ATAL Online 6 Day Faculty Development Programmes 2024-25 Schedule

FDP Thrust Area: Cyber Security

FDP Title: Emerging Techniques in Cyber Security for Building Resilient Network Infrastructure

Start Date:09.12.2024 **End Date:14.12.2024**

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
6:00PM to 6:30PM **Inaugural Session**	6:00PM to 7:30PM **Session 3** **Cybersecurity attacks and measures** Dr. Purushothama B R Associate Professor, NIT Surathkal. 8 Years of Experience	6:00PM to 7:30PM **Session 5** **Network Security and Tools** Dr. A. Goutham Reddy Assistant Professor, University of Illinois, USA. 6 Years of Experience	6:00PM to 7:30PM **Session 7** **Role of AI in Cybersecurity** Dr. T. Ramalingeswara Rao Researcher and Senior Data Scientist, Advanced Quantz & Analytics (AQuA), TCS 15 Years of Experience	6:00PM to 7:30PM **Session 9** **Cybersecurity and Tools** Santosh Chitikesi Site Reliability Engineer-Sr. Consultant, VISA Inc., USA 14 Years of Experience	2:00PM to 3:30PM **Session 11** **Network Security and Applications** Dr. SK Hafizul Islam Assistant Professor, IIIT Kalyani. 10 Years of Experience
6:30PM to 8:00PM **Session 1** **Introduction to Cyber Security** Dr. Ashok Kumar Das Professor, IIIT Hyderabad 20 Years of Experience	7:30PM to 9:00PM **Session 4** **Cybersecurity attacks and measures** Dr. Purushothama B R Associate Professor, NIT Surathkal. 8 Years of Experience	7:30PM to 9:00PM **Session 6** **Network Security and Tools** Dr. A. Goutham Reddy Assistant Professor, University of Illinois, USA. 6 Years of Experience	7:30PM to 9:00PM **Session 8** **Role of AI in Cybersecurity** Dr. T. Ramalingeswara Rao Researcher and Senior Data Scientist, Advanced Quantz & Analytics (AQuA), TCS 15 Years of Experience	7:30PM to 9:00PM **Session 10** **Websecurity and Java Backend** Sivendar Peddavena Full Stack Java Developer, CGI, India. 14 Years of Experience	3:30PM to 5:00PM **Session 12** **Network Security and Applications** Dr. SK Hafizul Islam Assistant Professor, IIIT Kalyani. 10 Years of Experience
8:00PM to 9:30PM **Session 2** **Introduction to Cyber Security** Dr. Ashok Kumar Das Professor, IIIT Hyderabad 20 Years of Experience					5:00PM to 6:30PM **Session 13** **Post Quantum Security** Dr. Preeti Kumari Researcher in Blockchain and Quantum-Safe Cryptography, Examroom.AI 11 Years of Experience
					6:30PM to 7:30PM **Online test & feedback**
					7:30PM to 8:00PM **Valedictory Session**

The workshop on Cybersecurity for Building Resilient Network Infrastructure will provide a comprehensive overview of key aspects in securing modern networks. The objectives of the FDP are as follows:

1. To introduce Cyber Security attacks and measures : This objective provides an introduction to common cybersecurity attacks, such as malware, phishing, and denial-of-service, and explores effective countermeasures to prevent and mitigate these threats. Participants will gain foundational knowledge to recognize and respond to various cyber risks.
2. To introduce hands-on experience on Network Security and Tools: This objective offers practical experience with key network security tools and techniques, enabling participants to directly apply security measures. Through hands-on exercises, attendees will learn to configure and manage tools for protecting network infrastructure.
3. To explore the role of AI in cyber security: This objective examines how artificial intelligence enhances cybersecurity by improving threat detection, automating responses, and analyzing large volumes of data. Participants will explore AI-driven tools and techniques that help defend against advanced cyber threats.
4. To explore post quantum security: This objective delves into post-quantum security, focusing on cryptographic techniques designed to withstand potential quantum computing threats. Participants will learn about emerging strategies for securing data in a future where quantum capabilities could challenge traditional encryption methods.

Introduction to Cybersecurity, offers foundational knowledge of cybersecurity principles and their importance in safeguarding digital infrastructure. Participants will then explore various Cybersecurity Attacks and Measures, delving into common threats like malware, phishing, and DDoS attacks, along with strategies to counter them. The session on Network Security and Tools will focus on securing network architecture using firewalls, intrusion detection systems, and encryption techniques. The Role of AI in Cybersecurity will highlight how machine learning and AI enhance threat detection and response capabilities. Attendees will also explore Websecurity and Java Backend to understand best practices in securing web applications and backend services. The session on Network Security and Applications will showcase real-world applications and protocols for securing network traffic, while the Post-Quantum Security discussion will introduce emerging cryptographic techniques designed to withstand future quantum computing threats. This workshop aims to equip participants with practical knowledge and tools to enhance the resilience of their network infrastructure.