverage and improves accuracy. In interface testing, input validation mechanisms should be tested using an intelligent mutation engine and entry-point discovery automated. Transportation testing must address the problem of messages between IoT objects traversing heterogeneous networks. To deal with emerging IoT network infrastructures, PT tools should be compatible with the overlay networks. Cryptographic misuse issues and implementation flaws must also be considered. In system testing, the challenge is IoT objects with various ISAs and OSs. If encapsulation and related translation modules are available, cross-platform analysis becomes feasible. VMI and symbolic execution can be applied on top of encapsulation. In this way, intelligent analysis methods can be used to discover vulnerabilities in variant platforms.

**[Source: https://ieeecs-media.computer.org/media/marketing/cedge_digital/ce-aug19-final.pdf]

Workshops/ Seminars

- **Workshop on Data Science & Analytics**

A Two day workshop on “Data Science/Analytics using R-Programming” was organized on 30th & 31st Jan 2019 by Computer Science & Engineering Department. Mr. Pankaj Kumar Pathak, Senior Big Data Architect, CSC Noida conducted the session by delivering lecture about data frameset, analytics using R and visualization through a hands on session for the students .



- **Workshop on Network Management & Ethical Hacking**

A workshop on “Network Management & Ethical Hacking” was organized on 22nd Feb 2019 by Computer Science & Engineering Department. The key speaker for the workshop was Mr. Santu Purkait, Director, NetCamp Solutions Pvt. Ltd., Kolkata. He led the session by delivering lecture about Networking & Network Management Introduction, Structured Cabling, Sub-netting, VISM, Routing and some basic concepts of UNIX.



- **Seminar on Career in Management**

A Seminar on “Career in Management” by Times Group was organized on 15th February 2019. The key speaker for the session was Mr. Praveen Chandra, Knowledge Expert, T.I.M.E Education. He motivated the students by delivering lecture on aptitude tests and communication skills as a part of preparing students for their campus placements.



- **Session on Higher Education in Technology**

A session on “Higher Education in Technology” was organized on 20th February 2019 by Computer Science & Engineering Department. The key speaker for the session was Mr. Abhishek Gupta, Career Expert, Byju’s. He led the session by delivering lecture about aptitude techniques & profile gap analysis, techniques for reading skills & problem solving skills, scholarships assistance for higher education, test techniques & Soft skills developments.



Industrial Visit

- Students of Computer Science & Engineering visited “MCN Solutions Pvt. Ltd Noida on February 27, 2019 accompanied by faculty members Prof. Pavan Sharma and Prof. Garima.

At MCN Solutions, Mr. Stephen Simon (Senior Technical Evangelist) told students about architecture of IoT and machine learning technologies. A demo session was also organized on these technologies using “HOLOLENS over Virtual Reality”. The visit was highly beneficial for the students in terms of demonstration of modern tools used in industry for the welfare of society.

Mr. Atul Gupta Vice President of MCN Solutions Pvt. Ltd. also discussed about the various programming languages used in software development. The speaker answered number of queries posted by the students in the query session.



Alumni Meet—Reminiscence 2019



Alumni Meet—Reminiscence-2019 was organized by **Computer Science & Engineering Department on 16th February, 2019**. The felicitous day was graced by the magnanimous presence of galaxy of dignitaries, alumni, faculty members and students. Alumni shared their experiences and encouraged the students to scale greater heights in their Endeavour. The mesmerized dance performances and participation of alumni in different activities added charm to this event. The Alumni were felicitated with a Gift as a token of remembrance.



Student's Achievements

★ **CONGRATULATIONS!!!**

Sapna Yadav CSE 4th Year Secured 6th Rank in **AKTU Merit List** with **87.56%**.



★ GATE 2019 Achievers



Ankit
(1529010030)



Rohit Pratap
(1529010108)



Tanish
(1529010145)

★ Smart India Hackthon2019



Team Vencedor :- Devraj Kumar, Abhay Chauhan, Tarun, Juli Singh, Ayush Gupta Student of Computer Science & Engineering Department under the supervision of **Prof. Bipin Rai** secured **First Position in Smart India Hackthon 2019** in software edition which is a non-stop digital product development competition, organized by AICTE, Govt. of India and promoted by the Ministry of Human Resource Development.

