इलेक्ट्रॉनिकी एवं
सूचना प्रौद्योगिकी मंत्रालय
**MINISTRY OF
ELECTRONICS AND
INFORMATION TECHNOLOGY**
सत्यमेव जयते

ISEA

Information Security Education and Awareness (ISEA) Phase-III
Sponsored
Faculty Updation Programme
On

Next-Gen Network Security: Cryptography, AI, and Blockchain Solutions for Emerging Threats

(26-31, December 2024)

Hybrid Mode

Organized By

Department of Computer Engineering
National Institute of Technology
Kurukshetra-136119, Haryana, India

ABOUT ISEA Phase-III

The Ministry of Electronics and Information Security (MeitY) has approved the project entitled 'Information Security Education and Awareness (ISEA) Project Phase-III' towards human resources development for safe, trusted, and secure cyberspace. It aims to create a robust training & certification mechanism for CISOs, Deputy CISOs, and Associate teams of CISOs/Aspirants, groom students towards products/solutions development through ideation & innovation activities, advance research & education in emerging/futuristic areas of Information Security, and build cyber-aware digital naagriks through mass awareness.

ABOUT NIT KURUKSHETRA

NIT Kurukshetra, formerly known as Regional Engineering College, Kurukshetra was founded in 1963. It was conferred upon the NIT status, with Deemed University on June 26, 2002.

The Institute offers several courses, in various disciplines of B.Tech., M.Tech., MBA, MCA, and Ph.D. with an annual intake of about 1500 students. The institute also provides excellent facilities for advanced research in the emerging areas of Engineering, Science, and Technology. The institute has well-qualified and dedicated faculty along with supporting staff, laboratories, and other infrastructure. The infrastructure is geared to enable the institute to produce technical personnel of high quality.

ABOUT THE DEPARTMENT

The Department of Computer Engineering started in 1987 with the aim to equip students with the necessary skills to navigate the dynamic landscape of IT requirements preparing for the future. The department is well equipped with state-of-the-art laboratories of all major domains of Computer Engineering and Information Technology. The department is equally active in research with many quality publications each year in IEEE, ScienceDirect, ACM, Springer, Wiley, etc. For the overall development, the department also covers the other aspects of life like Health management, moral and ethical development of the students.

OBJECTIVES OF THE PROGRAMME

The Faculty Updation Programme aims to provide the faculty with theoretical and practical knowledge essential for securing modern digital infrastructures. It provides the knowledge of various tools and techniques that are used to build robust, efficient, and secure applications. It covers the latest advancements in cybersecurity technologies, including cryptography, advanced threat detection and prevention mechanisms, firewall security measures, secure network design principles etc. The faculty will be engaged in practical exercises that simulate real-world security challenges, enabling them to learn, apply and teach theoretical concepts in classroom teaching and research.

TENTATIVE CONTENTS

- **Overview of Cryptography and Network Security:** Fundamentals of cryptography, Network Security, Symmetric and Asymmetric Encryption, Threat Management strategies, and Security Issues in Emerging Technologies
- **Security Threats and Defense Mechanisms:** Types, Monitoring Techniques, Detection and Mitigation Mechanisms, IDS and IPS
- **AI for Security:** Overview of ML and DL, Applications of ML and DL in Cyber Security
- **Secure Cyber Physical System (CPS):** Security challenges in CPS, Threat Management and Mitigation in CPS, Cyber Security for Generative AI system
- **Blockchain for Enhanced Security:** Blockchain and Distributed Ledger Technologies, Blockchain applications in Security, Smart Contracts and their security implications
- **Lab Session:** Building and deploying smart contracts on Ethereum using Remix IDE, Spam Detection, Malware Analysis and Detection, Phishing Detection, etc.

ABOUT KURUKSHETRA

Kurukshetra is popularly known for its historical and religious importance. Here, the battle of Mahabharata was fought, and Lord Krishna delivered the divine. Kurukshetra is very well connected by Rail, Delhi- Ambala section, by Road (NH1) and by Air (Delhi 160 km and Chandigarh 80 km). The NIT Kurukshetra campus is situated about 10 km from Pipli, Bus stand located on NH1 and about 4 km from Kurukshetra railway station.

TARGET AUDIENCE

- **Faculty in Academic Institution**
- **Industry professionals/ personnel/ scientists working in public/ private/ govt. organizations**
- **Research Scholars**
- **Freelancers with at least 1 year of academic/research experience.**

REGISTRATION FEE

- There is **NO REGISTRATION FEE.**
- Only limited seats (50) are available in this programme.
- Availability of funds will be taken into consideration while selecting candidates.
- No TA/DA will be provided to attend this course.
- Limited accommodations are available in the Institute Guest House/Hostel on a **payment basis**. Concerned Participants can request for booking in advance by contacting Dr Abhilasha Sharma, Course Coordinator through email.
- The Programme will happen in **HYBRID MODE**, physically at the Department of Computer Engineering, NIT Kurukshetra, and through Google Meet virtually.

IMPORTANT DATES

Last date for Registration: **15 December 2024.**
Confirmation to the participants (by email): **16 December 2024.**
Certificates will be provided to all the participants.

HOW TO APPLY

To apply for the course, register through:

https://forms.gle/2TMBDLaToBxQfSDx7

Alternatively, scan here for Registration:

ORGANIZING COMMITTEE

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