Student's Achievements

- **Devraj Kumar** student of 3rd year CSE was invited as guest speaker, to deliver valuable wisdom on "Cloud technology" on 7th April 2019 at LETSPY India tour 2019, Noida. LETSPY is an annual event organized by **Girl Script Foundation** which is India's biggest Tech community.
- **Sahyog Saini , Devraj Kumar & Ashish Nagar** students of 3rd year CSE attended India's first **International Conference about Server less Computing** on 17th Feb 2019 in Jaipur.
- **Developer student club** in collaboration with IT technical club organized "**ENDGAME: The Codewar**", two hour coding competition on 10th April 2019. A Total of 110 students participated into it as whole, out of them **Sarthik Garg** of 2nd year got **first position** , **Tushar Verma** and **Sneha Jain** of 3rd year got **second and third position** respectively.
- **Pragati Tiwari, Dewesh Kumar Mahur , Ashish Bhatnagar** students of CSE participated in Technovation Hackathon at Sharda University .
- **Prajul Garg, Sarthak Sharma Deepak** students of CSE secured **2nd position** in basket ball in Lakshya- 2019 at ABESEC .
- **Sachin Singh and Vartika Singh** students of CSE secured **2st position** Hackathon-2019 at IMS, Ghaziabad.



- **Ramnika Jain** of 3rd year Computer Science & Engineering, secured **3rd position** in Solo Dance in **Dr. Abdul Kalam Arts & Culture Fest Zonal Level 2018-2019** held at IMS Ghaziabad.
- **Ramnika Jain** also secured **1st position** in Solo Dance in **UDGHOSE-19** organized by ITS Engineering Colloge Gr. Noida .

Student's Placement

The efforts made by the CRC are visible and students had an excellent placement record; 90% students got placed in different Companies in 2018-19 Even Semester.

<i>Company`s Name</i>	<i>No. Of Students Placed</i>
Teach For India	1
Savantis Group	1
Nagarro Software	2
Wipro	8
Amazon	3
Motherson Sumi	4
NXP India	1
Smalt and Beryl	1
Afinoz	1
Successive Software	2
Eninov Systems	1
Sopra Steria	2
TCS	4
NIIT Technologies	2
Webkul Software	2
Cavisson Systems	2
Newgen Software	1
Mobiloitte	1
Successive Software	2
QA InfoTech	1
Eastern Software Systems	2
To The New	1
Cognizant	1
Virtusa	1
Genpact	1
NetProphets	1
Nucleus Software	1
Multiplier IT	1

Faculty's Corner

Faculty Development Program

- A **Faculty Development Program** was organized successfully from 11th to 15th June 2019 at computer Science & Engineering Department , ABESIT Ghaziabad, under **TEQIP-III Sponsored by AKTU Lucknow** on **"DESIGN & ANALYSIS OF ALGORITHMS"** . This was the five day Faculty Development Program where various related sub topics were discussed in details by eminent educationist and a very beneficial academic environment was experienced by participants. The FDP attended by **50 participants** from various Engineering colleges of NCR as well as other states also.
- The FDP was inaugurated by honorable chief guest and key note speaker- **Dr. Yashwant Prasad Singh**, former professor, Multimedia University, Malaysia, by lighting the lamp of knowledge and wisdom. Dr. Yashwant Prasad Singh imparted valuable knowledge .Other eminent speakers were **Mr. Piyush Kulshresta**, former director, Acatel-Lucent; **Dr. Tanveer Ikram**, Director, Unique Solutions; **Dr. Rizwan Khan**, HOD CSE, ABESIT; Prof. **Ashish Chakraverti**, ABESIT; **Dr. Rajdev Tiwari**, Dean, GNIOT Gr. Noida.
- This **Faculty Development Program** fulfilled its prime objective to bring the faculties of different Engineering colleges with allied subject onto one platform to get updated with the advances in the technology, applications, effective teaching learning practice. Also get exposure to tools like open source course, simulation tools and scientific approaches of planning and execution of experiments .



Faculty's Corner

- *More than 15 Research Papers published by Computer Science & Engineering Department's Faculties in various reputed National & International journals and Conferences.*

Congratulation!!

- *Ms. Aishwarya Gupta , Assistant professor ,CSE Department got enrolled in PhD in "Artificial Intellengence & Machine Learning" from Jaypee Institute of Information Technology, Noida.*
- *Ms. Aishwarya Gupta, Assistant professor ,CSE Department has successfully completed NPTEL Online Certification on "Introduction To Automata , Languages & Computation" with ELITE grade.*



Ms. Aishwarya Gupta
(Assistant Professor, CSE)

An Expression of Gratitude....



Whatever you believe, that you will be. If you believe yourselves to be sages, sages you will be tomorrow. There is nothing to obstruct you. - Swami Vivekananda

With these words of Swami Vivekanada, I Congratulate Department of Computer Science & Engineering Team for **SUCCESSFUL NBA** inspection .

I also express profound **gratitude to management** to provide us the **opportunity and adequate support and facilities** to conduct **NBA** inspection **successfully** .

Dr. Rizwan Khan
HOD, CSE